

## Issues and limitations in data journalism covering the Covid-19 pandemic: The Italian case

*Data played a major part in the journalistic coverage and understanding of the Covid-19 pandemic. Particularly in Italy, one of the countries most affected by the Coronavirus, health authorities released on a daily basis a huge amount of data in regards to the spread of the virus in the country. Based on interviews with Italian data journalists who covered the pandemic, this paper will discuss various issues and flaws related to the Italian data-driven coverage of the Covid-19 pandemic. In particular, the paper aims at discussing journalists' own perceptions of official data reliability, the effectiveness of data in explaining the contagion's progress in full and the most effective strategies to cover such data without spreading misguided or biased information to the public.*

**Key words:** Covid-19, data journalism, Italy

### **Introduction: The 'datafied' pandemic and the quest for data-driven reporting**

Data journalism and data-driven reporting played a major part in the journalistic coverage of the Covid-19 pandemic all over the world. International and national health institutions and governments have provided a large amount of data in regards to the spread of the pandemic, and media and social media spaces have been crowded with graphs and statistics illustrating the spread of the pandemic, the number of new cases and the death tolls, among other figures. It is safe to say that the Covid-19 pandemic has been the first in history to take place in the context of the 'datafied society', the result of 'datafication taking place at the core of our culture and social organization' (van Es and Schäfer 2017: 13). The abundance of data generated by the analysis of the disease on various levels, its impact on different aspects of social life, including health systems, economies and mobility, generated the need of data-driven narratives both from journalism and institutional communication.

According to Bruno (2020), the Covid-19 pandemic has been the first major 'data-informed' event in media history, making data journalism the core strategy for media coverage internationally. This was true also in Italy, the country at the core of this paper, where statistical notions such as 'pandemic curve', 'mortality rate', 'correlation' or 'variability' entered the public debates around the pandemic, becoming part of the journalistic jargon, although sometimes without adequate competence and literacy by the media themselves (Da Rold 2020). Moreover, the Italian Civil Protection Department's daily press briefings presenting official data about the pandemic became a routine event, setting the media agenda and their reporting choices in regards to the coronavirus. Despite the huge availability of daily updated data, the quality and comprehensiveness of such data has been widely critiqued in Italy and elsewhere for its own 'irregularity and inconsistency' (Taylor 2020: 2). In particular, the rationales and methodologies behind the collection of data about the number of active cases have been different from country to country, making meaningful cross-country comparisons difficult, particularly because of the different approaches to testing (Callaghan 2020).

In Italy, one of the most frequently debated issue, for instance, has been the comparability of official data between different areas of the country, since the Italian health system works on a decentralised and regional basis and regions can operate with some operational and organisational freedom (Bosco 2020). This was reflected also in the approach to testing, with regions adopting different strategies and, consequently producing very different data (Ravizza and Santucci 2020). In March, during the most severe phases of the Italian lockdown, one of the most popular articles circulating in Italy was 'Official data are an optical illusion' by Italian journalist Francesco Costa who claimed that, given their inconsistencies, official data were telling 'less and less' about the spread of the pandemic as it was spreading (Costa 2020). Despite these denounced accuracy issues, official figures have been inevitably looked at as significant indicators of the pandemic trends and as a basis for governmental action and policy making that showed signs of what has been called 'dataism' and 'unquestioning positivism' (Di Salvo and Milan 2020).

Yet, data has been the primary form in which the Covid-19 pandemic story has been told all over the world and, as prominent *Financial Times* data journalist John Burn-Murdoch said in an interview: 'This is the biggest story as a data journalist that I've ever encountered, this is just a story that when this comes into the news you just know, this is our story' (Forrest 2020). Data journalism, defined here as journalism based on data analysis and the presentation of such analysis (Coddington 2015), despite having being so central in the journalistic coverage of the pandemic and a routine practice

in various journalistic cultures and markets, is still struggling to become a mainstream and widely adopted practice (Trinca 2017, Porlezza and Splendore 2019). Still, during the pandemic crisis, data journalism seems to have gained momentum also in Italy, as news outlets of different kinds rushed to publish (or report on) analysis of the official data, graphs and infographics, both online and in print. Thus, the aim of this article is to make sense of how Italian data journalists coped with the Covid-19 crisis and to shed light on their reporting practices, strategies and the constraints they had to face while covering the pandemic as it happened.

