

UNIVERSITÀ DEGLI STUDI DI PADOVA

Dipartimento di Filosofia, Sociologia, Pedagogia e Psicologia
applicata

Corso di Laurea Magistrale in

Pluralismo culturale, mutamento sociale e migrazioni

Tesi:

**Narratives in Conflict: Media Influence on Refugee Public
Perception in the 2015 and 2022 Migration Crises**

A GDELT case study

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Anno Accademico 2023/2024

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1. Abstract

Extensive literature has proven that media outlets are pivotal in shaping social reality, particularly in framing social representations of distant social groups such as refugees, thereby bridging the cognitive gap for much of the Western public. This research delves into the pivotal role of media discourse in influencing public opinion and guiding asylum policies during two major migration crises: the 2015 Syrian refugee crisis and the 2022 Ukrainian one. It aims to unravel the complex dynamics of how refugees were differently portrayed in the media during these high-profile events and to understand the subsequent impact on public perceptions and policy decisions. Utilizing the resources of the Global Database of Events, Location, and Tone (GDELT) - which monitors the world's news media across print, broadcast, and web formats on a daily basis and translates the articles into English - this study adopts an innovative methodological framework to systematically analyze a vast array of news articles. The GDELT project's ability to track and code the news provides a unique opportunity to examine the narratives constructed around refugees and to assess how these narratives vary across different national and global media contexts. The specific focus of this research is on eight distinct media contexts: Italy, France, and Germany, selected for their central roles in European governance and their demographic significance; Hungary, Poland, and Lithuania, chosen for their geographical and historical proximity to Ukraine; the United Kingdom, which, despite its recent political detachment from Europe, remains a major global news producer in English; and a broader global context, which serves as a comparative baseline to gauge universal media trends. The media portrayal of refugees is explored by focusing on articles that predominantly feature respectively Syrian and Ukrainian refugees during two critical periods of media activity: the tragic death of three-year-old Syrian refugee Alan Kurdi on September the 2nd 2015 and the Russian

invasion of Ukraine February the 24th 2022. These time frames were selected due to their high visibility and the surge in media coverage they provoked, offering a clear lens through which to view the evolution of media discourse. Data extraction is conducted using Structured Query Language (SQL) within the GDELT's Google BigQuery environment, enabling precise retrieval of relevant articles based on origin, timeframe and featured actors. The subsequent analysis, performed using RStudio, provides a robust statistical and visual representation of the evolution of media sentiment over these periods. The findings from this research reveal a significant racial bias in the portrayal of refugees, with stark disparities evident between the treatment of Syrian and Ukrainian refugees in the media. These discrepancies highlight how media narratives can diverge significantly during similar humanitarian crises, potentially influencing public sentiment and migration policy in profound ways. This study offers valuable insights for policymakers, media practitioners, and scholars, equipping them with a comprehensive analytical framework to assess the impact of media narratives on societal responses to global events.

2. Theoretical background

2.1 Media and the social construction of reality

The relationship between media and social reality has long been a focal point across various academic disciplines, gaining further importance as global media consumption increases. Media agencies not only deliver news but also shape collective understandings on a wide array of topics, influencing vast populations, particularly in media-saturated societies like Europe and the U.S., where these entities serve multifaceted roles, ranging from entertainment to political advocacy. In this particular case, I adopt a constructionist approach and a Critical Discourse Analysis (CDA) perspective, employing also the media-dependency theory developed by Sandra Ball-Rokeach and Melvin DeFleur.

Social constructionism posits that “how we understand and even perceive the world and the objects (including people) and events within it does not necessarily reflect the nature of that world but rather is a product of how the world is represented or produced through language” (Dick, Burr, 2017). Accordingly, our perceptions and interpretations of the world are mediated by discourse, which does not merely describe reality but actively shapes our worldview, influencing our actions and societal norms. Despite the diverse definitions given to the concept of discourse, we can refer to it as “sets of ideas that are culturally significant and that can be used to make sense of the world and events within it” (ibid.). Thus, discourse involves disciplinary effects that create real-life consequences, as in this particular case with the media influencing public opinion and therefore legislative policies regarding immigration.

