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Edited by
Prof. Dr. Ramon Bouzas-Lorenzo
and
Prof. Dr. Andres Cernadas Ramos

Review Process
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Contents

Preface

These proceedings represent the work of contributors to the 18th European Conference on Digital Government (ECDG 2018), hosted this year by University of Santiago de Compostela, Spain on 25-26 October 2018. The Conference Chair is Prof. Dr. Ramon Bouzas-Lorenzo and the Programme Chair are is Prof. Dr. Andres Cernadas Ramos.

ECDG is a well-established event on the academic research calendar and now in its 18th year the key aim remains the opportunity for participants to share ideas and meet the people who hold them. The scope of papers will ensure an interesting two days. The subjects covered illustrate the wide range of topics that fall into this important and ever-growing area of research.

The opening keynote presentation is given by Francisco Lupianez, of the Open University of Catalonia, who will speak about *"Benchmarking ICT for Health in Europe: Lessons Learnt from Ten Years of Experience"*. The second day of the conference will start with an address by Jorge Prado, from the Galician Regional Government, Spain discussing *"Deployment of eHealth in a Healthcare Service*".

With an initial submission of 90 abstracts, after the double blind, peer review process there are 32 Academic research papers, 2 PhD research papers, 3 work-in-progress papers and 2 Non-academic papers published in these Conference Proceedings. These papers represent research from Azerbaijan, Belgium, China, Colombia, Czech Republic, Denmark, Estonia, Finland, Germany, Greece, India, Israel, Italy, Kazakhstan, Netherlands, New Zealand, Peru, Poland, Portugal, Romania, Russia, Slovenia, Spain, Sudan, Sweden, Taiwan, UK, and USA.

We hope you enjoy the conference.

Prof. Dr. Ramon Bouzas-Lorenzo
ECDG Conference Chair
Main coordinator of the project "Digital divide and inhibitors to e-government implementation"
(Ministry of Science, Innovation and Universities, Spain)"

Prof. Dr. Andres Cernadas Ramos
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Transparency and Openness: The Tools Available in Italy

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Abstract. The object of analysis of this paper concerns the instruments of transparency and openness towards the public administrations foreseen in the Italian legal system; in particular, we analyse the right to access government data and the use of open government data and public big data. For these purposes, the contribution is focused on Legislative Decree No. 33/2013, profoundly modified by Legislative Decree 97/2016, dedicated to transparency and right to access, and on the reforms approved by Legislative Decree No. 82/2005, and more recently by Legislative Decree 179/2016 and Legislative Decree 217/2017, which concern the profiles relating to open data and big data in the public sphere. From the normative analysis emerges the evolution of the concept of knowledge allowed by new technologies and the unprecedented "relationship" made possible between public sector bodies and citizens.

Keywords: transparency, openness, right to know, open data, open government, big data

1. Transparency and right to know

1.1 Proactive disclosure

The principle of transparency has increasingly become a focus of interest in Italian law, especially in recent years; transparency is the key tool by which to guarantee open access to government information, so as to make sure that the government's administrative activity is accountable to its citizens, and in such a way as to enable the latter to fully participate in the political process.

The Internet can make information available to broad swaths of the population, making it possible to easily access the information at any time from almost any geographic location, giving information a kind of currency it has never before seen: the transparency has in the meantime made headway with information and communications technology.

In the Italian legal system the principle of transparency rests on a solid constitutional foundation, which forms the basis of its construction and is amenable to broad interpretation: this constitutional basis makes transparency a sort of meta-principle serving the purpose of furthering the aims of a series of other constitutional principles -Art. 1(2)(3) of Legislative Decree 33/2013 and Art. 1(36) of Law 190/2012- (Carloni 2013).

The significant step in this legislative evolution came with the so-called Transparency Decree (Legislative Decree No. 33 of 14 March 2013), giving effect to the so-called Anticorruption Law (Law No. 90 of 6 November 2012): this decree took a melange of provisions that had accreted over the years as legislators introduced various standards under which public sector bodies were required to ensure that their information was transparent and publicly and widely available, and reshaped these provisions and obligations into a substantially reconfigured design.

