



**Stanford – Vienna  
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# **TTLF Working Papers**

**No. 24**

**Liberalization of Trade in Technology-  
Related Services in the EU and the US:  
Unraveling the Gordian Knot of Regulatory  
Challenges and the Use of Open Data**

**Nikolaos Theodorakis**

**2016**

# TTLF Working Papers

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## **Abstract**

Open Data refers to large databases that are made available to the public, providing opportunities for re-use and meta-analysis to a variety of ends. Open Data is potentially useful, *inter alia*, for business activity as it provides a deeper level of transparency about the actions of government, the volume of investment and trade, and the needs of the market. Consequently, transparency, openness, and knowledge dissemination support the case for further trade liberalization. This paper assesses the essence and importance of Open Data, analyzes the ways in which open data can serve the goal of trade liberalization through transparency, explores trade liberalization and the use open data in technology-related industries, and discusses relevant developments in the EU and the US.

First, the paper explores the history and uses of Open Data. Second, it outlines the broader importance and benefits of open data. Third, it examines the specific economic benefits of using open data in relation to global trade and investment. Fourth, it discusses how open data may help liberalize technology-related industries, namely the computer industry, the telecom industry, and the television and broadcasting industry. Fifth, it explores the relevant legal developments in the EU and the US.

**Keywords:** Open Data, Trade Liberalization, Transparency, Openness, U.S. DATA Act

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## 1.1 Tracing the essence of Open Data

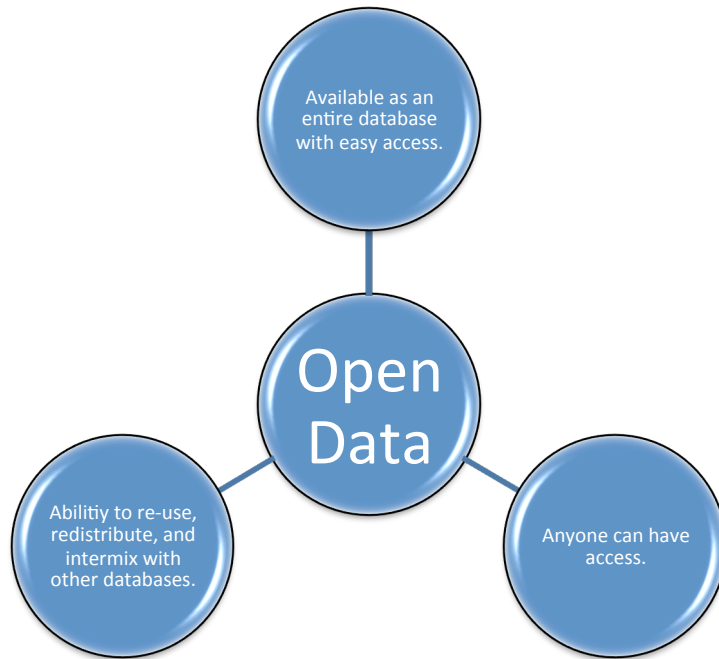
According to Rt Hon Francis Maude, Minister for the UK Cabinet Office, “Data is the 21st century’s new raw material. Its value is in holding governments to account; in driving choice and improvements in public services; and in inspiring innovation and enterprise that spurs social and economic growth.”<sup>1</sup> No universally accepted definition of open data exists, however in most of the cases it is defined as “data that can be freely used, re-used and redistributed by anyone - subject only, at most, to the requirement to attribute and share alike”.<sup>2</sup>

The main elements of open data emerge from this definition: First and foremost, it is data available as an entire database, preferably over the Internet, in a form that can be easily accessed and analyzed. The very essence of open data further provides for databases that can be re-used and redistributed, including intermixing with other datasets. The word ‘anyone’ is important since it encapsulates the major requirement of people re-using and redistributing data without any discrimination as per their profession or the reason they have requested the said data.

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<sup>1</sup> Open Data White Paper: Unleashing the Potential (06/2012), available at: [http://data.gov.uk/sites/default/files/Open\\_data\\_White\\_Paper.pdf](http://data.gov.uk/sites/default/files/Open_data_White_Paper.pdf), last accessed February 24<sup>th</sup>, 2016

<sup>2</sup> See: <http://opendatahandbook.org/en/what-is-open-data/>, last accessed February 24<sup>th</sup>, 2016



**Figure 1: Foundations of Open Data**

This liberty naturally extends to people using data for commercial purposes. This provision is yet not fully discovered and it might lead to disputes in the future once the use of open data for commercial purposes is more widespread. The aim is, hence, to set a level playing field since any restriction to the free commercial use of data would consequently limit its inherent purpose, that being effectiveness and ability to interoperate and bring complex notions to fruition. Any clause that would restrict open data to non-commercial activities is against the spirit of its inception and unreasonably limits its use and operability.

The very core of open data lies in the word ‘open’, which is essential in realizing and implementing the power and potential that data has. The ability to combine different datasets together and to develop more and better products and

services create an opportunity to interconnect different fields.<sup>3</sup> The principles of openness and re-use of data can help materialize this goal.

Open Data's advantages include investment and trade benefits, transparency and democratic control, participation, self-empowerment, improved or new private products and services, innovation, improved efficiency and effectiveness of government services, impact measurement of policies and new knowledge from combined data sources and patterns in large data volumes.<sup>4</sup>

Academic research on open data as a tool of openness has led to certain interesting results. Bauhr and Grimes<sup>5</sup> found that transparency reduces corruption upon the condition of improving accountability. Heald<sup>6</sup> found that some types of data are relevant for countering corruption. Worthy,<sup>7</sup> focusing on the UK experience of implementing a Freedom of Information regime, argued that the impact of open data depends very much on the way in which it is used by intermediaries, such as the media, civil society and parliament, in its oversight function.