If we want to analyze these dynamics of discursive manifestation and reproduction of dominance, social control, power abuse, and social inequalities we have to look at Critical Discourse Analysis, as it dissects the contributions of significant social actors—like the media—who control public discourse. As one of the most prominent CDA academic, Teun Van Dijk (2018), points out that both the formulation and interpretation of discourse, despite being socially conditioned and impacting upon the functioning of the society, is the aggregate function of the participants' underlying cognitive processes, personal and socially shared knowledge. Therefore, “it is not the social situation that influences (or is influenced by) discourse, but the way the participants define such a situation”. This perspective perfectly suits our case, as the media analysis undertaken in this research will demonstrate how the media defined differently the 2015 and 2022 refugees in the public discourse and thus induced different institutional responses. By being constantly present in our lives through a variety of traditional and new media, news account for a notable part of our daily involvement in public discourse and they become particularly effectual when they are the main source through which we make sense of certain distant topics. This is where the media dependency theory comes into play as it posits that media and their audiences should be studied in the context of larger social system, suggesting that the more an individual relies on media to satisfy his needs, the more influential media will be in his process of knowledge-making. Media dependency theory also states that the greater the number of social functions performed for an audience by a medium, the greater the audience's dependency on that medium (Kim, 2020). It also posits that media influence is greater during times of social change and conflict, as people turn to media to try to understand these historical events. Both propositions are particularly relevant in this research, as the media contexts analyzed are of developed countries, where media cover a vast array of roles and the two time periods

analyzed are definitely linked to crucial historical conflicts with global reverberations. Moreover, the effects of the media on society are declined in three different categories: cognitive, affective and behavioral. Cognitive effects are changes in an audience's attitudes, beliefs, and values, that are greatly shaped by the narrative package employed by the media to inform the public about specific and central topics, such as conflicts and mass migrations. These changes can in turn produce affective effects that can foster the development of specific feelings in the audience, such as fear or disdain for a certain social group, that could finally become behavioral effects, where the individual acts in a different way according to the media influence he was subjected to (ibid). It is then evident that the media are part of the process by which cultures are produced and they therefore also become a site of struggle where different social groups and ideologies fight over the definition and construction of social reality. Again, the public discourse regarding refugees is perfectly suited to be scrutinized under this lens, as the media-dependency hypothesis suggests that the relative importance of media discourse depends on how readily available meaning-generating experiences are in people's everyday lives. As direct contact between European citizens and refugees can be considered quite minimal, the media become the primary source on which the majority of the population constructs the social representation of this foreign social group. Regarding the 2015 migration event, Georgiou and Zaborowski (2017) explain the role of the media "has arguably been even more crucial than usual for two reasons: (i.) the scale and speed of events in the second half of 2015 meant that publics and policy makers depended on mediated information to make sense of developments on the ground; (ii.) the lack of familiarity with the new arrivals, their histories and the reasons for their plight meant that many Europeans depended exclusively on the media to understand what was happening". Employing this theoretical framework, the following chapter will focus more

closely on the relationship between the media and their discourse about refugees.

2.2 Refugees in the media

Being the cornerstone on which the cognitive bridge is constructed in order to understand distant conflicts and the people escaping from them, news media can very decisively influence on which side that bridge will end. As Leen d’Haenens and Willem Joris (2019) explained: “based on their news selection, gate-keeping, and (re)presentation of the situation and the individuals involved, news media can choose to either connect people or to sharpen differences by stressing ‘otherness’ and their precise framing and reconstruction of everyday reality can shape public opinion in terms of evaluation of the present situation and the necessity of action, appropriate policy initiatives, and solutions”. In the same report, De Coninck et al. (ibid, chapter 7), by citing various previous literature, confirm how news media “play a major role in the attitude formation of the audience with regard to the migration issue as, by selecting certain perspectives from which to report news, they can contribute to or prevent the stereotyping of (sub)groups in the population”. These finds can be linked to the Social Identity Theory developed by Tajfel and Turner (1979), which seeks to explain the cognitive processes and social conditions that determine intergroup behaviors, with a specific focus on discriminations and prejudices. In its most elementary form, Social Identity Theory posits that an individual that is member of a specific social group, will derive part of his self-concept from the group he’s a part of, and will, in turn, tend to assign positive characteristics to the members of his own group (in-group) and negative ones to outsiders (out-group). If we also consider that

