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# *MISINFORMATION AND THE EVOLUTION OF FACT-CHECKING IN FRENCH MEDIA*

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# Policy Brief: Misinformation and the Evolution of Fact-Checking in French Media

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## Abstract

This policy brief navigates the complex landscape of fact-checking in France. First, delving into the fact-checking ecosystem, it presents an overview of how fact-checking operates there, taking into account the evolving media landscape and the growing concerns regarding the concentration of the media industry. Second, I review the existing literature assessing fact-checking efficiency and explore a spectrum of strategies to enhance it, ranging from traditional professional fact-checking to emergent automated approaches and crowd-sourced verification. Finally, I present a set of recommendations aimed at enhancing fact-checking efficacy to curtail the pervasive spread of false information.

**Keywords:** Fake news, Misinformation, Fact-checking, France, Media concentration, Crowd-sourced verification, Automation

**JEL Codes:** P00, L82, L86.

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# 1 Introduction

Misinformation has emerged as a world challenge and remains one of the most difficult issues to tackle. With the rapid development of technology in a loosely regulated terrain, different social media and information platforms create every day new tools that facilitate communications, which is followed by the spread of fake news.

The dissemination of misinformation is a matter of considerable concern due to its potential to influence people’s behaviors significantly. While [Allcott and Gentzkow \(2017\)](#) find that fake news did not determine the U.S. presidential election results in 2016, misinformation could have had an influence on voters’ behaviour, even on a small scale. During the COVID-19 pandemic, exposure to media sources that spread misinformation has affected people’s social distancing, and most importantly the death toll ([Simonov et al., 2020](#); [Bursztyn et al., 2020](#)). Although these empirical studies refer mainly to the United States, similar conclusions can be anecdotally found in other contexts, like France.

France’s media environment has become much concentrated in the past few years, triggering debates on the political consequences of the growing lack of media plurality and the quality of the information ecosystem (see e.g. [Cagé and Huet, 2021](#)). Following the recent acquisition of a number media outlets by the radical-right billionaire Vincent Bolloré – the so-called “French Murdoch” –, I observe for instance a shift toward the radical-right in the content published and/or broadcast by the acquired media ([Cage et al., 2022](#)). This growing media concentration – which is not specific to France – and the associated rise in political polarization, can also have unintended consequences for the spread of misinformation.<sup>¶</sup>

There are numerous solutions to fight misinformation, from pre-bunking to debunking initiatives. Pre-bunking refers to all pre-emptive actions before misinformation exposure, such as media literacy ([Chuai et al., 2023](#)). Debunking refers to the set of actions that take place after the publication of a fake news and that intend to avoid its spread. Debunking

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<sup>¶</sup>On ownership change and shift in editorial line, see for instance [Mastrorocco and Ornaghi \(2020\)](#) on the example of the Sinclair group in the US.

includes professional fact-checking made by third-party organisations, as well as more recent crowd-sourced fact-checking created by social media platforms (Chuai et al., 2023).

Although this political fact-checking concept as we understand today is quite recent – dating from the early 2000s, as when the Annenberg Public Policy Center of the University of Pennsylvania created the American non-profit organization FactCheck.org – the practice of verifying information by journalists is older. *Time Magazine*, for instance, established the first formal fact-checking department for internally verifying facts as early as in the 1920s, thus establishing the basis for the modern concept of fact-checking (Fabry, 2017).

The journalistic roots of contemporary fact-checking elucidate why many professional fact-checking organizations are media-affiliated, employing journalists and experts to debunk misinformation as they spread. In France, although the first fact-checking platform was created by the national daily newspaper *Libération* in 2008, most of them were created around 2017. A well-known case of professional fact-checking organization is the AFP Factuel, created by the Agence France Press (AFP), the third largest news agency in the world which also has the largest worldwide fact-checking team. Besides creating websites to publish their articles debunking misinformation, French media outlets have also created TV shows and radio programmes where they disseminate their fact-checking work. TF1, FranceInfo, ARTE and France24 are all television channels that broadcast regular shows to debunk fake news.

However, professional fact-checking can face many difficulties to be scaled up, creating traction for new approaches to fact-checking that are more automatised and less resource-intensive. In addition to this, there is also growing need to make fact-checking more agile, especially in the world of social-media platforms, where spreading misinformation is easier and faster. In X (former Twitter) for example, about 95% of the tweets have no relevant impressions two days after publication, and half of a tweet’s impressions is generated in the first 79.5 minutes (Pfeffer et al., 2023). Hence, if fact-checking is not quick enough, it may ultimately prove ineffective (or even counter-productive).

A novel approach to fight misinformation that has gained much attention in recent years is thus automatised fact-checking, which normally applies a label to a publication in social media indicated whether the information presented is misleading or has been checked. While Meta has focused on partnering with professional third-party organisations, through its Third-Party Fact-Checking Program, Twitter has invested in crowd-sourcing its fact-checking relying on its community’s judgment, through its Community Notes (earlier known as Birdwatch) initiative.

This policy brief begins with an overview of the fact-checking landscape in France, detailing the principal professional fact-checking platforms operational in 2023 (Section 2). The subsequent section 3 presents the main innovations to fact-checking, and Section 4 reviews the literature on fact-checking efficiency. Finally, in Section 5, we provide some recommendations based on our reading of the literature to leverage fact-checking use and efficiency in mitigating misinformation, followed by a conclusion in Section 6.

## 2 How are facts checked in France?

France has a rich fact-checking environment that groups diverse entities including newspapers, TV and radio outlets, as well as websites, blogs or social media profiles dedicated to fighting fake news on a daily basis. This includes both fact-checking entities that debunk fake news in a “traditional’ format, with the publication of written articles on their platform, and fact-checking entities whose output are TV or radio shows.