In turn, the Transparency Decree recently received a significant reconfiguration under Legislative Decree No. 97 of 25 May 2016, giving effect to the so-called Madia Reform: the outcome has been what some have referred to as an Italian Freedom of Information Act.

The body of transparency provisions enacted before 2013 was gappy and with a good deal of overlap, and it was not equipped with meaningful enforcement mechanisms: the result had been a good deal of noncompliance. An attempt to address these issues was made with Legislative Decree 33/2013 (Savino 2013).

To this end, Legislative Decree 33/2013 reframed the obligation of public disclosure by distinguishing four broad classes of obligations, concerning (i) the organization and activity of public sector bodies; (ii) the use of public resources; (iii) the delivery of government services; and (iv) so-called "special sectors" (include public works,

service, and procurement contracts; zoning and urban planning; and the national health service.): the Web becomes the main tool of transparency, requiring public sector bodies to make the records, information, and data relating to their activity and organization publicly available on their websites -Art. 2(2) of Legislative Decree 33/2013-. This has been described as proactive disclosure.

Legislative Decree 33/2013 regulates a specific section of a government agency's homepage called *Amministrazione Trasparente* (Transparent Administration), requiring that it contain all the data, information, and records subject to compulsory publication and defining the layout of this transparent administration section, in such a way that public sector bodies all have a coherent and familiar interface -Arts. 2(2) and 9(1) of Legislative Decree 33/2013-.

Legislative Decree 33/2013 also provides some enforcement tools giving government the power to exercise oversight over the compliance of its own public sector bodies and to issue fines for noncompliance (these tools are contained in particular in Arts. 43ff., Title VI, of the Transparency Decree.). In particular, the decree contains a public oversight tool called *accesso civico* (public access), making it possible for anyone to (a) request records, information, and data that are not publicly accessible even though they are subject to public disclosure, and (b) obtain such access free of charge and without having to state a reason for the request -Art. 5 of Legislative Decree 33/2013, previously also in Legislative Decree 97/2016- (Savino 2016).

This meant that Legislative Decree 33/2013, prior its reform by Legislative Decree 97/2016, did not strictly provide for a right to access government-held information, considering that its main tool, namely, public access (*accesso civico*), could only be used in cases of noncompliance, to access records, data, and information that public sector bodies failed to make public even though they were legally required to do so. This meant that there was no transparency for any of the information that was not subject to public disclosure: it was up to each public sector body to make such choices at its own discretion, and the governing law remains that of the right of access set forth in Law 241/1990, under which no request for information can be made without (a) showing a legitimate interest in such information and (b) stating a reason for the request. This effectively amounts to a conditional "right to know" (Carloni 2013).

In view of these shortcomings, and in an international context where many countries around the world have freedom of information acts protecting the right to know, and also in response to pressure from citizen groups (especially the *Foia4italy* initiative - www.foia4italy.it), the Italian government issued Legislative Decree 97/2016, which under the powers delegated to the executive by Article 7 of Law 124/2015 modified the Transparency Decree (Legislative Decree 33/2013) so as to guarantee an authentic public right to know that citizens can exercise to access government information.

Under the amended law, transparency is understood in Art. 1(1) of Legislative Decree 33/2013 as "full access to the data and records held by administrative public sector bodies, in the interest of protecting the rights of citizens, promoting citizen participation in the government's administrative activity, and favouring broad-based oversight of the government's institutional functions and its use of public resources." To this end, Legislative Decree 97/2016 made deep changes to Legislative Decree 33/2013. These include (*i*) making it easier to comply with public disclosure requirements: the need to streamline the disclosure procedure emerged as a result of recognizing right to know as a basic right (Savino 2016); (*ii*) introducing stricter standards governing public spending and government contracting and staffing - Arts. 4-bis and 14 of Legislative Decree 33/2013; (*iii*) granting greater powers to the Autorità Nazionale Anticorruzione (the National Anticorruption Authority, or ANAC for short) - Arts. 3(1-bis)(1-ter) and 8(3-bis)-; and (*iv*) making officials subject to greater responsibilities and stiffer penalties. In order to simplify public disclosure requirements, the amended law gives public sector bodies the option to comply by linking to the databases listed in Annex B of Legislative Decree 33/2013, having previously filled these databases with the data, information, and records that are subject to public disclosure -Art. 9-bis(2) of Legislative Decree 33/2013, introduced by Legislative Decree 97/2016-. The most important innovations concern the right of access known as *diritto di accesso civico*.