ethnicity, religion and nationality arguably constitute some of the most fundamental categories of in-groups, we can appreciate how refugees might constitute a perfect *other* to construct social identity by positive difference. Different factors come into play in this construction of the other, from dehumanization to religious difference and state security issues. The media, by often bypassing contextual information and by dedicating little to no space to refugees' personal experiences (this becomes especially true for women), produce a reductionist portrayal of refugees as a monolithic group, which strips them of individuality and reinforces stereotypes. This favors a dehumanizing view of refugees, enhanced by the association with objectifying terms such as flooding or smuggling (Gabrielatos and Baker, 2008). Regarding religious discrimination, Edward Said already exposed the orientalist narrative of Western Media in his book *Covering Islam*, where he unveils the Islamophobic depiction of Arabs (Said, 1997). They are constructed through mediatic discourse as backward fundamentalists totally at odd with Western values, a narrative that has sadly only been exacerbated in the recent decades, especially following the 9/11 attacks and the consequent war on terror. We will observe and discuss the implications of this discriminatory bias in the different treatment of Syrian refugees compared to Ukrainian ones. Similarly, refugees constitute an out-group par excellence, that has to be kept outside national borders or alternatively in strictly controlled spaces if inside national borders. The securitization of migration within the European Union and the militarization of its borders goes a long way in demonstrating how mediatic discourse has framed migrants and refugees as a perceivable threat to defend against. As we now have a general overview of the mediatic representation of refugees in western media, we can now move into a definition of the two key political communication concepts that underline this process of social construction: agenda-setting and framing.

2.3 Agendas and frames

The concepts of agenda-setting and framing are essential theoretical tools needed in this research and, besides having a different meaning and being expressed in different forms, both concepts are about the selection and emphasis of information performed by the media. In its barest definition, agenda-setting is the process through which the winners of the competition for mediatic social construction decide what the news are going to be, i.e. they select the topics that news media will focus on in order to advance their political goals. Agenda-setting theory, as articulated by McCombs and Shaw (1972), suggests that media can shape the public agenda by highlighting certain topics, thereby influencing what the public perceives as important. Framing theory extends this idea by examining how media emphasize certain aspects of stories to promote particular problem definitions, causal interpretations, and moral evaluations. Framing is sometimes referred to as second level agenda-setting, as if agenda-setting determines the issues that will be mostly prominent on the news, framing indicates how these issues are narrated and therefore determines how the public is pushed to think and act about certain issues. As precisely defined by Entman (1993), to frame is to “select some aspects of a perceived reality and make them more salient in a communicating context, in such a way to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation.” Thus, frames are certainly not neutral and they might cause significant changes in attitudes. In other words, this suggests that news framing functions by making some aspects of an issue or event more accessible, visible, or salient to the public. If agendas provide the issues on the forefront of the media discourse, frames can be considered as the media packages provided to interpret them. The communicative means through which an issue is framed are called framing devices and among them we find metaphors, catchphrases, visual images, lexical choices, selection of sources,

graphics and stereotypes. The framing of refugees tends to be ambivalent, as refugees are usually described as either helpless victims with little to no agency or considerable threats to the receiving countries. Moreover, the refugee threat seems to be further declined into three distinct categories: an economic threat to the state's welfare, a cultural threat to national identity and a physical security threat, as foreigners tend to be unfoundedly associated with increased crime rates (Innes, 2010).