### 2.1 The French ecosystem of fact-checkers

France has currently 9 fact-checking entities that have adhered to the International Fact-Checking Network (IFCN) code of principles. To be a signatory, entities need to fulfill a set of 31 criteria, including to have a dedicated team working exclusively on fact-checking and to debunk at least one fact a week. After applying to be a signatory, entities go through an as-

assessment of these criteria, which is redone every two years. The 9 entities that have signed it as of 2023 are: AFP Factuel (the news agency Agence France Presse), Fake Off (the free national daily newspaper *20 Minutes*), CheckNews (the national daily newspaper *Libération*), Les Observateurs (the public television channel France 24), Le Décodeurs (the national daily newspaper *Le Monde*), Les Vérificateurs (the television company LCI/TF1), FranceInfo (a 24-hour public radio and television channel), Science Feedback, and Les Surligneurs. Most of them are associated with media outlets, to the exception of ScienceFeedback and Les Surligneurs operate independently. Both work as not-for-profit associations<sup>2</sup> registered in France and are specialised in particular types of fact-checking - the former on science-related misinformation, and the latter on legal-related misinformation.

To better understand the fact-checking environment in France, we collected data regarding the number of debunking articles published in 2023, which we present in Tables 1 and 2, respectively for the articles published online by media outlets and the shows broadcast. To do so, we web-scraped the fact-checking platforms' website data.<sup>3</sup> The information on the number of journalists, partnerships with Meta and year of operation was collected through the criteria evaluation reports published by the IFCN.<sup>4</sup> Our final dataset contains the headlines and dates of publication of all the debunking news articles, which we refer as “facts” in Table 1 and “shows” in Table 2. For the scope of this policy brief, we only consider the facts published between January, 1st, 2023 and December, 31st, 2023.

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<sup>2</sup>As not-for-profit associations, Science Feedback and Les Surligneurs have similar business models. They both have a board of trustees who govern the association, but are not involved in the daily operations or the editorial decisions on fact-checking. The latter is done by an independent editorial committee. At Science Feedback, this committee is composed by scientists, and at Les Surligneurs, it is composed by legal experts.

<sup>3</sup>Technically, we rely on the *Fetch API* in JavaScript language to access and manipulate the data. We also used *cheerio* and *playwright* libraries to parse the html elements, and script and automate the browsers.

<sup>4</sup><https://www.ifncodeofprinciples.poynter.org/signatories>

Entity	Associated media	Start	N. journalists	Meta partner	Facts in 2023
CheckNews	Libération	2017	9	No,since jan.21	868 facts
Fake-Off	20 Minutes	2017	6	Yes	412 facts
AFP Factuel	AFP	2017	20	Yes	224 facts
Les Observateurs	France24	2006	6	Yes	230 facts
Science Feedback	Independent	2015	12	Yes	158 facts
Les Surligneurs	Independent	2017	7	No	87 facts
Les Décodeurs	Le Monde	2014	19	No, since dec.22	55 facts

**Notes:** The Table provides descriptive statistics for the seven main fact-checking platforms that were active in France in 2023.

Table 1: Fact-checking platforms in France, Active in 2023

Entity	Associated media	Start	Outlet	Shows in 2023	Duration
Les Vérificateurs	TF1 and LCI	2020	TV	650 episodes	3m
Vrai ou Faux	Franceinfo	2019	TV	53 episodes	50m
Désintox	ARTE	2017	TV & Youtube	143 episodes	2m
Info ou Intox	France24	2019	TV	186 episodes	5m

**Notes:** The Table provides descriptive statistics for the four main fact-checking shows broadcast in France in 2023.

Table 2: Fact-checking shows in France, Broadcast in 2023

## 2.2 The heterogeneity of the fact-checking strategies

**Number of fact-checks** Among the entities that publish their articles debunking fake news online, the fact-checking entity that debunked the highest number of fake news in 2023 is CheckNews – the fact-checking entity of the daily newspaper *Libération* – with 868 facts checked, followed by Fake-Off (*20 minutes*), with 412 facts (Table 1). Although AFP Factuel has the largest team and has debunked more fake news overall, it ranks third in terms of number of facts checked in 2023, with 224 facts<sup>5</sup>. Les Observateurs (the fact-checking team of France 24) has debunked 230 facts in their “Intox” platform, followed by Science Feedback, which published 158 “reviews” in their website. Les Surligneurs and Les Décodeurs respectively ranked 6th and 7th, with 87 and 55 facts checked.

If we now turn to the media outlets that have created regular TV shows, radio pro-

<sup>5</sup>AFP Factuel team operates in Latin America, North America, Africa, Asia-Pacific and the Middle-East. For comparison purposes, AFP Factuel sample is restricted to fact-checking articles under “France” tab in their website.

grammes or video content to decrypt misinformation (Table 2), we see that TF1 and LCI broadcast 650 videos debunking fake news in 2023 in their *Les Vérificateurs* show. Their videos average 3 minutes, where they enlighten their viewers on particular topics that are trending. France24 broadcast 53 episodes of the TV show *Truth or Fake*, which debunks fake news in 50-minute episodes, and ARTE has produced 143 episodes of *Désinfox*, each one focusing on a fake news debunked in partnership with *Libération*. *Vrai ou Faux* is a daily radio show that also debunks the top shared fake news of the day. These efforts from media outlets to check fake news or disseminate facts debunked by fact-checking platforms create a rich ecosystem that allows for the integrity of information disseminated to the public. There are also other companies, or social media channels and profiles, which are not associated but that adds up to these efforts of debunking misinformation in France.

While the disparity in the volume of fact-checks may reflect varying levels of investment by media outlets, the distinct interpretations each entity holds regarding what constitutes a fact, and their methodologies for debunking misinformation, might explain why not all platforms address the same facts. Additionally, some outlets may choose to forego addressing certain pieces of misinformation if a competitor has already published a fact-check on the topic.

For instance, CheckNews, which has produced the highest number of articles, operates based on queries submitted by readers of *Libération*, whereas other platforms tackle misinformation chosen by their teams of journalists according to each platform’s specific selection criteria.

Both Fake-Off and AFP Factuel prioritize factors such as the virality and potential public interest of the misinformation when selecting content to debunk. The discrepancy in their output, as indicated in Table 1 might also reflect scope priorities, given that AFP Factuel also covers several other regions besides France, such as Europe, Africa, North and Latin America, Asia-Pacific and the Middle East, and publishes in more than 26 languages. Therefore, despite AFP Factuel having the largest fact-checking team, it addresses a wider range of



topics than the other platforms compared<sup>6</sup>.