1.2 Reactive disclosure

Next to *proactive* disclosure—where government agencies make public records available without responding to requests from the public—we have *reactive* disclosure, which is precisely the latter of the two circumstances, where publication comes in response to a request (in this sense the Italian Consiglio di Stato (an administrative

court), concerning the design of what would have become Legislative Decree 97/2016: Opinion No. 00515/2016 of 24 Feb. 2016 - decided at a meeting of 18 Feb. 2016.

In this regard, Legislative Decree 97/2016 innovated on Legislative Decree 33/2013 in significant ways, notably by (*i*) introducing a new way to access information (*accesso civico generalizzato*) and (*ii*) expanding the public's right to know in relation to the government and its agencies. For this reason this 2016 decree has come to be known as the Italian Freedom of Information Act (FOIA). The main principle (set forth in the enabling act authorizing the law through which this right was enacted) is that of freedom of information -Art. 7(1)(h) of Law 124/2015-. As stated in the law, in Art. 2(1) of Legislative Decree 33/2013 this freedom "must be exercised consistently with all pertinent legally protected public and private interests and is guaranteed by way of (a) public access (*accesso civico*) to records, information, and data concerning the organization and activity of public sector bodies and (b) public disclosure of such information."

Legislative Decree 97/2016 has no effect on Law 241/1990 or on the right of access to records set forth in this law, which as a result stands as valid law -Art. 6(11) of Legislative Decree 97/2016 explicitly states that the different forms of access set forth in Title V of Law 241/1990 remain in place-, but it does affect the public's right of access set forth in Legislative Decree 33/2013.

These changes have proven necessary in order to make sure that the right to know is fully protected.

Indeed, the right of access to records (*accesso documentale*), as set forth in Law 241/1990, configures a right to know that, as previously noted, is conditional, in that there are two essential conditions that need to be met before it can be exercised: the first of these (Art. 22) is that in order to request access to government-held records, and regardless of whether you are acting in a private or a public capacity, you need to show a legitimate interest in the records you are requesting, an interest having a direct, concrete, and current bearing on the protected legal status that access to the records may jeopardize; the second condition is that you need to state a reason for your request (Art. 25). The distance that separates this scheme from the freedom of information principle can also be appreciated in the blanket-oversight restriction, where the law prohibits access aimed at subjecting the overall activity public sector bodies to broad oversight (Art. 24(3) of Law 241/1990).

It is a different set of premises that inform the right of access known in Italy as *accesso civico generalizzato* (broad public access), which acts in conjunction with the *accesso civico semplice* (basic public access) that was in force before the overhaul of transparency law.

Under the right of access referred to as *accesso civico generalizzato* (broad public access), access to administrative government data and records is not restricted to the data and records that have not been made publicly available even though they are subject to mandatory public disclosure (*accesso civico semplice*), and anyone may request access to such information without stating a reason for the request - Art. 5(1–2) of Legislative Decree No. 33/2013-. Indeed, this form of access (*accesso civico generalizzato*) is intended to "favour broad oversight over the performance of institutional functions and the use of public resources".

Unlike the right of access set forth in Law No. 241/1990, as just noted, broad public access (*accesso civico generalizzato*) is not subject to the conditional constraint requiring requesters to state a reason why they are seeking access to the information they are requesting, nor is it subject to the limit that rules out the ability to access government-held information in the interests of broad oversight -Art. 5(3) of Legislative Decree 33/2013-: access requests need only identify, the data, information, or records for which access is sought, and it can they can be submitted either remotely (over the Internet) or to any of a set of administrative bureaus specified in the statute. Access requests are free of charge, but a fee may be charged to cover any costs the administrative agency in question may incur to make copies of the records being sought -Art. 5(3–4) of Legislative Decree 33/2013-.