3. Historical and institutional background

The following chapter will provide a brief historical and institutional contextualization to the two migratory crises in question. The 2015 Syrian refugee crisis emerged from the protracted civil war that began in Syria in 2011. This conflict resulted in the displacement of over 11 million people, both internally and externally, with more than 6.6 million Syrians seeking refuge abroad. A significant portion of these refugees attempted to reach Europe, leading to one of the most severe humanitarian crises in recent history. The Eastern Mediterranean and Balkan routes were primary pathways, with refugees traveling through countries like Macedonia, Serbia, Hungary, and Croatia to reach Western Europe. The institutional response to the Syrian refugee crisis was marked by a lack of coordination within the European Union (EU). Different countries adopted divergent approaches, leading to significant inconsistencies in the treatment of refugees. Germany, under Chancellor Angela Merkel, adopted an open-door policy and allowed over 1.1 million refugees to enter the country by the end of 2015. In stark contrast, Hungary and Poland adopted stringent anti-migration stances. Hungary built a border fence and implemented policies criticized for violating human rights. Poland, too, resisted EU efforts to redistribute refugees, citing security and cultural concerns. The EU attempted to implement a mandatory relocation scheme to distribute 160,000 refugees across member states. However, this plan faced strong resistance, particularly from Eastern European countries, and ultimately proved ineffective. The Dublin Regulation, which requires asylum seekers to apply for protection in the first EU country they enter, placed immense pressure on frontline states like Greece and Italy, leading to overcrowded and under-resourced facilities. France and the United Kingdom also faced significant challenges. France received around 80,000 asylum applications from Syrians by the end of 2015, while the UK accepted approximately 20,000 Syrian refugees

under its Vulnerable Persons Resettlement Scheme. The crisis exposed significant flaws in the EU's Common European Asylum System (CEAS), highlighting the need for a more unified and effective approach to refugee protection. The 2022 Ukrainian refugee crisis was triggered by the Russian invasion of Ukraine on February 24, 2022. Within weeks, millions of Ukrainians fled their homes, seeking refuge in neighboring European countries. The response to this crisis was notably different from the Syrian crisis, both in terms of the characteristics of the migratory flux and the institutional response. Unlike the perilous journeys faced by Syrian refugees, the migratory flux from Ukraine was characterized by relatively safer and more organized movements. Many Ukrainians traveled by car, bus, and train, often crossing into neighboring countries like Poland, Romania, Hungary, and Slovakia. The proximity of Ukraine to these countries facilitated more efficient border crossings and logistical support. By May 2022, over 6 million Ukrainians had fled to Europe, with Poland alone receiving more than 3 million refugees. The institutional response to the Ukrainian refugee crisis was marked by unprecedented unity and coordination within the EU. For the first time, the EU activated the Temporary Protection Directive (TPD), which had been established in 2001 in the wake of the Kosovo war. The TPD provides immediate protection and rights to displaced persons, including residency, access to the labor market, education, social welfare, and medical care. The adoption of the TPD represented a significant shift in the EU's approach to handling refugee crises. It allowed for a streamlined process to provide immediate assistance to Ukrainian refugees, bypassing the often lengthy and bureaucratic asylum procedures. This directive was implemented with remarkable speed and efficiency, reflecting a strong political will to support Ukraine amidst the Russian aggression. Poland emerged as a primary destination, hosting over 3 million Ukrainian refugees and providing extensive support services. Germany,

France, and other EU countries also played key roles, with Germany receiving over 1 million Ukrainian refugees. These countries provided comprehensive support, including housing, healthcare, and employment opportunities. The response was characterized by widespread public support and solidarity across Europe. Civil society, local communities, and governments mobilized resources to welcome and integrate refugees.

4. Methodology

4.1 Overview

This chapter outlines the methodologies employed in the extraction and analysis of the data corpus. Initially, it presents a comprehensive introduction to the Global Database of Events, Language, and Tone (will be referred to as GDELT from this point on) and discusses its significance for sociological research by referencing pertinent academic studies that have previously utilized it. Following this, the chapter details the process of data extraction, explaining how Structured Query Language (will be referred to as SQL from this point on) queries were applied to the GDELT Google BigQuery database in order to extrapolate the data corpus. Concluding the chapter, the description of the data analysis explains how RStudio was employed to compute averages and construct graphical representations, facilitating the visual comparison and interpretation of resulting data.