Les Observateurs’ team also works differently from the other platform teams. They produce not only written fact-checks that are published on the Intox platform, but also videos debunking fake news which are aired during their *Info ou Intox* show on France24. Therefore, the same team is in charge of debunking fake news on two different formats - article and video.

Les Surligneurs and Science Feedback specialise in thematic debunking, focusing on legal debunking and science debunking, respectively. The former selects fake news or facts that often refer to legislation that was misused or misinterpreted. The latter relies on a team of scientists to debunk health-, energy- and climate-related misinformation.

Les Décodeurs, which is the fact-checking branch of Le Monde, only produces debunking articles on fake news that can be checked through figures. They do not check public authorities statements are too vague or that can not be fact-checked using data.

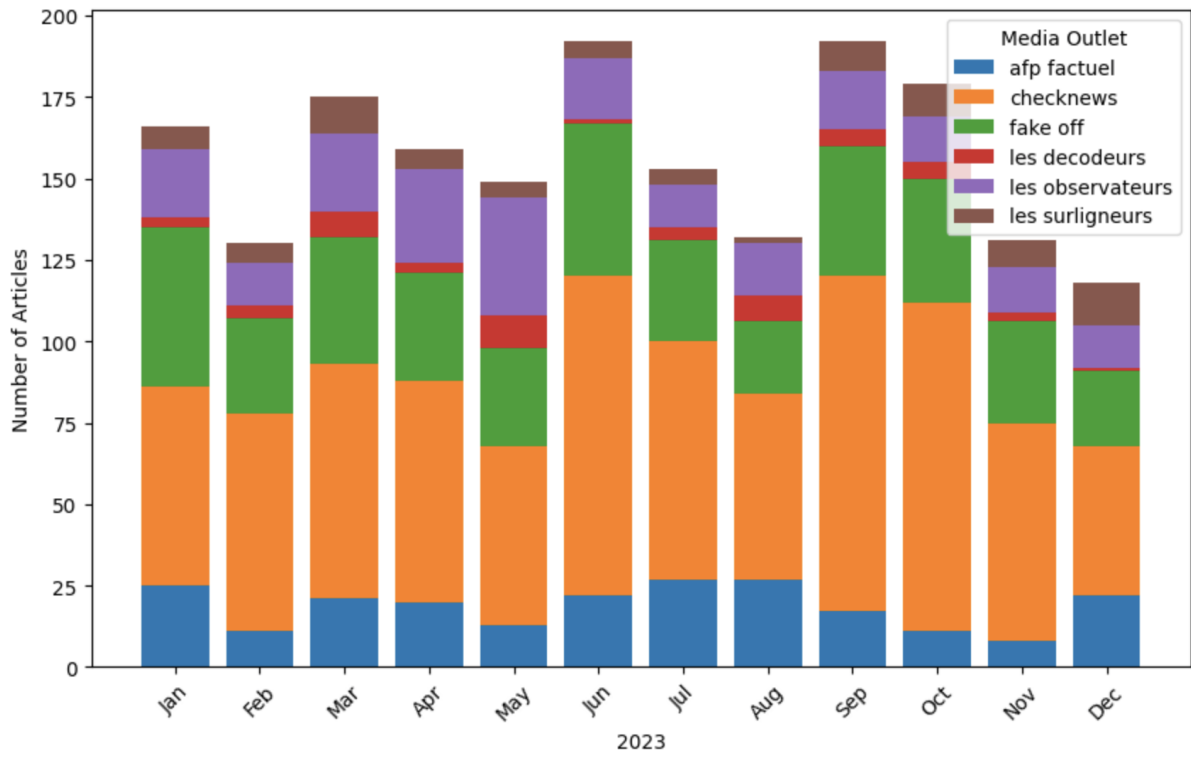
In sum, as depicted in Figure 1, the production of fact-checking content in France appears to be highly concentrated, with the top three publishers—CheckNews, Fake-Off, and AFP Factuel—accounting for approximately 80% of all debunking articles. These platforms also led production in June, September, and October, which were the months with the highest volume of fact-checking articles produced in 2023.

**Topics covered** To analyse the differences in fact-checking platforms, we performed a topic analysis using Python’s *BERTopic* library and a French Natural Language Processing (NLP) model from the *spacy* library.

As regards our BERTopic parameters, we first conducted a dimensionality reduction using UMAP algorithm, then density identification using HDBSCAN clustering algorithm. We set up UMAP model with a neighborhood size of 10 (n neighbors= 10), a target dimensionality of 12 (n components= 12), and a minimum distance of 0.01 (min dist=0.01). The metric we

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<sup>6</sup>It is noteworthy that the 224 facts listed in Table 1 pertain solely to the region of France, whereas the overall volume of fact-checks conducted is significantly higher.



**Notes:** The Figure shows the number of fact-checking articles published by each fact-checking platform per month in 2023.

Figure 1: Fact-checking articles published in 2023

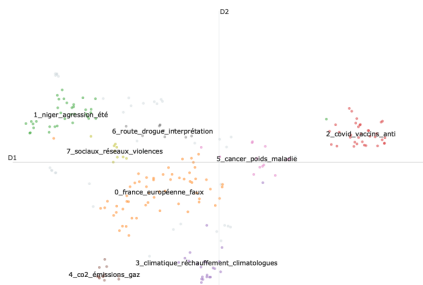
chose was cosine, as well as a fixed random seed of 42 (random state= 42). To identify the dense regions in our dataset, we calibrated HDBSCAN with a *min cluster size* of 8, which means that clusters smaller than this threshold were treated as noise. To further refine the clustering process, we specified the minimum number of samples to (min samples= 5). The metric and the cluster selection method used were, respectively, Euclidean and the ‘Excess of Mass’ (eom). This is useful to identify clusters that have diverse densities.