## 1.2 The General Importance of Open Data

The word transparency is an etymological transplanted of the Greek word “διαφάνεια” (δια+φαίνομαι) which stands for a clean surface, observable in both sides by everyone. The historical roots of open government and open data, albeit in a non-

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<sup>3</sup> Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2010). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. *Government Information Quarterly*, 27(3), 264–271. doi:10.1016/j.giq.2010.03.001

<sup>4</sup> Paulheim, H., & Fümkrantz, J. (2012). Unsupervised Generation of Data Mining Features from Linked Open Data. In *Proceedings of the 2Nd International Conference on Web Intelligence, Mining and Semantics* (pp. 31:1–31:12). New York, NY, USA: ACM. doi:10.1145/2254129.2254168

<sup>5</sup> Bauhr, M., & Grimes, M. (2014). Indignation or Resignation: The Implications of Transparency for Societal Accountability. *Governance*, 27(2), 291–320. doi:10.1111/gove.12033

<sup>6</sup> Heald, D.A. (2012). “Why Is Transparency About Public Expenditure so Elusive?”, *International Review of Administrative Sciences*, Vol. 78, Issue 1, pp. 30-49.

<sup>7</sup> Worthy, B. (2013). “Some are More Open than Others”: Comparing the Impact of the Freedom of Information Act 2000 on Local and Central Government in the UK. *Journal of Comparative Policy Analysis: Research and Practice*, 15(5), 395-414.



digital form, are traced in the Athenian democracy, where every public procurement and contract was available to the citizens to the finest detail. Marble columns were engraved to include the call for proposals, the chosen contractor, the deadline of executing the contract, a detailed budget allocation and provisional penalties in case of delayed or deficient delivery.<sup>8</sup> This method prevented the misappropriation of funds, increased transparency and included citizens in the public life. After several centuries, the use of open data as a tool to enhance accountability is more eminent than ever.

The diversity of the use of open data can help in the financial, technological, societal, and legal evolution of many states. For instance, data on finance can shed light on patterns of stocks, shares, bonds and generally the internal behavior of capital markets; the discovery of such trends can further enhance investment activity. Data on trade volumes can better inform producers, suppliers, and consumers. Data on price differentiation can inform competition authorities about potential discrepancy and cartel activities. Data on trade liberalization can further the debate on FTAs and how they can better serve the goal of openness. The wide and transparent use of open data can, thus, transform many different fields in the near future.

The broader benefits that emerge via open data revolve around four main pillars:<sup>9</sup> Transparency; Domestic and International Development; Accountability and Democratic Inclusion.

Transparency safeguards the right of the citizens to be informed about the actions of their government and to observe the process of finding contractual partners for various projects and eventually efficiently allocating public funds. A considerable

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<sup>8</sup> Amongst numerous examples one can find the Amphiaraos temple in Oropos, the Port of Zea and the Epidaurus Dome.

<sup>9</sup> Everett, J., Neu, D., & Rahaman, A. S. (2006). The Global Fight against Corruption: A Foucaultian, Virtues-Ethics Framing. *Journal of Business Ethics*, 65(1), 1–12. doi:10.1007/s10551-005-8715-8

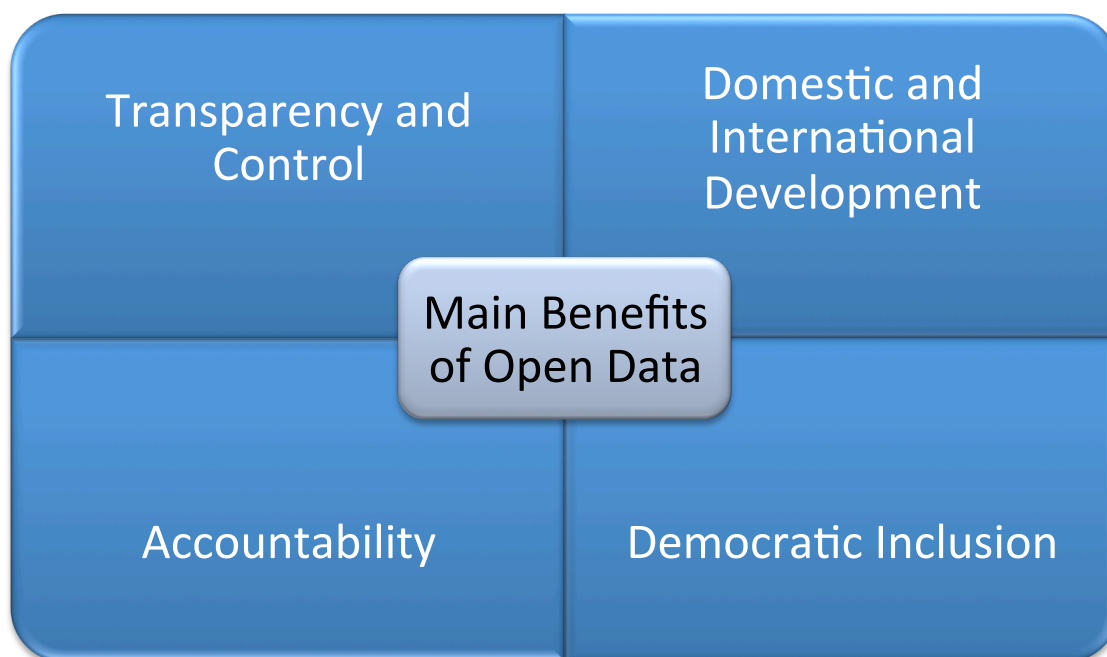
part of transparency incidents relate to the interim process from drafting a project to assigning its execution to specific actors. Open data can disseminate information to all parties involved in a trade or investment transaction, or to every bidder for a tender.