4.2 The GDELT database

The Global Database of Events, Time and Location is a doctorate project by computer researcher Kalev Leetaru that aims to construct a comprehensive, global database of sociopolitical events, language use, and emotional tones, captured through worldwide news. It catalogs the world's events in near-real time, offering an effective resource for researchers, analysts and policymakers interested in understanding global dynamics, trends, and patterns. GDELT employs advanced Natural Language Processing (NLP) techniques to analyze the text, whose content is parsed and categorized according to the CAMEO

(Conflict and Mediation Event Observations) event coding system to standardize the classification of events. This framework allows GDELT to systematically categorize a wide range of socio-political events into a predefined taxonomy, making it easier to analyze and compare data across different sources and time periods. It does not only report the date (in multiple formats) and URL of each article, but also identifies the main actors/protagonists of the event (eventually also their attributes), its geographical location and analyzes the tone and emotional sentiment of the news coverage (assessing the positivity, negativity, or neutrality of the language used). Moreover, GDELT data is available on the Google Cloud Platform and can be accessed through the BigQuery interface. Particular datasets can then be extracted by using SQL queries directly on the cloud environment and then downloaded to be further processed and analyzed. GDELT also employs advanced automatic translation technologies to translate the content of news in more than 100 languages into English. This allows for the uniform processing and analysis of the content via GDELT's natural language processing (NLP) and event coding systems (as they operate in English), thus providing unprecedented access to global events reported in other languages than English. Saz-Carranza, Maturana and Quer (2020) already produced a report entitled *“The Empirical Use of GDELT Big Data in Academic Research”* as part of EU GLOBE initiative. By considering a total of 19 academic papers that utilized GDELT, they analyze the relevance, opportunities and limitations of employing the database for academic research. They conclude that “the potential of GDELT to contribute to research through its sentiment analysis is remarkable”, but that its use in academic research is still at its embryo stage. Specifically, only three of the papers analyzed employed GDELT to conduct a research on media and none of them particularly focused on the social representation of peculiar social groups in the media. Boudemagh and Moise (2017) make use of the GDELT database in order to investigate the

news media coverage of refugees in 2016. This paper is the most similar piece of pre-existing academic literature to this research, as it also employs the GDELT database in order to calculate total numbers of articles and their average sentiment in a set time period. Despite focusing more on salient events and their impact on the media discourse and performing a network analysis, it still constitutes the only other (to my knowledge) academic source that utilizes GDELT to analyze refugee discourse in the media. Overall, in spite of its still limited use, especially in social sciences, GDELT is an extremely valuable academic resource for a vast array of disciplines.

4.3 Data collection

The first step required to conduct the research is the extraction of only the pertinent articles from the extremely vast GDELT database on the Google Big Query platform. In order to extract only articles that respect the selected criteria, SQL is applied to inquire the database. SQL is the standard programming language specifically designed for managing and manipulating big relational databases (databases that incorporate relations among entities and variables). SQL allows users to create, modify, manage, and query data in a structured format. In our specific case, it allows us to extract specific subsets of the GDELT data. SQL essentially filters hundreds of millions of articles by applying different clauses with the aim of creating a refined and ordered dataset. In this particular query, the aim is to obtain a table where articles are grouped and ordered by day and their total number and average is also calculated by day. These criteria are applied to all the queries, as it defines the format needed to perform the analysis by creating a .CSV table with three columns: PublicationDate, AvgTonePerDay and TotalArticlesPerDay. To create a query

that collects only the articles from one month before to one month after the two key events we consider (02/08/2015 to 02/10/2015 and 24/01/2022 to 24/03/2022), we employ the function: `_PARTITIONTIME`. Another clause is applied with the objective of extracting only the articles having refugees as the main actors by equating the actors to the code CAMEO code for refugees: `REF`.

Moreover, we can obtain only the articles regarding specifically Syrian or Ukrainian refugees by adding another restriction that associates a specific country code (SY for Syria and UP for Ukraine) to the Actors in the article or geographically associates the actors to two locations. This allows to take in consideration the articles not only the articles pertaining to Syrian and Ukrainian refugees specifically, but also to the general refugee population in the two countries. Obviously, the country association is applied only to the refugee group particularly interested in the time frame, therefore Syrian refugees will be considered in 2015 and Ukrainian refugees in 2022.

Lastly, to take into consideration only the articles published in a particular context, a restriction to the source URL of the articles is applied by selecting only the URLs that contain a specific national domain. This is obtained by using the `LIKE` function. In case of global context data, this clause is removed.