Once an access request is made, the public sector body in question has thirty days to respond: the principle of silence as tacit rejection therefore does not apply, and any rejection must be accompanied by a statement explaining its grounds, which must in turn have a legal basis - Art. 5(6) of Legislative Decree 33/2013-. The onus of proof—explaining the reasons for any denial of access—therefore falls on the government. Requesters who are denied access have the option of appealing to a regional administrative court, or they may have the case reviewed by the transparency officer within the agency itself. In cases involving local government entities, they

can also settle the matter out of court by recourse to an ombudsman -Art. 5(7–8) of Legislative Decree 33/2013-. Indeed, under the law, access requests maybe rejected only if access would prove "concretely prejudicial" to the legally protected public or private interests set forth in Article 5-bis. The exclusions provided under this rule have been interpreted in legal commentary as numerous, overbroad, and in some cases too open-ended (Carloni 2016, Ponti 2016; for a contrary view Savino 2016). In this regard, Italy's National Anticorruption Authority (ANAC), in agreement with the Italian Data Protection Authority, and in keeping with the opinion of the Conferenza Unificata, has issued a set of operating guidelines (under Determination No. 1309 of 28 Dec. 2016) defining all public-access exclusions and limits - Art. 5-bis of Legislative Decree 33/2013-. The ANAC guidelines contain what it terms "strict exemptions," under which the law specifically requires public sector bodies to deny access requests: these cases concern state secrets (classified information) and information that cannot be accessed and circulated. In addition, the guidelines contain relative or qualified exemptions, in cases where access to the requested information would be "concretely prejudicial" to any one or more of the legally protected public or private interests listed in the ANAC guidelines. This determination is made under specific causational and temporal criteria stating (*i*) when an access request would cause a protected interest to be prejudiced and (*ii*) how much time must elapse before there is no longer any danger of prejudicing the protected interests of the persons or entities concerned. The legally protected *public* interests concern (a) public security and order; (b) national security; (c) national defence and military operations; (d) international relations; (e) the national political system and the country's financial and economic stability; (f) criminal investigations and prosecutions; and (g) government inspections. The *private* interests instead fall under three headings: (a) personal data protection under applicable law; (b) secrecy of correspondence; and (c) a natural or legal person's economic and commercial interests, including intellectual property, copyright, and trade secrets.

The ANAC guidelines, along with others, have clarified that requests cannot be exploratory: public sector agencies cannot be asked to gather information that is not in their possession or is out of scope; it is possible, however, to make requests of broad scope, so long as they do not cast a net so wide that the resources needed to satisfy them would interfere in the ability of an agency to do its work. The guidelines addressed at the agencies include recommendations that that they set up internal procedures for different types of requests, as well as a dedicated FOIA office, and that they keep a register of such requests organized by type, in such a way as to facilitate ANAC's oversight. The guidelines also address the question of exemptions (information not subject to public disclosure) and include an annex providing operational guidance.

The law thus sets a "reactive disclosure" standard providing several forms of access. Among these (pursuant to Legislative Decree 97/2016) is the broad form of access known as *accesso civico generalizzato*, through which Italy brings its freedom of information framework into line with the international model. In the Opinion No. 00515/2016 of 24 Feb. 2016, the Consiglio di Stato speaks of "reactive disclosure" precisely to describe the disclosure of government-held data on request. Here we have a shift from the *need* to know the *right* to know that in the Italian legal system amounts to a Copernican revolution proper, as a result of which—using a phrase that was much beloved by Filippo Turati—the transparent public sector can really begin to look like a "glass house."

As a consequence, there are three forms of access now in force in Italy as tools of reactive disclosure: (1) access to records (*accesso documentale*), pursuant to Law 241/1990, which stands as valid law; (2) "broad public access" (*accesso civico generalizzato*), pursuant to Legislative Decree 33/2013 and introduced by Legislative Decree 97/2016; and (3) what is now called basic public access (*accesso civico semplice*), which is the previously recognized right of access that can be exercised in response to failure of a government agency to comply with public disclosure requirements.