The analysis in Figure 2 examines the range of topics addressed by the fact-checks, along with their respective thematic proximity. The first notable differences between them is that platforms that publish more debunking articles have a more dense and rich diversity of topics covered, as shown by the figures representing AFP Factuel, CheckNews and Fake-Off. These three cover several topics, which reflect their editorial choices of focusing on debunking news that are trending. The three of them have published articles related to COVID, vaccins, climate change and the wars in both Ukraine and Gaza. Comparing these three, CheckNews’ has led on the number of articles related to Israeli-Gaza war. This was also the leading topic for Les Observateurs, which published on just a few topics and mostly war-related.

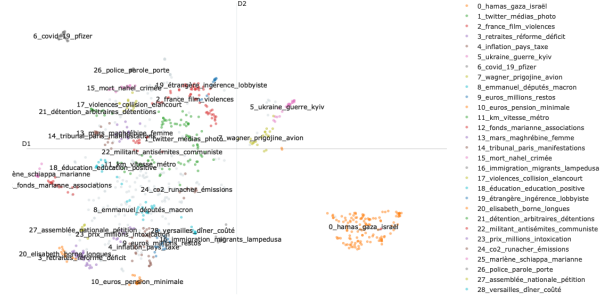
In contrast, Les Décodeurs prioritize a more restricted set of topics, concentrating mostly on the French pension reform and the emergence of AI-generated misinformation. Les Surligneurs, on the other hand, target legal inaccuracies or misinterpretations connected to President Emmanuel Macron or his Minister of the Interior, Gérald Darmanin, highlighting a specific thematic niche related to legal and governmental matters.

### 3 Innovations in fact-checking

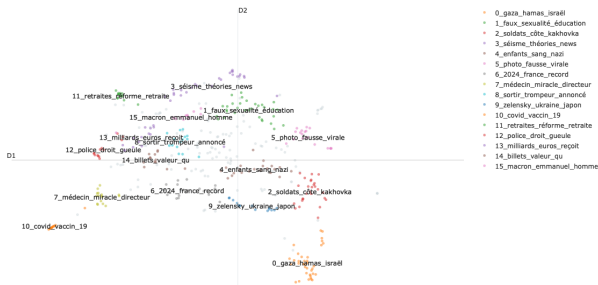
As professional fact-checking can be much resource-intensive and require speed to counter misinformation, there has been a lot of innovations in this field in an attempt to make it faster. To do so, big-tech companies have created different and creative initiatives, focusing mostly on two elements: automation and crowd-sourcing. The differences among the main



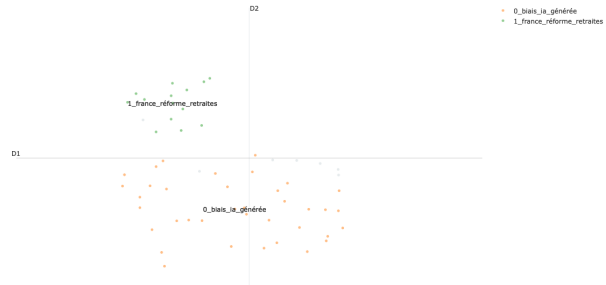
(a) AFP Factuel



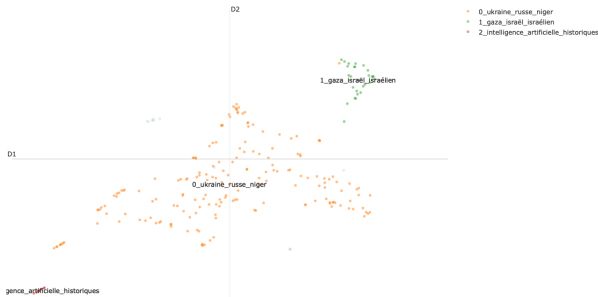
(b) CheckNews



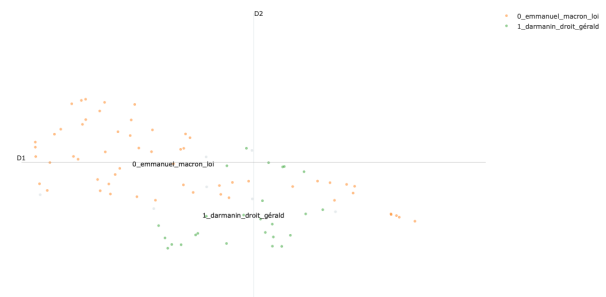
(c) Fake-Off



(d) Les Décodeurs



(e) Les Observateurs



(f) Les Surligneurs

Figure 2: Most frequent topics covered by fact-checking articles in 2023

**Notes:** The figures [2a](#), [2b](#), [2c](#), [2d](#), [2e](#) and [2f](#) show a distribution of the most frequent topics in the datasets of news articles debunked by each platform. Each dot represents one debunked news article, and the x and y axis set their spatial distribution. The colors represent a given topic identified, and the distances from each group represent their semantic distance. The parameters used by the BERTopic algorithm are explained in depth in section [2.2](#)

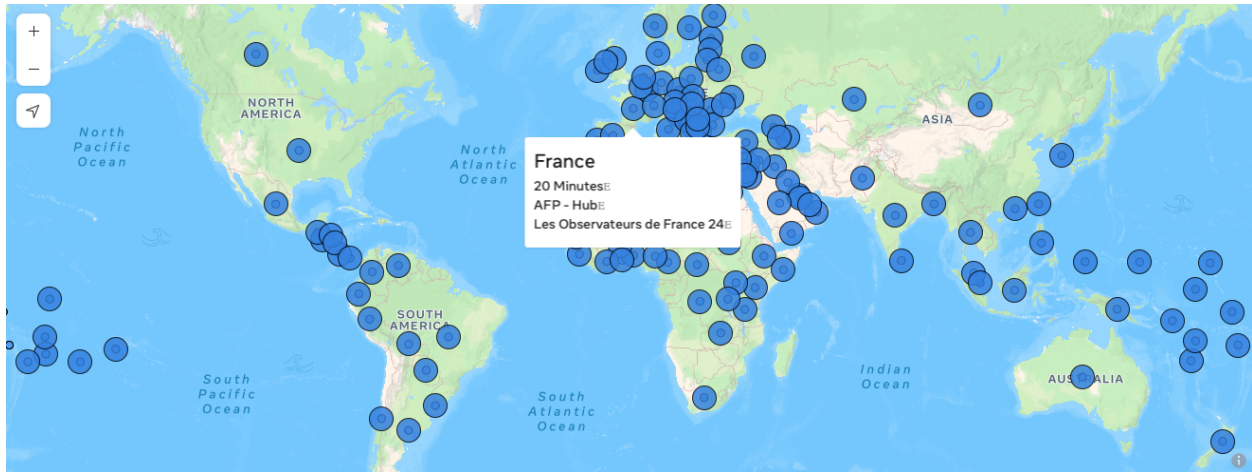
innovators are more on who is ultimately behind the debunking, whether the platforms own users or a team of professional journalists dedicated to this activity.