Domestic and International Development relates to the financial and societal benefits that occur via the widespread use of open data. Each government worldwide can save significant amounts since a better connected global trade community makes more efficient choices in choosing trade and investment partners. Countries and traders alike are more open, more eager to invest internationally, and more aware of the particularities of every investment portal. The positive externalities that arise relate to the obvious financial savings but also the consequent development of infrastructure and the distribution of this money towards social benefits. Further, the benefits can translate to the creation of innovative businesses, start-up companies and new services, which altogether amount to a revolution of knowledge and societal progress.<sup>10</sup>

Another pillar is accountability since breach of trust and illicit activities will be more easily exposed. Such violations might be under strict scrutiny since anyone can access the data of a large transaction that involves a state entity. Using open data will, therefore, significantly boost accountability and convey a sense of fairness and order to the majority of society.

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<sup>10</sup> Andersson, S., & Heywood, P. M. (2009). The Politics of Perception: Use and Abuse of Transparency International's Approach to Measuring Corruption. *Political Studies*, 57(4), 746–767. doi:10.1111/j.1467-9248.2008.00758.x



**Figure 2: Benefits deriving from the use of Open Data**

Lastly, democratic inclusion means that citizens can practically participate in governance, and engage in business and administrative activities. Citizens, producers and suppliers will start using tools to better understand the financial particularities of each country, the investment agenda, and the way forward. Open data helps citizens be the agents of change rather than the passive recipients of information. Consequently, this is related to new knowledge that derives from combined data sources and patterns in large data volumes.

### **1.3. Using Open Data to Promote Trade Liberalization in Goods and Services**

The economic value of open data can take various forms. The following section will discuss (i) the reduction of cost in trade activities, (ii) the creation of new services, and (iii) the improvement of the overall state welfare.

First, it can reduce the cost of existing trade and investment activities through

optimization. Buyers and suppliers will better understand the needs of the market and will tailor their behavior accordingly. Investors will similarly obtain more holistic information about a specific project they wish to embark on.

Open data is also helping bring capital to small businesses. For instance, one fast-growing lender is combining data from a wide range of government sources to make working capital loans to small businesses. Investment companies have used SEC data on mutual funds and exchange-traded funds to provide personalized advice on investment and fees. Another company offers tools to analyze, compare, and understand the financial reports that different companies have provided to the SEC in XBRL form.

Using open data on industry-level economic trends, the company was able to build predictive models pertinent to its business objectives. Another data analytics startup is working with banks to unlock insights about businesses from new government sources. Open data help reveal critical data about businesses, that would otherwise have remained covered.

Second, open data can enable the creation of new services and improve the already existing ones. In fact, open data is used in expanding the knowledge through tools like the Services Trade Restrictiveness Index (“STRI”) that OECD published.<sup>11</sup> STRI identifies the policy measures that restrict trade in several sectors and provides policy makers and negotiators with information and measurement tools that assist opening up international trade in services. A further positive externality is that it assists negotiating international trade agreements. Similarly, it can help governments identify best practice and focus on domestic reform efforts. In other words, open data assists all the relevant stakeholders ensure a better quality of

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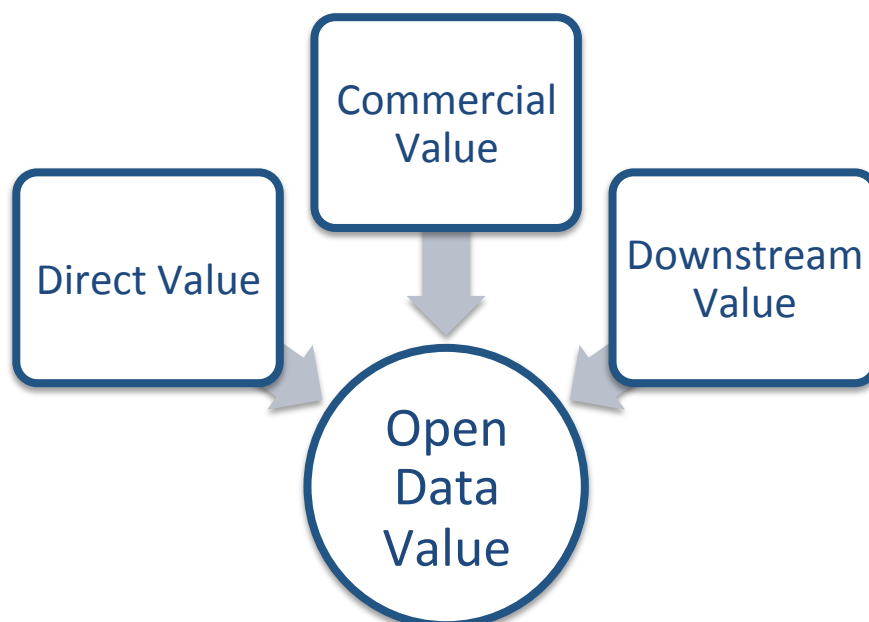
<sup>11</sup> See: <http://www.oecd.org/tad/services-trade/services-trade-restrictiveness-index.htm> , last accessed 1 March 2016

services.