2. Transparency and openness

2.1 Public open data

Transparency can be achieved by way of either proactive or reactive disclosure, but in the evolution of Italian law, and owing to the potential introduced by digital technology, it has also come to be connected with a principle of openness: thus we have proactive disclosure by way of open data (Tiscornia 2011). The paradigm that emerges in this connection is one on which data must be restored to the community, making it available to the collective intelligence (Coccagna, Ziccardi 2012; Mancosi 2012).

Open data forms the subject of Article 1(1)(l-ter) of Legislative Decree 82/2005— as introduced into Legislative Decree 82/2005 by the Legislative Decree No. 179 of 18 Oct. 2012, amended and enacted into law by Law No. 221 of 17 Dec. 2012 and as amended by (i) Legislative Decree No. 102 of 18 May 2015, (ii) Legislative Decree No. 179 of 26 August 2016, and (iii) Legislative Decree No. 217 of 13 December 2017—where it is defined from a legal, a technological, and an economic standpoint:

- From a legal standpoint, open data is data that "is available under the terms of a licence or a legal provision that makes it possible for anyone to use it, including for commercial purposes, in a disaggregated format": Open data has a data controller (Art. 1(1)(cc) of Legislative Decree 82/2005), and as a result its only legitimate use is under a licence or a legal provision. Open data licences are distinguished from closed data licences in that they grant different rights to copyrighted data (the applicable copyright law in Italy is Law No. 633 of 22 April 1941): more than focusing on use limits, open data licences are designed to guarantee a series of rights (the idea has been termed *copyleft*, marking its distinction from traditional copyright). Examples are Creative Commons (CC) licenses (*www.creativecommons.it*) and Italian Open Data Licences (IODL) (*www.dati.gov.it/iodl/2.0*).
- From a technological standpoint, it is data that "can be accessed by way of information and communications technology, including private and public Internet channels, in an open format [...]; it can be used by software designed to automate tasks; and it is equipped with metadata". Under Art. 1(1)(l-bis) of Legislative Decree 82/2005, an open format is defined as "any data format that is made public, is exhaustively sourced, and is technology-neutral, in that no specific technology is required for its use." The "openness" of open data is often assessed on the basis of Tim Berners-Lee's five-star deployment scheme for open data (*http://5stardata.info*).
- From an economic standpoint, it is data that "can be accessed free of charge [...] or for the price needed to cover the costs of reproducing it and making it available, with the exceptions provided in Art. 7 of Legislative Decree No. 36 of 24 Jan. 2006".

Open data makes it possible to achieve several aims: it can be used for transparency and democratic oversight, it can contribute to making government more effective, and it can serve as a tool with which to prevent and fight corruption. This in turn makes it possible to build trust in government, while at the same time enabling greater participation in its decision-making. Open data also makes it possible to improve the quality of life of citizens, for they can use and share it in the interest of the public good, and at the same time it can help to improve public policy, serving as a useful support tool in making policy decisions. Last but not least, open data can support economic growth, for it can be used to develop new products, apps, and services serving as tools of public administration, thereby advancing the collective interest. There is a whole range of data that can potentially serve a useful public purpose: data relating to the government's budget and finances, the environment, healthcare, public transport, the geography, tourism, and so on.

In recent years, under the stimulus of developments in Europe and the world, the Italian government has been promoting an effort to make information of public interest available to the public itself, and this trend is explicitly reflected in the law.

Directive 2003/98/EC—on the reuse of public sector information, amended by Directive 2013/37/EU—was transposed into Italian law by way of Legislative Decree No. 36 of 24 January 2006, but even if this data was regarded as essential "raw material" needed to develop digital products and services for the common welfare, and hence as an element of economic and social growth, the 2006 decree did not introduce any obligation to make its reuse possible. In order to implement the EU directive of 2013, the Italian government amended the 2006 decree by Legislative Decree 102/2015, which imposed stronger obligations on government agencies, requiring them to make public data reusable, for commercial and non-commercial purposes alike, in the manner prescribed in the law itself.