### **Data journalism in Italy: A forever nascent practice**

It has been almost a decade since the 'quantitative turn' in journalism showed its first signs (Petre 2013; Coddington 2015) and data-driven reporting moved on from its own most pioneering phase to a more mainstream one. While data journalism is a reality and is being produced by journalistic institutions on a regular basis in most Western countries and newsrooms in London and New York, other areas are still behind in the development of data journalism as a routine practice (Wright et al. 2019). Despite growing interest from publishers and newsrooms in the past 10 years, Italian data journalism has not yet evolved into being a mainstream and routine form of reporting (Trinca 2017). Research about the evolution of data journalism in Italy has focused on the general low level of professionalisation of Italian journalism at large, as an aspect directly impacting on the growth of innovative journalistic practices, including data journalism (Splendore 2017: 44). For instance, comparative research conducted about journalism education in Europe has shown that data journalism is still little taught in Italian journalism curricula and training initiatives are mostly offered on an irregular basis or by activist organisations (Splendore et al. 2016).

In Italy, data journalism is mostly conducted by freelances who have gained data-driven reporting skills and expertise on their own or by in-house editors who are more open to digital innovation and to sub-contract data stories, but no dedicated data teams or newsrooms are available in the country, not even in the major news outlets in print, digital or broadcasting (Trinca 2017). The centrality of freelances in data-driven reporting is, in fact, a uniquely and peculiar Italian characteristic, and it is directly connected to various longstanding elements of Italian journalistic culture, such as the reluctance to innovation, economic uncertainty and a general elitist stance among Italian print media (Porlezza and Splendore 2019). Other reasons for this weak diffusion of data journalism in Italy have to be found in the political context of the country and its poor transparency: a proper FOI law, for instance, has been introduced in Italy only in late 2016, forcing journalists to fight 'rubber walls' within the public administration and to look for alternative data sourcing strategies, inevitably slowing down

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anything 'data' for reporters and newsrooms (Porlezza 2018). Porlezza and Splendore, in their study into Italian data journalism's strengths and limitations, concluded that data journalism in Italy has been growing despite disadvantageous political and economic conditions, offering excellent and impactful outcomes and content in a highly disadvantageous environment and without meaningful and continuous support from news outlets, contrary to most European and Western countries (2019).

These conditions have also influenced the structural working networks of Italian data journalists who, especially those working the freelancing beat, had formed 'a highly interrelated network' by joining forces and creating various forms of collaboration and knowledge sharing (Porlezza and Splendore 2019: 10). Interestingly, some of the most active and well-regarded nodes of this network are represented by organisations that are located at the border of the Italian journalistic field and that offer some forms of hybridity between journalism and open data activism. These are, in particular, the Dataninja, Datajournalism.it and FormicaBlu collectives and agencies with which most Italian data journalists are affiliated (Porlezza and Splendore 2019). While prominent international English-speaking news outlets with an established tradition in data journalism (such as the *Financial Times*, the *Economist*, the *Guardian* and *The New York Times*, among others) have immediately responded to the Covid-19 pandemic with full-scale data journalism content, the Italian response has been less structured and institutionalised given the circumstances described above. Thus, Italy offers a pretty unique and peculiar case study to understand how data journalism contributed to the reporting and understanding of the Covid-19 pandemic.

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### Methodology

Following the approach of previous studies into data journalism in selected countries or regions (Appelgren and Nygren 2014; Fink and Andersen 2014; De Maeyer et al. 2015; Borges-Rey 2016; Porlezza and Splendore 2018 – among others) this exploratory paper is based on five in-depth interviews with the most engaged and active Italian data journalists who covered the Covid-19 pandemic and published data-driven stories about the coronavirus. The sample, although inevitably limited, offers a significant portrait of Italian data journalism, since it has been estimated that around only 20 Italian journalists work full-time on data stories (Porlezza and Splendore 2019) and not all of them have engaged with Covid-19-related coverage. Journalists included in the sample also represent a wide range of publications, spanning from national dailies (*Il Sole 24 Ore*<sup>1</sup>), local and regional dailies (*L'Eco di Bergamo*<sup>2</sup>), an independent collective of data experts or science communication agencies (Dataninja and Formica Blu) and freelances working for various news outlets, including the Italian *Wired*<sup>3</sup> and Rai Radio 3

Scienza,<sup>4</sup> Interviewees were contacted via email in April 2020 and interviews took place over Skype, while Italy was still in complete lockdown.

Interviews were semi-structured in nature and lasted around 45 minutes.