Third, open data contributes to government services and state welfare through improved accountability and openness. As discussed above, transparency means that not only the interested parties, but rather every citizen, might be informed about a trade policy, a potential investment, and a business activity. Holistic information leads to greater state welfare and develops openness.

### ***1.3.1. The Benefits of Open Data for the Economy***

The benefits of open data in connection to the economy exist in three levels: direct value, commercial value, and downstream value. Direct value relates to the revenue that the government generates when it sells access to public sector information. Commercial value relates to the revenue that private companies achieve when they use open data. Downstream value is connected to the value of users, products and the wider economic, social and environment benefits through the use of open data.



It is practically impossible to identify all the benefits that arise from open data, as many potential applications have not yet been invented. The evidence suggests that data already play an important role in knowledge-based economies and, with many benefits, more open data can lead to further economic growth.<sup>12</sup>

The more jurisdictions that publish trade-related data in an open format, the easier it is to achieve trade liberalization and trade interaction. Suppliers and buyers can be informed on trade volumes, market needs, and prices across an array of goods and services. This wealth of information will optimize trade interaction and, naturally, liberalize trade. As a result, countries that will not follow this example of publishing open data will face a dilemma: either to join the vehicle of the most developed nations that benefit from open data in trade, or stick to a situation which will no longer be representative of market reality.

Effectively, this means that the use of open data in trade liberalization will leave us with a group of countries which will be more advanced, or “Trade Group 2.0”, and a group which will refuse to use open data as vigorously, or “Trade Group 1.0”. The next section of the paper will discuss the example of the U.S. as a positive example of open data implementation and will explore whether other countries should follow its attitude towards open data and legislate accordingly.

Is it, therefore, feasible to have data freely available not just nationally, but across several jurisdictions? Data would ideally be delivered in creative commons licenses, and made available in different file formats, using different media. The volume of data can be overwhelming and each party that published data must ideally

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<sup>12</sup>*See:*  
[https://www.omidyar.com/sites/default/files/file\\_archive/insights/ON%20Report\\_061114\\_FNL.pdf](https://www.omidyar.com/sites/default/files/file_archive/insights/ON%20Report_061114_FNL.pdf),  
last accessed 1 March 2016

help the global economy search out its most efficient configurations of information exchange.

Reports estimate that the gains from open data can be so extensive that can significantly contribute even to the G20's 2% growth target. One could make optimistic assumptions and argue that open data that have both a national and an international scope can give place to fully realizing their importance. International cooperation in standardizing and harmonizing data across jurisdictions is key to ensure wider access, applicability, and data efficiency. International forums can help in the process of molding and harmonizing these policies.

### ***1.3.2. Open Data's Economic Benefits Quantified***

In terms of its monetary value, several studies have estimated that open data is worth several tens of billions of Euros annually, in the EU only.<sup>13</sup> Its uses and reach are constantly increasing and its future use in achieving openness and transparency is promising.

In fact, in 2013 McKinsey estimated that open data can generate a global market in various sectors that would create an additional \$3tn to \$5tn a year.<sup>14</sup> Open data can prove useful in breaking down information gaps across industries, allowing companies to share benchmarks and spread best practices that raise productivity. This further leads to innovation and helps organizations replace traditional and intuitive decision-making approaches with data-driven ones. It further creates multiple business opportunities, such as the potential to raise productivity, to improve new

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<sup>13</sup> See for example <http://ec.europa.eu/digital-agenda/en/pillar-i-digital-single-market/action-3-open-public-data-resources-re-use> where the estimated market values is €32 billion, last accessed February 24<sup>th</sup>, 2016.

<sup>14</sup> See: <http://www.mckinsey.com/business-functions/business-technology/our-insights/open-data-unlocking-innovation-and-performance-with-liquid-information> , last accessed February 24<sup>th</sup>, 2016

products and services, and to enable entirely novel lines of business for both established companies and entrants.

Further, the Open Data Institute (ODI) estimates that it has unlocked GBP43 million in direct investments, from competition funding, direct contracts, partnerships and income that ODI Nodes and Startups have generated.

In simple terms, open data reduces friction, maximizes efficiency of already existing opportunities and leads to optimization. It does not necessarily create new value from scratch, but rather ensure that no crumbs are left on the table. This benefits greatly the economy, since suppliers and consumers alike maximize the potential value they can achieve.

Some recent studies that have tried to quantify potential benefits of open data are as follows:

<b>Date</b>	<b>Study</b>	<b>Scope</b>	<b>Benefit of open data (% GDP)</b>
2011	EU Commission	Europe (public sector data only)	1.5
2013	Shakespeare	UK (public sector data only)	0.4
2013	McKinsey	Global	4.1
2014	Lateral Economics	G20 countries	1.1

The studies yield comparable results for optimized business operations, including process and procurement, and value maximization from existing and new infrastructures.



### ***1.3.3. Practical Application of Open Data for Trade Purposes***

In terms of open data application for trade purposes, companies have assisted governments (e.g. the State Government in Victoria, Australia) in combining reports of the state's industry strengths, import and export volumes. Open data helped analyze in detail the prices at which Victoria's exports could be landed in various ports across the globe, compared to actual landing prices of such commodities. This means that they identified not only which products, but also in which sectors the producers were the most competitive. Such targeted approach led to tailored marketing and export promotion campaign based on facts.