Meta, for instance, has partnered with professional third-party fact-checkers to rate misinformation content on Facebook and Instagram. X (Twitter) relies on its own users to identify misinformation through the crowd-sourced platform “Community Notes”, previously known as Birdwatch. Google Search has pooled out professional fact-checking content in the Google Fact-Check Explorer, and has incorporated automatic image-checking in its search engine to help professional fact-checkers. In this section, we present each of these initiatives in turn.

**Meta’s Third-party Fact-Checking Program** Meta established its Third-party Fact-Checking Program in late 2016, aiming to combat misinformation on Facebook and Instagram. By partnering with independent fact-checkers worldwide (see Figure 3), the program is an attempt to reduce the distribution of flagged content by including warning labels applied to false posts. This initiative’s purpose was not only to limit the visibility of debunked material, but also to promote a more discerning online community. It did so by providing context and factual information alongside disputed content, in order to incite sharing habits on users.

In France, the program started in 2017, when Meta partnered with five media outlets: Libération, Le Monde, AFP, 20 Minutes and France 24. In exchange for their professional fact-checking work, Meta remunerated them on the basis of the facts they checked. Since January 2021, Libération has ended its partnership with Meta, followed by Le Monde, which ended it in December 2022. More recently, in February 2024, Les Surligneurs joined the programme. Therefore, Meta has now four media outlets in France as part of its programme.

Libération and Le Monde have ended their partnership with Meta not only because it has sparked criticism among their readers, but also because of the requirements Meta requested that were not in tune with their editorial choices (Moullot, 2021). Both Libération and Le



**Notes:** This Figure shows the distribution of Meta’s third-party fact-checking partners around the world. Each dot represents one partner. It was extracted from Meta’s website on December 2023.

Figure 3: Meta’s fact-checking partners in France

Monde for example have a paywall on their debunked news articles, which is prohibited by Meta’s terms. However, Libération alleged that lifting it up was not consistent with their business model of making their subscribers more loyal to their content while providing them with debunked articles that were of their interest (Mouillot, 2021).

Although the facts are ultimately checked by professional journalists, Meta relies on a crowd-sourcing element to bring up the topics to the journalists that are part of the programme. Facebook users can initiate this by flagging a content they might judge misleading, and Facebook’s algorithm identifies the misleading posts that are being collectively reported. These publications that stand out are then brought up to journalists, who can decide which ones they will debunk. Once a content is debunked, it receives a label that points out to a debunked news article from a fact-checking entity.

**X Community Notes** The Twitter Community Notes program emerged in late 2021 as an effort to fight misinformation by empowering the users to fact-check misleading information. Although it was launched in the US in 2021, it only appeared in France in December 2022, when Twitter decided to expand its programme scope to other countries (see Figure 4 for an illustration). Launched as a pilot initiative, known as Birdwatch, it aimed to enable

“trusted” contributors<sup>7</sup> – including academics, journalists, and experts – to collaboratively create and attach explanatory notes to tweets deemed complex or potentially misleading. The primary objective was to enhance content comprehension, combat misinformation, and promote a more informed discourse. The main particularity of the Community Notes is their crowd-sourcing aspect, in which they rely on leveraging their users’ collective knowledge to fact-check information that is published on the platform.

Note however that not all users are automatically registered as fact-checkers. To become a contributor, a user first needs to sign up and fulfill the requirements of (i) not having violated any X community rules recently; (ii) having signed up to X at least 6 months ago; and (iii) having a verified phone number. This phone number also needs to be from a trustworthy carrier and not being associated with other X accounts, to avoid bots becoming contributors. After becoming a contributor, users can flag misleading publication and add context to them. X’s algorithm then is responsible to calculate a helpfulness score based on these ratings to determine whether a publication will get a “Helpful” label, together with a context note provided by the contributors.

The first study of the effects of X community notes concludes that there is no evidence that this fact-checking process has reduced engagement with misinformation on Twitter, neither in terms of retweet count nor like count (Chuai et al., 2023). The authors observe that fact-checking notes require more than two days since the tweet creation time to become visible, which is a significant amount of time, in comparison with the virality of some misleading posts. However, Evans et al. (2023) found that X Community Notes can be successful in moderating speech at low cost and with less controversy than other stronger forms of content moderation.

**Google’s Fact-Check Explorer** Google’s Fact-Check Explorer is a platform created by Google in 2017 that allows users to search for fact-checked information about a topic or a person. It also indexes fact-checking platforms’ debunked articles to display additional

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<sup>7</sup>See below for a definition.