Although names of journalists to be interviewed were already selected by the author and no snowball sampling was followed, the data journalists interviewed were suggesting each other as potential contacts, mentioning their work as particularly relevant for this research. Later, interviews were transcribed using the automated transcribing software Sonix.ai and double-checked manually by the author. Once transcribed, interviews have been analysed through an inductive ‘thematic analysis’ (Braun and Clarke 2012) aiming at highlighting recurring themes and issues mentioned by the interviewed journalists. ‘Thematic analysis’ is a common methodological approach for qualitative research in journalism studies based on interviews and has been recently applied also to papers with a similar approach into data journalism (Lewis and Al Nashmi 2019; Jamil 2019).

## **Results**

Interviews showed a series of shared and recurrent macro-themes related to the Italian data-driven coverage of the pandemic. These reflect, on one side, issues in regards to sourcing and investigative/editorial strategies and, secondly, the ongoing structural limitations of the Italian journalistic field and their impact on the practice of data journalism. Overall, four major themes emerged from the interviews. These are: 1) ‘data flaws’ and critical views on the usefulness of the official figures; 2) the need to find different strategies and sources of data to effectively report on the pandemic; 3) lack of ‘data literacy’ among Italian journalists and their unpreparedness and diffused ‘dataism’; 4) the impact of the structural limitations of the Italian market for data journalism.

### ***1) ‘Data flaws’ and critical views on the usefulness of the Italian official figures and data***

In regards to the first theme that emerged, Italian data journalists questioned the reliability and representativeness of the official data available about the death toll and spread of the pandemic in Italy. Data journalists also denounced and spotted various ‘data flaws’ in the official datasets that made meaningful comparative analyses based on these datasets extremely difficult. For instance, policies about Covid-19 testing changed over time and Italian regions implemented them differently, making the counting of Covid-19 ‘cases’ confused. Finally, the supply chain of official data has sometimes worked in a dysfunctional way, according to the interviewed journalists, impacting on the quality and comparability

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of the data over time. Il *Sole 24 Ore*'s Luca Salvio, for instance, noted that:

Data were arriving from hospitals and regions and the communication of the data took place mostly analogically or through obsolete systems. Each region had its own methodology. Moreover, the Civil Protection Department chose an unclear classification strategy for its own data and people were emailing us asking which data were the most relevant, those about people currently tested positive or those about total cases? For these reasons, our journalistic work has been way more difficult, but even more important. Numbers alone weren't enough: they had to be understood, explained, weighted and compared.

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Isaia Invernizzi, a journalist at the daily *Eco di Bergamo*, also underlined that official data were ineffective in giving a clear picture of the pandemic's impact on the communities served by its own newspaper:

I work for a local newspaper, so I immediately realised that there was a significant gap between what data were telling and what was actually happening here. The limitation was that we had the data, but the tracing behind them was not minute and it basically left behind lots of people. Consequently, the image of what was happening, according to the official data, was absolutely partial.

Elisabetta Tola from the science communication agency FormicaBlu also remarked on the problem of how effective the comparability of the official data was, especially those gathered at the regional level, often with little consistency:

Let me admit this: the regional structure of the Italian health system gets very problematic in these extreme situations, now I think that at least the management of the data should be centralised. How could you compare the situation in Veneto, that made all the data available immediately with a great effort at transparency, with Lombardia, where lots of data were missing? Also, the two health systems are very different on the operational level.

## ***2) The need to find different strategies and sources of data to effectively report on the pandemic***

Because of these flaws and limitations in the official data available, Italian data journalists decided to look for different sources to effectively cover and report on the spread of the pandemic in Italy and to look beyond the official figures, finding alternative and more representative data. In particular, two journalists found different

strategies and data that contributed sensibly to the understanding of the pandemic impact in Italy. *Eco di Bergamo*'s Isaia Invernizzi's work, in particular, made a huge impact, gaining visibility also internationally (*The Economist* 2020), and was frequently mentioned by the other interviewees as a point of reference. Invernizzi explains the strategy he followed to gather clearer data to explain the situation:

We gathered data from all municipalities in the Bergamo province about deaths in January, February and March 2020 in order to compare them with those about the previous years. Mayors were calling us to let us know that, literally, lots of people were dying. They were asking us to do something. The province of Bergamo has 243 municipalities and 1.1 million inhabitants: it took a lot of work and a lot of time, because those databases didn't exist at that time and we had to go village by village and ask for the data. It was hard, but we have been able to effectively tell what was going on. Compared to the 2060 official Covid-19 deaths in the Bergamo province at the end of March, we found out 5700, 4800 of which were attributable to Covid-19.<sup>5</sup> In 2019, there had been only 900 deaths in the months of March in the whole Bergamo province. Thus, we had six times more deaths in the same period in 2020.