In other projects, open data has helped coin development programs in Pakistan focused on low-income farmers. The viability of smallholders is crucial to sustain Pakistan's agriculture, so the aim was to develop options, and evaluate and define enabling policies to improve the livelihoods of smallholders in the dairy, citrus and mango sub-sectors of Pakistan provinces. TradeData, for example, has undertaken analyses of global market opportunities for smallholder products and determining export strategies based on seasonal demand.

For the purpose of using data efficiently, the U.S. and the UK have regularly published reports that provide national trade data that include imports, exports, and balance of payments for goods and services. They also report statistics on a year-to-date basis, whereas documents are collected as shipments arrive and depart, and are processed on a flow basis. The U.S. Bureau of Economic Analysis uses the data to update U.S. balance of payments, gross domestic product, and national accounts. Other federal agencies use them for economic, financial, and trade policy analysis (such as import/export promotion studies and import/export price indexes). Private businesses and trade associations use them for domestic and overseas market analysis,

and industry-, product-, and area-based business planning.

#### **1.4. Liberalization of trade in technology-related services in the EU and the US and the role of open data**

We discussed above the benefits of open data in liberalizing trade in goods and services. The sections below will discuss liberalization of trade in technology-related services in the EU and the US. The tool used to analyze these variables is STRI, which provides a quantifiable measurement of regulatory transparency.<sup>15</sup> For the sake of simplicity, Germany was chosen for this analysis as a representative EU country due to its advanced economy and open regulatory framework. The sectors analyzed below include (i) the computer industry, (ii) the telecom industry, and (iii) television, broadcasting and motion.

##### ***1.4.1. Computer industry***

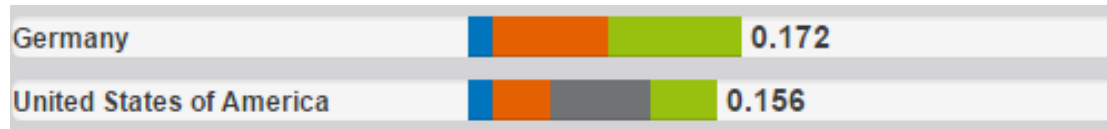
Computer and related services account for a relatively small but rising share of services trade. For instance, computer services accounted for 6.8% of services exports in 2010 as recorded in the UN services database. The five largest exporters of computer services are India, Ireland, Germany, the United States and the United Kingdom. Overall, production of computer services for exports is concentrated in a few countries, while imports are much more evenly dispersed. Such a trade pattern indicates that the natural barriers to trade in computer service are quite low.

Regulatory transparency relates to information from the administrative laws and regulations countries' embassies and the World Bank Doing Business Survey. Regulatory transparency is important for a stable and predictable business

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<sup>15</sup> See: <http://www.oecd.org/tad/services-trade/services-trade-restrictiveness-index.htm>

environment while administrative procedures may impose significant costs on firms. As evidenced by the graph below, Germany is less open than USA in regulatory transparency (green color, lower score= more openness).



Regulatory transparency records time, cost and number of procedures required for establishing a company. There are 31 countries included in the STRI database that are not among the 40 best performing countries on one or more of these measures. In addition lengthy, costly and complex regulatory procedures related to obtaining a business visa contribute to the index for 31 countries.

Improvements in administrative procedures under the regulatory transparency area through the use of open data explain most of the improvement in the STRI index for the other eight countries with a lower index. Three of them have also implemented regulatory reforms affecting computer services.

Although one should be cautious about direct comparisons between sectors, it appears that the barriers to trade in computer services are on average not very different from those in the other sectors included in the STRI project. This is mainly because computer services are sensitive to general trade restrictive regulations related to movement of people and administrative procedures that may be time consuming. This is a skilled labour-intensive sector, and although computer services can in principle be traded cross-border, recent research has found that modes of supply appear to be complementary. Regulatory barriers that impede the timely delivery of computer services can therefore be quite trade restrictive.

Overall, the STRI is constructed in a way that provides policy makers with a tool for identifying in which policy areas reforms are most needed. It is well suited for

cross-country comparison and also, in the future, developments over time. Open data can help liberalize computer industry and introduce more free and flexible regulatory requirements.

#### ***1.4.2. Telecom industry***

Telecommunication services comprise those provided over fixed line, mobile and using the Internet. These services are at the core of the information society and provide the network over which other services, including computer services, audio-visual services, professional services and many more are traded.

Better regulation and more open markets do not only ease access for new entrants, be they local or foreign, but also improve competitiveness in businesses that depend on effective, competitively priced state of the art telecommunication services. It is well established in the literature and in regulatory practices that essential facilities in the telecommunication infrastructure need to be shared to create competitive markets. Furthermore, technology is converging towards a common internet-based platform, which may open new avenues for competition, but may also change the ability of new entrants to gain access to the infrastructure of incumbents. Many governments have therefore introduced regulatory reforms with the objective of developing pro-competitive, technology-neutral regulations.

As opposed to many other services sectors, lack of regulation can be a trade restriction in telecommunications. This is an issue well established in international trade agreements, which often include articles on regulation. Principles for regulation are also the main topic of the WTO Telecommunications Reference Paper on Basic Telecommunications under the GATS. Pro-competitive regulation should therefore be

included in the STRI. Furthermore, the appropriate regulation depends on the maturity of the market and the technology in question.