**BFM TV.** **BFMTV** @BFMTV

"Nous avons vu des paquets d'heures pas sérieusement remplacés, on en a eu marre"

➔ Amélie Oudéa-Castéra (ministre de l'Éducation nationale et des Sports) s'exprime sur la scolarisation de ses enfants au lycée privé catholique parisien Stanislas

[Translate post](#)

**AMÉLIE OUDEA-CASTÉRA** Ministre de l'Éducation nationale, de la Jeunesse, des Sports et des Jeux olympiques

**"GOUVERNEMENT DE SOBRIÉTÉ ET D'EFFICACITÉ"**

**ALERTE INFO** - "J'ai confiance dans l'avenir de notre école", ce sera une priorité absolue" (Gabriel Attal, en visite dans un collège)

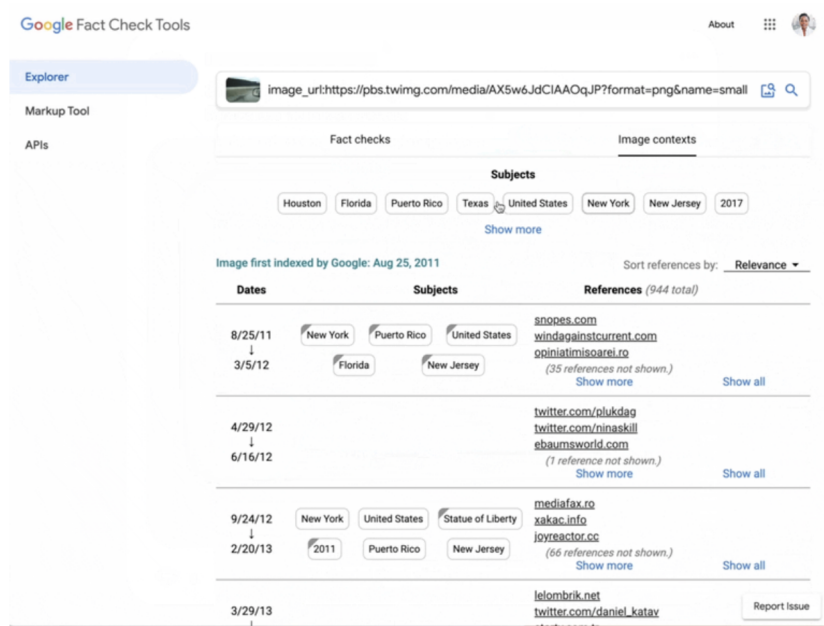
**Readers added context they thought people might want to know**

Le fils de la ministre n'a passé que 6 mois à l'école publique, en petite section de maternelle.  
 Sa maîtresse de l'époque n'a jamais été absente pendant cette période.  
 La ministre ment donc.  
[liberation.fr/societe/educat...](https://liberation.fr/societe/educat...)

Do you find this helpful? Rate it

Figure 4: Note added by users through Twitter/X Community Notes





**Notes:** The Figure shows Google’s Fact-Check Explorer beta version tool released in 2023 for some users. It allows fact check images, by providing the original source of the images.

Figure 5: Google’s Fact-Check Explorer

context in their regular search results. However, as analysed by [Tan \(2022\)](#), fact-checked information is still not displayed upfront in Google regular search as it should. Instead, users have to use its Fact-Check Explorer to find debunked information.

Therefore, Google’s Fact-Check Explorer can be a helpful tool for fact-checking professionals, but not to regular non-tech savvy users. In 2023, Google has released a beta version of such platform targeting these professionals, in which it is possible to also search using an URL or an image, as illustrated by figure [5](#). Doing so, fact-checkers could learn more about an image or a topic, knowing its source and where it has been used, which has the potential of making the fact-checking process faster. According to Google [8](#), over 70% of their beta users reported that this new image-search feature helped them to reduce their investigation time into an image, thus helping them to bring image fact-checks on-line quicker. However, to date, there is no literature that assess the efficiency of such platform in reducing

<sup>8</sup><https://blog.google/intl/en-ca/products/explore-get-answers/new-ways-to-check-images-and-sources-online/>

fact-checking time or misinformation spread.

## 4 Is fact-checking efficient?

While there is often a buzz around fact-checking being the main solution to fight misinformation, the debate is still open among academics on whether this tool is actually efficient at correcting people’s beliefs and, ultimately, triggering different behaviors. Several recent academic papers have tried to assess the efficiency of fact-checking either by using existing empirical data or by carrying out controlled experiments, finding an overall effect on reducing dissemination. However, only a few studies have actually managed to show the actual effects of fact-checking on people’s beliefs and behavior in real empirical settings. We review the existing literature on the topic in this section.

Several studies have shown that fact-checking can reduce the spread of misleading dissemination on social media. Using Facebook data and a unique research partnership with the fact-checking platform AFP Factuel, [Cagé et al. \(2023\)](#) show for example that, everything else equal, users reduce their sharing of fact-checked fake-news posts in comparison to “similar” posts that were not fact-checked. Using a difference-in-differences approach, they estimate that these stories receive 26 to 30% fewer shares. Drawing on two MTurk experiments, [Pennycook et al. \(2020\)](#) similarly find that by attributing “fake” labels to stories on social media substantively reduces the participants’ intention to share the stories. This evidence that fact-checking can indeed undermine fake stories’ dissemination is supported by other studies as well ([Henry et al., 2022](#); [Mena, 2020](#))

However, can fact-checking exposure actually trigger people’s beliefs? [Barrera et al. \(2020\)](#) show that, in the context of the 2017 French presidential elections, while fact-checking helps correct factual misunderstanding, it is not efficient at influencing more personal beliefs. To make this claim, they run an experiment during which participants were presented with untrue claims made by the far-right candidate regarding immigration; the “treated”

participants were thus randomly assigned to fact-based assessments of these claims. The results showed that the support for the far-right candidate remained consistent whether or not fact-checking was provided, pointing to the fact that information provision is not sufficient to sustain belief formation or correct behaviour.

Would these results change if users were to have personal cues with the person they are receiving misleading content from? Epstein et al. (2022) shed light on the effect of social cues in determining how users engage with social media content. Contrary to what many people think, the authors do not find that social cues decrease people's discernment of fake news. They actually show that when social cues are disclosed to participants, they later become more likely to engage with posts, but not necessarily more with false than with true stories. Therefore, social cues actually lead to just inequality and unpredictability of posts' success.

There is also much debate on how fact-checking itself could have spillover effects for users' perception of trustworthiness in actual true stories. Pennycook et al. (2020) found that there is an implied truth effect in fake news that have not been fact-checked but have not been flagged as such yet, due to either lack of resources, selection bias or agility of information spread. By assessing both perception of trustworthiness and sharing intentions, Pennycook et al. (2020) show that untagged news headlines, even when they are false, are perceived as more accurate and are given more consideration for sharing on social media.