Others, instead, focused on 'microdata' about cities where nursing homes are located, in order to estimate cases and deaths in these critical facilities, starting from official testing data. Riccardo Saporiti, a freelance data journalist who contributes to *Wired* and *Sole 24 Ore*, has followed this strategy to get more specific in-depth insights about the spread of the pandemic:

At a certain point Lombardia closed access to its data about testing. This data was about people who tested positive and, from it, it was possible to extract their age and municipality of residence. That was an important tool for understanding what was going on. For instance, by looking at that data I found out 30 nursing homes where there had been problems. We discovered a peak in testing with people over 75 years of age during Easter week. So I investigated which municipalities had over 20 people who tested positive and I cross-checked on local newspapers if there was any news about problems in nursing homes based there. And I found that, actually, there were. In statistics jargon, we call this data 'microdata' because for each analysed case it is possible to extract more aggregated information. This data should be handled with care, for privacy reasons, but by handling them correctly, it is possible to respect people's privacy and have more details about the overall situation.

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### 3) Lack of 'data literacy' among Italian journalists and their unpreparedness and diffused 'dataism'

Interviewed Italian data journalists highlighted the general lack of skills and knowledge in the field of data science and statistics in Italian journalism as a problematic factor negatively influencing the information supply about the pandemic. Overall, Italian news outlets were unprepared to cope with the datafied side of the pandemic and demonstrated little understanding of data science, according to the interviews. This frequently led to the emergence of various forms of 'dataism' (Van Dijck 2014) by either journalists and public officials who reported official figures with little scrutiny and context or in poor examples of 'graph at any cost' data-driven reporting. According to Elisabetta Tola, for instance, data were used with too much positivism and in an opinionated, sometimes instrumentalised, way:

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In my view, there has been way too much data porn, and not only in Italy. Everybody jumped on the data, as if they were hooks, or as if they were completely objective. But they never are. Data can certainly make a situation clearer, if honesty, knowledge and prudence are applied in order to really understand what you're handling. My general impression, instead, is that frequently data have been used to justify someone's vision on the matter.

According to Tola, major Italian dailies also lacked proper data science skills and jumped into data-driven reporting superficially. While this was clearly visible in journalism, scientists also took part in this data-driven race, contributing to the overall confusion:

*Corriere della Sera* and *Repubblica* have done a poor job at the beginning of the pandemic, starting the race to create maps at any cost. We even saw maps with the wrong scales or other major inaccuracies. We also saw the arrogance of using these numbers as the basis for political decision making and this terrified me. I think that many people don't actually know how to handle data and that they should be humbler. Later, engineers and statisticians also started producing charts about, for instance, predicting the peak of the pandemic. In my view, this stuff is deleterious. Part of this should be blamed on the scientific community too, since some scientists discovered it could be nice to be featured on a newspaper front page. What was lacking was an ethical approach to epidemiology and there has been too much armchair epidemiology.

Dataninja's Alessio Cimorelli also pointed to the structural and historical limited attention to science journalism by Italian media as a problematic aspect affecting the overall reporting of the pandemic:



In general, many legacy news outlets have demonstrated themselves to be unprepared to cope with such a story. There have been exceptions, of course, and some more structured organisations performed better than others. The weak scientific competence of the sector players and the scarce presence of experienced scientific journalists in Italian newsrooms led to weak coverage of the epidemic, which was unable to explain it and to discuss how to cope with it. Some interesting voices emerged from the freelances, who have been able to offer an effective journalistic narrative.

#### ***4) The impact of the structural limitations of the Italian market for data journalism***

All Italian data journalists who were interviewed underlined some paradigmatic and infrastructural issues that data journalism still faces in Italy, starting from its weak penetration among mainstream news outlets. This consequently also influenced how Italian data journalists covered the Covid-19 pandemic. Elisabetta Tola described the current situation of Italian data journalism in this way:

Italian newspapers do not host proper data newsrooms. They shouldn't necessarily employ a full data newsroom, but newspapers need at least some people who can look for and understand data. With the exception of Isaia Invernizzi – who's employed by *Eco di Bergamo* – and a few others, most of all the other Italian data journalists are freelances. I don't expect the level of *The New York Times*, of course, but a relatively small Spanish newspaper such as *El Confidential* employs three data journalists completely focused on data-driven reporting. In Italy, instead, even Sky News outsources these skills. ... When we launched the first data journalism training ten years ago, we thought data journalism would have taken root. Actually, what took root is a sort of pornographic mania of producing little maps, not actual data analysis. Also the most excellent Italian investigative reporters use different methods and there's little attention from the media.