Measures concerning regulatory transparency and licensing are also included in the STRI. These regulations involve the publication and communication of the regulatory and licensing regimes as well as interconnection agreements and spectrum information. In this regard, the US is again more open compared to the EU, as represented by Germany.



The STRI for telecommunications includes lack of pro-competitive regulation in markets that are uncompetitive. A challenge for future negotiations is to design agreements that are sufficiently flexible to secure competitive markets under different market structures and technologies and to avoid unnecessary administrative and regulatory burdens on telecommunications providers. Better regulation would ease access for new entrants, be they local or foreign to the benefit of consumers as well as businesses that depend on effective, low-cost state of the art telecommunications services. Open Data could help in this process, both for the EU and the US

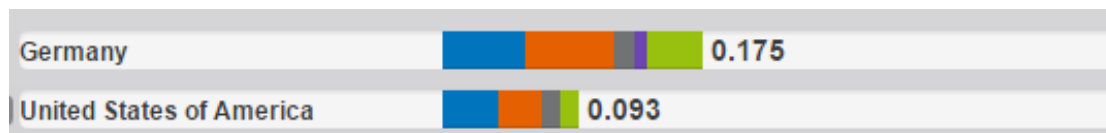
### ***1.4.3. Television, broadcasting, motion***

Motion picture is defined as motion picture, video and television program production, post-production and distribution activities. Market transactions, whether within or across borders in these two sectors, are essentially the transfer of property rights from a seller to a buyer at the going price, or the right to use somebody's property for a rental or fee. The sector-specific measures in these sectors therefore relate to copyright and related rights.

Audio-visual services account for about 0.6% of GDP in the European Economic Area and about the same in the United States. Nevertheless audio-visual services are among the most globalized of all services industries and a sector where cross-border trade is vital. The proliferation of broadband internet services has brought new opportunities and challenges to the industry as well as to policy makers and regulators.

The industry consists of large multinational media companies such as Walt Disney, Bertelsmann, News Corporation and Vivendi. These have activities in all three audio-visual sectors covered here in a large number of countries. In addition there are national broadcasters and a multitude of smaller and more specialized companies. Audio-visual services are carriers of cultural expression. Markets alone may not always create space for the desired variety of cultural expression, and a number of policy measures therefore aim at correcting possible market failure by promoting cultural diversity.

As seen below, the US is again more open compared to Germany in this type of services. We have, hence, identified a broader pattern whereby the US is more open in trade in services. EU countries could make use of open data to liberalize their regulatory restrictions so that they improve their efficiency in trade in services.



Measures concerning regulatory transparency and administrative procedures are also included in the STRI. These regulations involve publication and communication of the regulatory and licensing regimes as well as the administrative procedures of allocation and renewal of licenses, particularly in the broadcasting sector, where licenses are common. Finally, excessive visa processing time represents

an additional cost of doing business and time for visa processing is included under this heading.

Lack of national treatment as far as subsidies are concerned is found in almost half of the countries included in the STRI database. For motion pictures an important contribution to the STRI indices in some countries is quotas for local films on TV channels and to a lesser extent in movie theatres.

### **1.5. A timeline of the US's approach towards transparency that led to the DATA Act**

After having discussed the benefits of open data both generally and specifically for trade in technology related services, it is helpful to review the example of the U.S. as a country that embraced open data and created the necessary legal framework to promote its use. The U.S. has actively demonstrated that it sees open data as a strategic ally in promoting trade and investment, and certain other countries might wish to follow the same example.

In specific, one of President Obama's first commitments was to forward the transparency agenda. On his first day in Office, the President signed the Memorandum on Transparency and Open Government, which aspired bridge the gap between the American people and their government. The administration's first priorities were:

- i. to reduce the influence of lobbyists through expanding transparency;
- ii. to help citizens track down how the government uses the money with which the people have entrusted it with easy-to-understand websites like USASpending.gov;

iii. and empower the public, through openness and new technologies, to influence the decisions that affect their lives.<sup>16</sup>

On December 8, 2009, the White House issued an Open Government Directive requiring federal agencies to take immediate, specific steps to achieve key milestones in transparency, participation, and collaboration.<sup>17</sup> In 2011 the Administration further expanded its open government efforts when President Obama launched the Open Government Partnership at the UN General Assembly along with seven more countries.<sup>18</sup>

The first legislative initiative that was the ancestor of the recent DATA Act was the Federal Funding Accountability and Transparency Act (“Transparency Act”) in 2006 [Pub. L. No. 109-282, (31 U.S.C. par. 6101 Note)]. This Act tried to establish a comprehensive, publicly accessible source of detailed, accurate and timely information on Federal spending. The Transparency Act addressed the deficiency of lack of prior legislation by requiring the Office of Management and Budget (OMB) to establish a single searchable website, accessible to the public at no cost, that would contain data about the over-\$1 trillion in grants, loans, contracts and other kinds of awards that Federal agencies dispense each year. The OMB launched a relevant website, called USAspending.gov, in December 2007 to implement the Act.