Also significant is Legislative Decree 82/2005 (amended by the previously mentioned Growth 2.0 Decree, as well as by Legislative Decree 102/2015 and, more recently, Legislative Decrees 179/2016 and 217/2017): under Articles 52 e 53 it introduced the previously discussed definition of open data, while also introducing provisions aimed at streamlining the process of putting the national stock of public data to good use. Under these provisions, public sector bodies are required to publish their public data and metadata on their own websites, along with the relative databases and the rules governing the use of public online access to the same data and

metadata and their reuse, with the exception of the data contained in the fiscal registry (*anagrafe tributaria*) - Art. 53(1-bis) of Legislative Decree 82/2005-.

The emphasis in favor of open data can also be appreciated in the *open data by default* principle, under which the data and documents that public sector bodies publish by any method, and without any express use of a license, is deemed to have been released as open data, unless the publication in question contains personal data; and if any license is used, this must be done in keeping with the national guidelines issued by the Agenzia per l'Italia Digitale (AgID) - Art. 52(2) of Legislative Decree 82/2005-.

In Article 52 of the Codice dell'Amministrazione Digitale (CAD), the concern is to make sure that these provisions are complied with and their aims are achieved. To this end, the activities aimed at ensuring citizens' online access and reuse of government data are subject to criteria on which basis to review the performance of civil service executive officers. Also important from a governance standpoint is the aforementioned Agenzia per l'Italia Digitale (AgID), a government agency entrusted with strategic and technical functions aimed at ensuring compliance and with providing public sector bodies with the guidance needed to make their data open - Art. 14-bis of Legislative Decree 82/2005 -.

In this line of development we also have Legislative Decree 33/2013, most recently amended by Legislative Decree 179/2016, and whose Articles 3 and 7, taken in combination, explicitly make the connection between transparency and openness: all documents, information, and data subject to public access (*accesso civico*) or to public disclosure under the law in force are by definition public, and so everyone has a right to access them free of charge and to use and reuse them in accordance with Article 7; documents, information, and data that are subject to public disclosure, including those disclosed after the rule on public access (*accesso civico*), need to be published in an open format and may be reused in keeping with Legislative Decrees 36/2006 and 82/2005 and Legislative Decree No. 196 of 30 June 2003, without imposing any restrictions other than the condition that the source of the material be acknowledged, in such a way that its integrity is preserved. These provisions, then, recognize not only a right to know but also a right to open data that can be reused, thereby bridging the gap between the rules on transparency and those on digitalization, two pillars of the overhaul of public sector bodies in Italy (Ponti 2013). In 2011, the Italian government launched a national open data portal (*www.dati.gov.it*) and has since created other like portals. Even local government agencies and users (citizens, associations, and businesses) have been particularly active in launching open data projects

Even more than transparency, openness needs to necessarily reckon with the exemptions and limitations introduced to safeguard other legally protected interests, such as secret of state, statistical confidentiality, and copyright. Especially challenging from this point of view is the complex balance that needs to be struck between open data and personal data protection. This matter is addressed in Legislative Decree 33/2013, at Article 7-bis, as well as in the guidelines the Italian Data Protection Authority issued on May 2014 -Rule No. 243 of 15 May 2014, Web Doc. No. 3134436-. Under these provisions, (a) the data that is published online is not data that anyone can use for any reason whatsoever, (b) personal data may be reused only in a manner that is consistent with the purposes of its original collection and with the rules on privacy, and (c) sensitive and judicial data may not be reused at all - Art. 7-bis(1)(3), and (4) of Legislative Decree 33/2013, and Data Protection Authority Rule No. 243 of 15 May 2014 – (Carloni 2014).

2.2 Public big data

In addition to addressing *open data*, Legislative Decree 217/2017—which overhauled the previously mentioned Codice dell'Amministrazione Digitale (Legislative Decree 82/2005)—also addresses government *big data*. The big data consists of huge volumes of data held by large organizations, such as governments and multinationals, that comes from a variety of sources and is analyzed by algorithms and other data-processing technologies. The kinds of data that can be contained in big data are wide-ranging, as are the aims it can be used to achieve: big data is not just used to record, analyze, and understand the present but also to predict the future, making it an excellent support tool in the decision-making of public and private entities alike.