Can crowd-sourcing improve the efficiency of fact-checking? Using X Community Notes data during its pilot phase in the United States, Drolsbach and Pröllochs (2023), comparing crowd-sourced fact-checking with expert fact-checking, show that crowd fact-checked misleading posts are less viral than non-misleading posts. According to their estimation, they receive 36.62% fewer retweets. They also look into users' support for the tool and find high rates of reliability and trust among them.

Chuai et al. (2023), also did research whether the introduction of the X Community Notes and its roll-out to users have reduced their engagement with misinformation on Twitter in terms of retweet volume and likes. They found that this feature expansion did not have a

significant effect on decreasing users’ engagement with misinformation, which confirms the results found by [Drolsbach and Pröllochs \(2023\)](#). Their justification was that it is due to the agility that a viral misinformation requires to be properly debunked, and that X Community Notes is not yet agile enough to prevent virality.

Crowd-sourced fact-checking can also take different forms, either as a feature automatically embedded in the platform, like the X Community Notes, or as a more informal approach called conversational fact-checking or *snoping*, where users just tag misinformation spreaders while redirect the crowds to correct information by professional fact-checking platforms. Both [Pilarski et al. \(2023\)](#) and [Evans et al. \(2023\)](#) compare these two different forms of crowd-sourced fact-checking and find complementary evidence that snopers are not only faster in debunking fake news, but also help retracting misinformation spreaders’ behaviour. Importantly, [Pilarski et al. \(2023\)](#) find that Notes contributors and snopers rarely overlap, so even if snopers can be more efficient, both could be seen as complementary approaches.

## 5 Recommendations for improved fact-checking

As we just saw, the main trade-off in fact-checking is between scalability and accuracy of the approaches that exist. Professional fact-checking, as it stands, offers the highest quality of verification, with journalists playing a crucial role in debunking misinformation. However, journalist teams can not be easily scalable as human resources are limited. In contrast, leveraging crowd-sourcing and machine learning for automated fact-checking presents a swifter approach, though it may compromise on accuracy. The critical questions then arise: How significant is the potential loss in accuracy? And to what extent is such a loss justifiable in favor of the speed at which it can address the spread of viral misinformation?

Our recommendations to improve fact-checking efficiency relies on the understanding that different approaches complement each other and have to be enhanced in order to optimise their relevance. Professional fact-checking carried out by journalists should be continued and

receive more resources, but it should also be combined with new crowd-sourced strategies to automatise fact-checking. This could increase its speed, and correct fake news spreaders' behaviour, in accordance with the findings of [Evans et al. \(2023\)](#).

There should also be investment on improving and scaling up digital literacy programs, to make the crowds wiser and equipped to recognise misinformation. As [Guriev et al. \(2023\)](#) show, automatic fact-checking can be pretty efficient when compared to professional fact-checkers.

**Invest in debunking tools for journalists** Professional fact-checking entities should continue to exist, expanding and enhancing the set of tools available for their teams. As professional debunking made by journalists is the most accurate and reliable when compared to automatic or crowd-debunking, there should be investment in tools that journalists could use to facilitate their investigation work. As shown in section [3](#), Google Fact Check Tools is a clear example of that. Although it is still a global beta version, it helps journalists to find the original source of images or photos by using AI image recognition techniques. Cutting these time-consuming tasks out of journalists' work could reduce their amount of time used to debunk misinformation, and help containing its virality.

**Automatise fact-checking** In complement with existing professional fact-checking, big-tech platforms should invest more resources in improving automatic fact-checking, which is less resource-intensive and can present high effectiveness. Doing a study with X Community Notes, [Saeed et al. \(2022\)](#) found that crowdsourced fact-checking can also be pretty efficient, when compared to fact-checking done by experts, and could be a promising complementary solution. Likewise, [Guriev et al. \(2023\)](#) found that automatic fact-checking can even be more efficient than human-based ones, even if it is less susceptible to errors. Platforms should be able to identify misinformation faster than they actually do. By automatising it, fact-checking could also be in better position to identify misinformation that goes unnoticed because it is shared by profiles with lower audiences, as one problem of professional fact-

checking is that they tend to target profiles that are "super spreaders". Cagé et al. (2023) show that posts that contain the same false story go sometimes unflagged, so platforms should be better at identifying stories and scale up their flag to all posts associated to that story, in a more agile way.

One of the reasons of why conversational fact-checking can be more efficient than professional fact-checking is that it is very fast. As virality is something that matters for the success of debunking fake news, it is important to think about new strategies to make fact-checking faster and readily available for user.

**New media literacy strategies for the crowds** As crowd-sourced can present an opportunity to further increase the efficiency of fact-checking, platforms should invest in media literacy initiatives for their users. Equipping the crowd with the tools they need to debunk their own facts. Whether through tutorials, interactive modules, or accessible resources, users should be equipped with the skills to critically evaluate information, discern credible sources, and identify common tactics employed by misinformation spreaders.

Similar to what Meta did with journalists, Meta could also potentially partner with media literacy organisations and educational institutes to further develop their users' skills. They could use gamification or incentivisation strategies to engage their users.

## 6 Conclusion

In conclusion, the rapidity and harmful impact of misinformation demands a comprehensive and adaptive approach to tackle it. France, with its concentrated media landscape and the influence of certain ideological forces, faces challenges in maintaining the integrity of its information ecosystem (Cagé et al., 2021). The rise of the spread of fake news, coupled with the increasing polarisation in politics in France (Draca and Schwarz, 2021), highlights the need for proactive measures to combat the spread of misinformation.

The traditional method of professional fact-checking, spearheaded by organizations like

AFP Factual or CheckNews, has been instrumental in debunking fake news in French media environment. However, scaling up these efforts faces inherent challenges, necessitating the exploration of innovative and resource-efficient alternatives in a way that does not exhaust journalism resources. After all, fact-checking is part of the 21st century journalism, but should not represent its integrality. The time-sensitive nature of misinformation dissemination on social media platforms further underscores the urgency to make fact-checking processes more agile, and equipping these journalists with tools that enable them to cut out time-consuming tasks that can be automated is vital for this process.