The issue was not revisited until February 2009 when the Congress wanted to ensure both Federal and public oversight of the \$300 billion in economic stimulus funds authorized under the American Recovery and Reinvestment Act of 2009 (“Recovery Act”). The Act itself required the Recovery Board to establish a website

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<sup>16</sup> See: <https://www.data.gov/> , last accessed February 24<sup>th</sup>, 2016

<sup>17</sup> See: <http://www.whitehouse.gov/open/documents/open-government-directive> , last accessed February 24<sup>th</sup>, 2016

<sup>18</sup> See: <http://www.opengovpartnership.org/> , last accessed February 24<sup>th</sup>, 2016



to give the public access to information about the projects funded under the Act. This website went live in the spring of 2009 under the name “Recovery.gov”.

Further, the OMB issued guidance to agencies on how to improve the quality of the data that agencies provide for USASpending.gov. In June 2011 President Obama established the Government Accountability and Transparency Board with the aim of providing strategic direction for enhancing the transparency of Federal spending and to advance efforts to detect waste, fraud and abuse (Exec. Order No. 13576, 76 FR 35297, June 16, 2011). In June 2013 OMB issued a memorandum to agency Chief Financial Officers, requiring agencies to implement procedures to improve the quality of financial data reported to USASpending.gov and establishing new requirements for financial assistance awards.

The US President enacted the first federal open data law (“DATA Act”) in the US on May 9, 2014, a product of bipartisan consensus. It is notable how the Act was passed unanimously by both the Senate House and the House of Representatives. The Digital Accountability and Transparency Act (DATA) of 2014 (s. 994) amends the eight-year old Federal Funding Accountability and Transparency Act and requires federal agencies to publish all their spending data in a standardized, machine-readable format that the public can access through the website USASpending.gov.<sup>19</sup> The aspiration is that governmental spending will be fully open in the next years, which will lead to a standardized reporting method to detail even more of their expenditures than were previously disclosed.

The DATA Act aims at making data more accessible, increasing transparency as well as efficiency related to open data. It seeks to improve accountability to taxpayers and provides user-friendly tools to allow lawmakers and civil society

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<sup>19</sup> See: <https://www.govtrack.us/congress/bills/113/s994/text> , last accessed February 24<sup>th</sup>, 2016

organizations to root out waste and abuse. In short, the DATA Act requires agencies to establish government-wide standards for financial data, adopt accounting approaches developed by the Act's Recovery Accountability and Transparency Board (RATB) and streamline agency reporting requirements.

It further empowers the Secretary of the Treasury to establish a data analytics centre which is modeled on the successful Recovery Operations Centre. The new law is particularly attentive towards consistency since it requires that the government chooses something that is already widely accepted and is not dependent on a single platform. The website must be continuously updated, a requirement which will help prevent the government from falling into the situation where its many agencies are all reporting information separately and in their own way.

#### **1.6. Main Benefits of the U.S. DATA Act**

The goal of the DATA Act is to direct the federal government to standardize and publish its reports and data compilations relevant to spending. This includes financial management, payments, budget actions, procurement, and assistance. The Act amends the Federal Funding Accountability and Transparency Act of 2006 (FFATA) by changing existing sections and adding new.

The main benefits of the DATA Act relate to accountability, management and compliance. With regard to accountability, it offers the possibility to gather federal financial statements, budget actions, grant reports, and contract reports as open data. Similarly, a more effective federal management will come as the result of government-wide data standards which will allow Big Data analytics to highlight its potential. Lastly, compliance is easier to achieve due to the existence of concentrated rules that communicate consistently the rules and regulations that are to be observed.

In terms of its supporters, the main stakeholders that advocated in favor of the unified Act were: (i) large firms that are interested in liberalized markets for public sector information and moving towards an American model where government data are not subject to copyright or charging regimes (Janssen, 2011); (ii) small enterprises and social enterprises seeking to innovate with public datasets; (iii) technological communities inspired by decentralized and collaborative models of production and problem-solving in open source, focusing on government data, and believing in the value of open sharing of corporate data; (iv) open science advocates believing that sharing data is essential for accountable research and solving complex new research challenges;<sup>20</sup> (v) political actors supporting the potential of open data for increased transparency and accountability and (vi) governments and development agencies exploring the role of open data in a country's development.

### **1.7. The EU following the example of the US in open data**

The European Commission's work on open data is focusing on generating value through re-use of specific type of data, which mostly comprise public sector information. Information includes data that public bodies produce, for instance geographical information, statistics, weather data, and data from publicly funded research projects.

The EU supports open data because it has significant potential for re-use in new products and services; because it addresses societal challenges; because it

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<sup>20</sup> Peled, A. (2013). Effective Openness – The Role of Open Data 2.0 in a Wider Transparency Program. last accessed February 24<sup>th</sup>, 2016, from [http://www.academia.edu/6276364/Effective\\_Openness\\_-\\_The\\_Role\\_of\\_Open\\_Data\\_2.0\\_in\\_a\\_Wider\\_Transparency\\_Program](http://www.academia.edu/6276364/Effective_Openness_-_The_Role_of_Open_Data_2.0_in_a_Wider_Transparency_Program)

achieves efficiency gains through sharing data inside and between public administrations; and because it fosters participation of citizens in political life.

For that purpose, the Directive on the re-use of public sector information (Directive 2003/98/EC, known as the 'PSI Directive') entered into force on 31 December 2003. It was revised by Directive 2013/37/EU, which entered into force on 17 July 2013. The Directive focuses on the economic aspects of re-use of information rather than on the access of citizens to information. It covers written texts, databases, audio files and film fragments.

The Directive overall provides that all content that can be accessed under national access to document laws is in principle re-usable beyond its initial purpose of collection for commercial and non-commercial purposes. Re-use shall be based on non-discriminatory conditions for comparable categories of re-use, whereas charges for re-use should in principle be limited to the marginal costs of the individual request (reproduction, provision and dissemination costs).