Under the provisions recently introduced by Legislative Decree 217/2017, government agencies are authorized to also analyse their own data in combination with the data held by other public sector bodies subject to Legislative Decree 82/2005, so long as this activity is carried out (a) within the scope of the agency's institutional functions and (b) in keeping with the guidelines issued by Agenzia per l'Italia Digitale (AgID) - Art. 50(2-bis) of

Legislative Decree 82/2005-. This provision addresses the government's use of its own data, regulating such use according to a systemic logic that gives a prominent role to AgID.

Also significant in public data governance is the role of the Data and Analytics Framework (Piattaforma Digitale Nazionale Dati) brought into effect under Article 50-ter of Legislative Decree 82/2005. The Prime Minister's Office is entrusted with promoting the design, development, and testing of a National Digital Data Platform designed to enable better access to data held by government agencies subject to Legislative Decree 82/2005, as well as to make it easier for authorized entities to share such data, with a view to streamlining the compliance process that individuals and businesses are subject to.

Initial testing for the National Digital Data Platform is to be completed by December 31, 2018, and is entrusted to an officer whose official title is Commissario Straordinario per l'Attuazione dell'Agenda Digitale (Extraordinary Commissioner for the Implementation of the Digital Agenda). This role was introduced by Article 63 of Legislative Decree 179/2016, providing that the commissioner be supported by a task force called Team per la Trasformazione Digitale (Digital Transformation Team). The commissioner will collect, store, and organize government-held data in keeping with the rules established by the Italian Data Protection Authority and the governing decree, in such a way that public sector bodies can then share the same data in keeping with the previously mentioned AgID guidelines. When public sector bodies receive a request from the commissioner, they are required to comply and must do so by making the data available without this entailing any new or additional public expenditure.

Working in concert with the Finance and Economic Affairs Minister, and in consultation with the Italian Data Protection Authority and the public sector bodies in possession of the relevant data, the Prime Minister's Office is to issue a decree setting out the rules under which to implement the National Digital Data Platform, with a view to streamlining the process through which (a) public sector bodies can share their data, (b) authorized persons can access the same data, and (c) citizens and businesses can comply with the law. The decree will also list the kinds of data that public sector bodies are required to disclose for the aims established by law -this list will be periodically updated -, while also setting out the rules stating the limits and methods under which the data may be collected, organized, and stored.

Hence, these provisions serve a threefold purpose, being designed to (1) enable public sector bodies to share their data, making for an effective use of government big data with a view to offering better services, as well as to make it easier for (2) authorized personnel to access the data and (3) citizens and businesses to comply with regulations. Thus government big data supports institutional functions, while at the same time facilitating broad public access to it.

3. Conclusions

In the development of Italian law, we can therefore observe a trend toward greater and stronger transparency, this thanks to proactive disclosure and to the greater access to government-held data afforded by reactive disclosure, coupled with the new tool called *accesso civico generalizzato* (broad public access).

Transparency is also ensured in an active way, for the law now makes it possible to reuse the data in such a way as to generate new knowledge.

These tools, and the services they make possible, are unprecedented in the Italian landscape, fostering the evolution of society through the use of open data and government big data, helping public sector bodies carry out their functions, while also promoting the general welfare. Still, as discussed, there are risks that come with easy access to such data: this makes it necessary to carefully balance the interests at stake, for they are worthy of protection as elements that define everyone's digital life.

References

Califano, L. and Colapietro, C. (eds.) (2014) *Le nuove frontiere della trasparenza nella dimensione costituzionale*, Editoriale scientifica, Napoli.

Carloni, E. (2013) *I principi del codice della trasparenza (artt. 1, commi 1 e 2, 2, 6)*, in B. Ponti (ed.) *La trasparenza amministrativa dopo il decreto legislativo 14 marzo 2013, n. 33*, Maggioli, Rimini, p. 38 ss.

Carloni, E. (2014) "Le Linee guida del Garante: protezione dei dati e protezione dell'opacità", *Giornale di diritto amministrativo*, No. 11, p. 1113 ss.