PublicationDate	AvgTonePerDay	TotalArticlesPerDay
20150802	-3.6104408067255211	19
20150803	-4.2881264587303	25
20150804	-3.7499831633211738	27
20150805	-1.6144437888066427	31
20150806	-4.9782739847414481	27
20150807	-5.4141986681010419	49
20150808	-4.4510849068130094	25
20150809	-4.8794799313673352	12

Table 1: Example of the table structure of a .CSV dataset

4.4 Data analysis

Once the .csv files containing the pertinent data are extracted, it is possible to proceed with the analysis. The files are uploaded in the RStudio environment and then processed with the aim of obtaining not only numerical figures like the total number of articles and their average tone in each different context, but also graphical representations of the evolution of number of articles and their tone over the time period considered. By doing so, we can easily compare the different contexts and draw observations. Many different kinds of comparisons can be applied with the aim of uncovering a racist bias in the media narration of refugees, like comparing the total number of articles per context in the periods considered to the average tones or the curves of the graphs obtained. The sum function is used to calculate the total number of articles, not only for the whole two months considered, but also for the first and second month in order to gauge the impact of particularly salient events (like Alan's death) on the media discourse. By applying the mean function we can also calculate the

average tone of the articles. The graphs are created by uploading a specific RStudio library (ggplot2) and then refined through specific functions. The aim is to create easily comprehensible graphs that will translate into visual representations the extracted data. By maintaining the same template for every graph of each context, we can easily compare the curves and gauge differences among the different national contexts. Thus, it will be possible to observe how iconic historical episodes impact the media discourse and therefore public opinion. Moreover, having obtained specific insights for every context, we can make considerations regarding the reasons behind different results among them.

5. Literature review

This research presents some unique characteristics compared to previous researches, as it does not only consider an array of different contexts and deals with a substantial amount of data, but it also conducts a direct comparison between the 2015 and 2022 media discourses. In fact, previous studies tend to focus more on qualitative analyses limited to specific national contexts and/or a specific singular timeframe, with only a few papers employing GDELT as a source of data. As previously introduced, Boudemagh and Moise (2017) make use of GDELT to analyze the media discourse about refugees in the year 2016, with a specific focus on finding events with heightened media salience and differences between different national contexts. They do not only identify relevant episodes that increased media discourse on refugees (such as terrorist attacks) and the countries and political actors mostly linked with refugees, but also point out how media coverage varies from country to country. Weisser (2023) also utilizes GDELT to conduct a near real-time analysis of the societal responses towards Ukrainian refugees in Europe by studying the interaction events reported on the database. His research highlights how neighboring countries reached a peak level of support towards Ukrainian refugees before other European countries and how interest and support tended to fade with time. Koch et al. (2020) propose that media coverage has a direct impact on the asylum seekers' fates and therefore conduct an extensive investigation regarding 20 European countries and spanning 14 years, from 2002 to 2016. They confirm their hypothesis, as they find that public debate in the media is strongly predictive of asylum acceptance rates. In turn, Iberi and Saddam (2023), by analyzing news clips from nine influential media outlets (Al Jazeera English, ABC News, CBS News, France 24, TRT World, BBC News, Sky News, CNN, and DW), compare the different framing applied to African and Ukrainian refugees. They uncover how the media discourse tends to frame African

refugees in a security frame that emphasizes the potential threats they pose to host societies, while Ukrainian refugees tend to be narrated with a humanitarian frame that underlines their condition of victims by employing a more emotional narration. Other articles tackle the issue of refugee depiction in the media as well, but they do so by focusing only on a specific national context, such as Italy or Poland. Adinolfi and Caracciolo (2023) compare the discourse regarding refugees in 2015 and 2022 in two major Italian newspapers (*Il Corriere della sera* and *Il Giornale*). They concluded that the narration in 2015 is marked by a strong disconnection between refugees and the causes behind their emigration, as both personal refugee experiences and insightful explanations of the geopolitical context are given little space in the discourse. In 2022, on the other hand, the media coverage presented a much more clear-cut and linear narration that directly linked refugees with the war they were escaping from, thus encouraging integration. Hargrave, Homel and Drazanova (2023) focus on the Polish context by performing an analysis that spans over two decades and demonstrates how Polish public opinion towards refugees has changed over time. In fact, they highlight how public attitude towards refugees grew increasingly positive throughout the 2000s until a negative turn post 2015, with only the events in Ukraine in 2022 causing a shift back into a positive attitude. They underline the us vs them rhetoric applied to African and Middle-Eastern refugees, depicted as threats to Polish culture and security, in contrast to the depiction of Ukrainian refugees as part of an us, as victims of the same Russian imperialism Poland was also subjected to. Pepinsky, Reiff and Szabó (2024) find a similar pattern in Hungary by conducting a series of interviews, as the strong anti-refugee sentiment present from 2015 is mitigated by the Ukrainian crisis. But they also point out how this wave of solidarity is deeply linked to the ethnic and religious background of the refugee, as their interviews demonstrate how these factors play a crucial role in accepting the asylum seeker.