Isaia Invernizzi, mentioned above, instead advocates for more support to data journalism from news outlets and publishers, denouncing how hard it can get for freelances to make it in the Italian market:

At the end of the day, it is always the same 10 to 15 people. From now, I believe that many news outlets will realise that it is impossible to cover such a story without a proper data culture or without employing people who know what 'correlation' means and who are able to spot weaknesses in the data. ... I also see lots of great colleagues who are freelances and need to put together 10 assignments to make a living. These people

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should get more chances. Slowly, I think there will be more space. ... I often see more quality in local newspapers, maybe there's more freedom there and consequently more space for experimenting with new things.

Luca Salvioli, who coordinates the data section of *Il Sole 24 Ore*, is aware that major news outlets should be more engaged with data reporting:

There is definitely room for improvement, especially in major news outlets. *Il Sole 24 Ore* has the advantage to have been telling stories with numbers since forever. I believe that this new stronger awareness and spread of tools will be here to stay.

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Alessio Cimarelli, instead, considers data journalism and culture as a fundamental asset for news outlets. In his view, the pandemic showed this in clear terms:

Data journalism is only a label. It is more and more clear now how strong data literacy is important to understand and tell stories about the world. Data and digital skills make a better journalist and make a news outlet a better product, more useful, more impactful and more attractive for its own community of readers. Those who will understand this and will act accordingly will produce useful and marketable work. All the others will slowly be destined to irrelevance.

Other limitations for Italian data journalists are to be found in Italy's limited culture of transparency. During the pandemic, together with other administrative services, the FOI was suspended, depriving Italian journalists of a fundamental tool for their reporting (Carrer 2020). Riccardo Saporiti pointed explicitly to this problem as a negative sign in terms of transparency and accountability:

The suspension of the FOI has also been a problem. I totally understand the circumstances, as people working in the offices were working remotely and, of course, no-one wanted to put these people at risk and I also understand the limitations posed by such an emergency. Still, this was not a positive sign. In such times, to have access to data is the best way to actually understand what is going on. This is true for journalists, of course, but also for those who have to take political decisions and also for the general public.

## **Discussion**

As in other countries, Italian journalism had to cope with the datafied side of the Covid-19 pandemic. As emerged from the results of this paper, Italian data journalists responded to this call

with enthusiasm, providing their skills and knowledge for reporting in a data-driven fashion the various amounts of data made available by public institutions. As one of the journalists said during the interviews, data has been the only 'tangible' way of putting the pandemic in the public eye and to show its devastating effects. Consequently, the data side of the reporting was also central in Italy, which was one of the first countries to be hit by Covid-19 and one of those that suffered the most severe consequences in terms of deaths and total cases.

Yet, Italian data journalists illustrate here a complex situation and an overall negative perspective on how they had to cover the story. From these interviews, various critical perspectives emerged on at least two different levels: a contingent one and systemic one. First, all journalists agreed in saying that, despite a huge effort from the governmental agencies involved, official figures provided by Italian health authorities were mostly unreliable and incomplete, preventing them from having the chance to work on comparable and precise data, causing major difficulties both in accessing and obtaining data and their own quality. Moreover, interviewees denounced a sometimes too passive attitude in regards to such data, that led to too superficial reporting on these figures and a baseless positivism towards data, especially from legacy and established national media. So, it is interesting to see how Italian data journalists reacted to this widespread 'dataism' attitude (Van Dijck 2014) and lack of scrutiny from major news outlets. In this context, Italian data journalists opted to look beyond the official data and investigate alternative sources and figures with the aim of finding out the real nature and magnitude of the pandemic.

This happened mostly thanks to the effort of local reporters, such as those of the *Eco di Bergamo* and freelancers who started looking at other, more comprehensive sets of figures. This quest for alternative comparable data is a sign of a stronger data literacy and knowledge of data analysis. As emerged in these interviews too, there is still a lack of these skills in the Italian journalistic field: for this reason, most of the journalists interviewed here remarked on the profound differences between 'making graphs and maps' and actually providing sound in-depth statistical, data-driven analysis. Knowing how to handle data effectively and judge their own reliability and soundness have been considered fundamental skills for those who want to conduct data-driven investigations beyond what has been defined as 'data porn'.