Carloni, E. (ed.) (2014) *L'amministrazione aperta. Regole strumenti e limiti dell'open government. Orizzonti di diritto pubblico*, Maggioli, Rimini.

Carloni, E. (2016) "Se questo è un FOIA. Il diritto a conoscere tra modelli e tradimenti", *Rassegna Astrid*, No. 4, p. 9 ss.

Carotti, B. (2015) "La riforma della pubblica amministrazione - L'amministrazione digitale e la trasparenza amministrativa (commento alla legge 7 agosto 2015, n. 124)", *Giornale di diritto amministrativo*, No. 5, pp. 625-629.

Carullo, G. (2016) "Big data e pubblica amministrazione nell'era delle banche dati interconnesse", *Concorrenza e mercato*, pp. 181-204.

Castells, M. (2000) *The rise of the Network society*, Oxford University Press, Oxford.

Coccagna, B. and Ziccardi, G. (2012) *Open data, trasparenza elettronica e codice aperto*, in M. Durante and U. Pagallo (eds.), *Manuale di informatica giuridica e diritto delle nuove tecnologie*, UTET, Torino, p. 395 ss. D'Urgolo, G. (2017) "Trasparenza e prevenzione della corruzione nella P.A.: la recente introduzione del Freedom Act of Information (FOIA) nell'ordinamento italiano", *GiustAmm.it*, No. 3, pp. 1-14.

Faini, F. (2017) *Internet e il diritto a conoscere nei confronti delle pubbliche amministrazioni*, in P. Passaglia and D. Poletti (eds.), *Nodi Virtuali, legami informali: Internet alla ricerca di regole*, Pisa University press, pp. 337-350.

Faini, F. and Palmirani, M. (2016) *Italian Open and Big Data Strategy*, in A. Kő and E. Francesconi (eds.), *EGOVIS 2016*, LNCS 9831, Springer International Publishing Switzerland, pp. 105-120.

Floridi, L. (2014) *The Fourth Revolution – How the infosphere is reshaping human reality*, Oxford University Press, Oxford.

Garante per la protezione dei dati personali (Italian Data Protection Authority) (2014) *Linee guida in materia di trattamento di dati personali, contenuti anche in atti e documenti amministrativi, effettuato per finalità di pubblicità e trasparenza sul web da soggetti pubblici e da altri enti obbligati*, rule No. 243 of 15 May 2014 (Official Gazette No. 134 of 12 June 2014), doc. web 3134436.

Lathrop, D. and Ruma, L. (2010) *Open government: Collaboration, Transparency, and Participation in Practice*, O'Reilly Media, Inc.

Mancosu G. (2012) "Trasparenza amministrativa e open data: un binomio in fase di rodaggio", *federalismi.it*.

Mockus, M. and Palmirani, M. (2015) *Open Government Data Licensing Framework*, in A. Kő and E. Francesconi (eds.), *EGOVIS 2015*, LNCS no. 9265, Springer, Heidelberg, pp. 287–301.

Palmirani, M., Martoni, M. and Girardi, D. (2014) *Open Government Data Beyond Transparency*, in A. Kő and E. Francesconi (eds.), *EGOVIS 2014*, LNCS, no. 8650, Springer, Heidelberg, pp. 275–291.

Ponti B. (eds) (2013) *La trasparenza amministrativa dopo il decreto legislativo 14 marzo 2013, n. 33*, Maggioli, Rimini.

Ponti B. (eds.) (2016) *Nuova trasparenza amministrativa e libertà di accesso alle informazioni*, Maggioli, Rimini.

Savino M. (2013) "La nuova disciplina della trasparenza amministrativa", *Giornale di diritto amministrativo*, nos. 8-9, p. 795 ss.

Savino M. (2016) "Il Foia italiano. La fine della trasparenza di Bertoldo", *Giornale di diritto amministrativo*, No. 5, 593 ss.

Tiscornia, D. (ed.) (2011) "Open data e riuso dei dati pubblici", *Informatica e diritto*, nos. 1–2.