Both automation and crowd-sourcing, marked by platforms like Meta and Twitter adopting distinct approaches, emerge as promising avenues to the future of fact-checking. While Meta collaborates with professional organizations, Twitter harnesses the collective wisdom of its user community. In this sense, we recommend platforms to continue this automation efforts of identifying misleading information that is published in their platforms, in complementarity with the work done by fact-checking entities. Automation has proved to be scalable and significantly efficiency to counter misinformation. In addition, we recommend them to invest in media literacy initiatives for their users, so they can improve the efficiency of crowd-sourced tools to debunk misinformation.

As we navigate this dynamic landscape, it is imperative to recognize the multifaceted nature of the problem and embrace a combination of approaches. Our recommendations, outlined in the subsequent sections, aim to enhance the use and efficiency of fact-checking in countering misinformation. Through concerted efforts, we can aspire to create an information environment that is robust, accurate, and resilient in the face of evolving challenges.

## References

- Allcott, Hunt and Matthew Gentzkow**, “Social Media and Fake News in the 2016 Election,” *Journal of Economic Perspectives*, May 2017, 31 (2), 211–36.
- Barrera, Oscar, Sergei Guriev, Emeric Henry, and Ekaterina Zhuravskaya**, “Facts, alternative facts, and fact checking in times of post-truth politics,” *Journal of Public Economics*, February 2020, 182, 104123.
- Bursztyn, Leonardo, Aakaash Rao, Christopher P Roth, and David H Yanagizawa-Drott**, “Misinformation During a Pandemic,” Working Paper 27417, National Bureau of Economic Research June 2020.
- Cagé, Julia and Benoît Huet**, *L’information est un bien public. Refonder la propriété des médias*, Paris: Le Seuil, 2021.
- , **Moritz Hengel, Nicolas Hervé, and Camille Urvoy**, “Hosting Media Bias: Evidence from the Universe of French Broadcasts, 2002-2020,” Working Paper 2021.
- Cagé, Julia, Moritz Hengel, Nicolas Herve, and Camille Urvoy**, “Hosting Media Bias: Evidence from the Universe of French Broadcasts, 2002-2020,” *SSRN Electronic Journal*, 2022.
- Cagé, Julia, Nathan Gallo, Moritz Hengel, and Emeric Henry**, “Fact-Checking and Misinformation. Evidence from the Market Leader,” *Working Paper*, 2023.
- Chuai, Yuwei, Haoye Tian, Nicolas Pröllochs, and Gabriele Lenzini**, “The Roll-Out of Community Notes Did Not Reduce Engagement With Misinformation on Twitter,” July 2023. arXiv:2307.07960 [cs].
- Draca, Mirko and Carlo Schwarz**, “How Polarized are Citizens? Measuring Ideology from the Ground-Up,” May 2021.
- Drolsbach, Chiara and Nicolas Pröllochs**, “Diffusion of Community Fact-Checked Misinformation on Twitter,” 2023.
- Epstein, Ziv, Hause Lin, Gordon Pennycook, and David Rand**, “How many others have shared this? Experimentally investigating the effects of social cues on engagement, misinformation, and unpredictability on social media,” July 2022. arXiv:2207.07562 [cs].
- Evans, James, Junsol Kim, Zhao Wang, Haohan Shi, and Hsin-Keng Ling**, “Individual misinformation tagging reinforces echo chambers; Collective tagging does not.,” 2023.
- Fabry, Merrill**, “The Story Behind the First-Ever Fact-Checkers,” August 2017.
- Guriev, Sergei, Emeric Henry, Théo Marquis, and Ekaterina Zhuravskaya**, “Curtailing False News, Amplifying Truth,” *SSRN Electronic Journal*, 2023.
- Henry, Emeric, Ekaterina Zhuravskaya, and Sergei Guriev**, “Checking and Sharing Alt-Facts,” *American Economic Journal: Economic Policy*, August 2022, 14 (3), 55–86.
- Mastrorocco, Nicola and Arianna Ornaghi**, “Who Watches the Watchmen? Local News and Police Behavior in the United States,” Trinity Economics Papers tep0720, Trinity College Dublin, Department of Economics feb 2020.



- Mena, Paul**, “Cleaning Up Social Media: The Effect of Warning Labels on Likelihood of Sharing False News on Facebook,” *Policy & Internet*, 2020, *12* (2), 165–183.
- Moullot, Pauline**, “Pourquoi CheckNews ne fait plus de fact-checking avec Facebook,” 2021.
- Pennycook, Gordon, Adam Bear, Evan T. Collins, and David G. Rand**, “The Implied Truth Effect: Attaching Warnings to a Subset of Fake News Headlines Increases Perceived Accuracy of Headlines Without Warnings,” *Management Science*, November 2020, *66* (11), 4944–4957.
- Pfeffer, Juergen, Daniel Matter, and Anahit Sargsyan**, “The Half-Life of a Tweet,” 2023.
- Pilarski, Moritz, Kirill Solovev, and Nicolas Pröllochs**, “Community Notes vs. Snoping: How the Crowd Selects Fact-Checking Targets on Social Media,” September 2023. arXiv:2305.09519 [cs].
- Saeed, Mohammed, Nicolas Traub, Maelle Nicolas, Gianluca Demartini, and Paolo Papotti**, “Crowdsourced Fact-Checking at Twitter: How Does the Crowd Compare With Experts?,” in “Proceedings of the 31st ACM International Conference on Information & Knowledge Management” October 2022, pp. 1736–1746. arXiv:2208.09214 [cs].
- Simonov, Andrey, Szymon K Sacher, Jean-Pierre H Dubé, and Shirsho Biswas**, “The Persuasive Effect of Fox News: Non-Compliance with Social Distancing During the Covid-19 Pandemic,” Working Paper 27237, National Bureau of Economic Research May 2020.
- Tan, Corinne**, “The curious case of regulating false news on Google,” *Computer Law and Security Review*, 2022, *46*, 105738.