That said, these results have to be seen in the overall context of Italian data journalism. This paper brings additional evidence to what previous studies into data journalism in Italy have shown (Trinca 2017, Porlezza and Splendore 2019), a point that is connected to the systemic level of this analysis. All journalists

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interviewed here denounced various systemic limitations of the Italian journalistic field: lack of resources, aversion to innovation, and limited professionalisation. For data journalism in particular, this results in the absence of proper data newsrooms and in the overall very limited presence of data journalists sitting at news desks. This peculiar Italian state of affairs and lack of competence showed clearly its shortcomings in face of this 'datafied' pandemic and contributed to the various flaws that interviewees mentioned. Although data journalism is certainly gaining space in Italy, as confirmed also by the results of this paper, it is still considered as a specialised form of reporting, not as a routine journalistic practice. This was visible during the pandemic too, when only 'the same 10 to 15 people' – to quote one of the interviewees – produced data journalism out of the pandemic data. As Porlezza argues (2018), journalism is a central means to critically observe datafication and to showcase its problems. The pandemic, as a fully 'datafied' event, demonstrated this point with the enormous evidence in Italy, allowing, on one side, the very few Italian data journalists to find more space for their work, while, on the other, exacerbating the shortcomings of Italian journalism.

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Results of this paper also offer an opportunity to reflect on the impact of data-driven reporting at large and its own capability of making sense of complex phenomena, such as the Covid-19 pandemic. Surely, data journalism – including in Italy – has proven again to be a crucial asset for contemporary reporting and various international examples demonstrate its own effectiveness in this context. Yet, the Italian case also offers evidence of a potential risk: the existence of a 'data divide' which may have a profound impact on the quality of data-driven reporting and its service to the public. This emerges on at least two different levels: skills and the quality of data. Interviewees have here frequently denounced the poor quality of certain data-driven reporting or mere graphic-making provided by major news outlets. This reminds us that having official data and transforming it into graphs doesn't necessarily equate with producing actual data-driven reporting. Also, receiving official data without further inquiry or without challenging their content is a sign of weak journalistic scrutiny. We may call this attitude 'passive' reporting based on data.

Those journalists who, instead, challenged the figures provided by official authorities and looked for alternative takes and reporting strategies, performed a stronger, 'active' practice of data-driven reporting that involved clear investigative stances and attitudes. Looking beyond the peculiarities of the Italian examples, that divide between 'passive' and 'active' reporting may expose a long-term problem for data journalism at large. When performed without the proper skills, professionalisation and culture, data journalism may fail to fulfil its own premises of precision, accuracy, investigation and

reduction of complexity. Actually, the Covid-19 pandemic showed clearly that it is too easy for news brands to fall for 'dataism' and 'data porn' over actual data-driven reporting. Thus, the long-term risk is a divide between substantial data-driven reporting and other – less reliable – forms of reporting passively based on data that may affect audiences in different contexts in a critical way. For Italy, in particular, whether the pandemic will be an effective real turning point for the spread of data journalism will be an interesting research question for further studies in this area.

## Notes

<sup>1</sup> *Il Sole 24 Ore* is the leading Italian economics daily. With a daily circulation of 140,000 copies (ADS data, March 2020), it is the third most-read newspaper in the country

<sup>2</sup> *L'Eco di Bergamo* is the local newspaper of the city of Bergamo, Lombardy, with a daily circulation of 38,000 copies. The Bergamo province has been one of the most affected by the Covid-19 pandemic, with 12,347 cases (as of 14 May 2020)

<sup>3</sup> *Wired Italia* is the Italian version of US technology magazine *Wired*. *Wired Italia* is published by Condé Nast and is active online and in print as a seasonal magazine. The website, [wired.it](http://wired.it), attracts around 170,000 daily users (Audiweb data, May 2020)

<sup>4</sup> Radio 3 Scienza is the daily scientific news bulletin of Radio3, the culture and science-oriented radio channel of Italian public broadcaster RAI

<sup>5</sup> The story is available here, also in English: [https://www.ecodibergamo.it/stories/bergamo-citta/coronavirus-the-real-death-tool-4500-victims-in-one-month-in-the-province-of\\_1347414\\_11/](https://www.ecodibergamo.it/stories/bergamo-citta/coronavirus-the-real-death-tool-4500-victims-in-one-month-in-the-province-of_1347414_11/)

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### **Note on the contributor**

Philip Di Salvo is a post-doctoral researcher and lecturer at the Institute of Media and Journalism (IMeG), Università della Svizzera italiana (USI), Lugano, Switzerland.