Further points refer to prohibition of exclusive arrangements since public sector bodies may not enter into exclusive arrangements with individual re-users, excluding others. However, exclusive rights may be authorized in exceptional circumstances if they are necessary to provide services in the public interest; or in the context of digitization of cultural resources. In any event, review clauses ensure that exclusive arrangements are regularly reviewed against the evolution of technology and the market for digitization and provision of electronic services.

The Commission has recently published guidelines to help the Member States transpose the revised rules and indicate best practice in several fields of importance for the re-use of public sector information. Yet, several people advocate that the EU would benefit from a more comprehensive Open Data Directive. We will perhaps see

in the near future if the EU will fully follow US's example on data openness through a specific Directive.

### **1.8. Discussion: Should more Countries Introduce Open Data Acts to Expedite Trade Liberalization in Technological Services?**

In light of the above, the following arguments will be considered as to whether a further legislative initiative would be the way forward to facilitate trade liberalization in technological services:

#### ***1.8.1. U.S. had a similar legislative history with certain countries before introducing the DATA Act***

The U.S. example can be compared to other countries (e.g. the UK); different Acts and pieces of legislation relating to Open Data existed, however the government decided that it should enforce a new comprehensive Act so as to communicate its aims more effectively and, among others, facilitate trade liberalization.<sup>21</sup> The experience of the previous Acts built up to create a more solid legislative piece, which could similarly be the case with similar Acts in other countries.

#### ***1.8.2. Advantages of a unified Open Data Act***

The U.S. DATA Act demonstrates the positive externalities that derive from a piece of legislation that strengthens the foundations of Open Data access. It enhances transparency, makes it easier to access trade data, and gives insight for investment opportunities. Lastly, the DATA Act gave access to a series of documents that should

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<sup>21</sup> See: <http://www.theverge.com/2014/5/12/5711010/data-act-signed-requires-searchable-website-of-federal-spending>, last accessed February 24<sup>th</sup>, 2016

be available and searchable publicly, immediately after their creation and in a consistent format that allows cross-referencing and further elaboration, even resulting to commercial activity.

### ***1.8.3. Current laws will not cover future challenges***

The laws currently in place are sufficient in dealing with Open Data dissemination in several countries, however should the countries desire to make the most out of open data and cater for the future needs for trade facilitation that are bound to emerge, they should adopt a comprehensive legal piece. Otherwise they might stay behind in the race of opening and making data accessible since practice and daily needs will be discordant to the legal foundations in place.

### ***1.8.4. A sanctioning system will increase efficiency***

A unified Act will communicate to the society how important the Open Data agenda actually is. Upgrading the importance of Open Data in the legislative system accompanied with civil, administrative or even criminal sanctions for cases of non-compliance is the strongest blend to practically develop this culture of disclosure and openness in every single governmental –and not only- agency.

### ***1.8.5. Raising awareness and disseminating knowledge***

A unified piece of legislation might help disseminate knowledge and raise awareness regarding how citizens, small and medium producers and suppliers can use open data since it will be easier to access relevant pieces of information.

### ***1.8.6. A unified Act would be more cost effective***

A unified legal Act would in the long run be more cost effective than having different pieces of legislation. The U.S. DATA Act will cost the U.S. government \$300 million over the next five years, however the expected benefits are multiple since estimates classify them in the range of several billion dollars.<sup>22</sup> Having a concise piece of legislation incentivizes investors to choose a country over the other and promotes entrepreneurship offering greater stability.

### ***1.8.7. Data quality will be assured and red tape will be reduced***

Through the unified legal format, data quality will further be assured. There is currently no hard law requirement for the data format nor the verifiability of data across governmental agencies. These technical requirements help to safeguard the smooth enforcement of data openness. Data consistency further leads to comparable findings for trade and investment purposes. Naturally, this coherence will eventually reduce the red tape and bureaucracy involved in trade and investment activities.

## **1.9. Concluding Remarks**

Overall, open data is a relatively recent notion that can yield great benefits for the economy, trade and investment. In particular regarding technological services, open data can help liberalize the regulatory burdens that restrict market access. It leads to greater accountability, openness and transparency. It engages stakeholders, promotes domestic and international development, and fosters cooperation. It optimizes market reality and leads to efficiency for buyers, suppliers, and downstream users.

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<sup>22</sup> See: <https://www.govtrack.us/congress/bills/113/s994> , last accessed February 24<sup>th</sup>, 2016

Countries have recently started expanding on the benefits that open data can bring to their domestic production and trade balance. They have realized that potential positive externalities include the reduction of corruption and the endorsement of trade relations. Open data can even lead to more effective bilateral or multilateral trade negotiations among states.

The regulatory framework referring to open data in several countries is diverse and wide, yet incomplete, vague and potentially confusing to the average citizen. Different provisions exist in legal pieces however the approach adopted is not all encompassing. The U.S. is a successful example of a country that has invested in furthering the use of open data through the introduction of a relevant act. Ultimately, the goal of trade liberalization in goods and services can be served through the use of open databases.

As for other countries that wish to champion trade and investment, a specific Open Data Act would certainly resolve some inefficiency and bureaucracy created by bits and pieces of legislation, or entire lack of legislation. Steps are still required to achieve that since open data is a challenging and evolving field that could make use of its own concise and coherent legislative initiative.