Moise, Dennison and Kriesi (2023) analyze interviews from Italy, France, Germany, Hungary and Poland in order to bring into light the discrepancy between the attitudes shown in 2015 and 2022. They argue that support for Ukrainian refugees is shared by almost the whole totality of public opinion, both on the individual and elite level, and it also causes a spill-over effect that increases general support for refugees, independently from their origin. Palmgren, Akerlund and Viklund (2023) perform a Critical Discourse Analysis on Swedish alternative media and demonstrate how Islamophobia plays a big role in the representation of Muslim asylum-seekers as part of the threatening out-group, while Ukrainian refugees are part of the in-group and characterized as compatible and similar to Swedish citizens.

6. Results

6.1 Overview

The following chapter will present the graphs created in RStudio through the analysis of the different datasets extracted from the GDELT database. For each of the eight contexts taken into consideration, four datasets have been extracted: two that consider the overall number and tone of articles having “refugees” as one of the main actors in both periods considered and another two that focus specifically on either Syrian refugees (for 2015) or Ukrainian refugees (for 2022). Each dataset will in turn produce two different graphs via two different codes: one showing the evolution of the total number of articles published and the other one showing the evolution of the average tone of the articles. This means that a total of 64 graphs have been created, as each one of the eight contexts produces eight graphs. The relevant date points of September the 2nd 2015 and February the 24th 2022 are highlighted on the graphs. The graphs will be presented by context subchapters, with a brief introduction and context-specific considerations after every four chronologically-tied graphs. It is necessary to note that the number of articles for smaller media environments such as Hungary and Lithuania are quite low, especially when considering articles about the specific refugee group. Moreover, the general number of articles about Ukrainian refugees before the date of the invasion is obviously quite limited.

6.2 Global context

The graphs show the evolution of the global media discourse on refugees and serves as a baseline reference to gauge the results from specific contexts. As the URL domain restriction is removed from the SQL query, these graphs are based on a dataset that considers the totality of articles published from every country in the GDELT database.

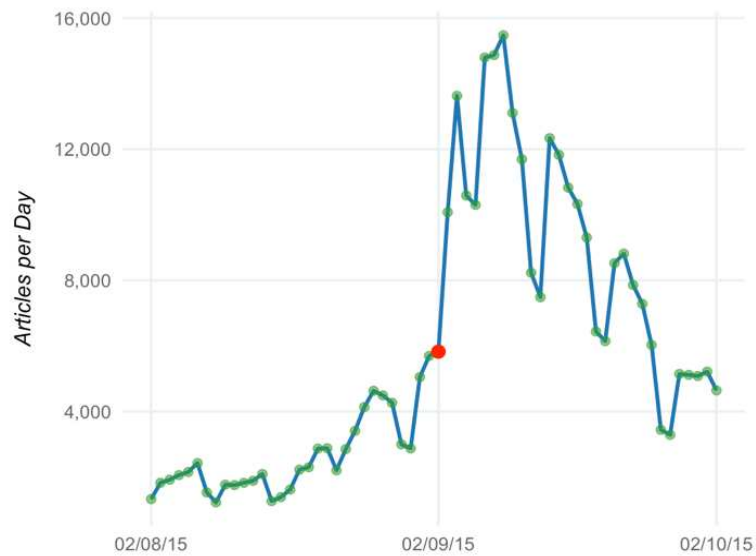


Figure 1.1: Global - The evolution of the total number of articles about refugees from 02/08/15 to 02/10/15



Figure 1.2: Global - The evolution of the total number of articles about Syrian refugees from 02/08/15 to 02/10/15

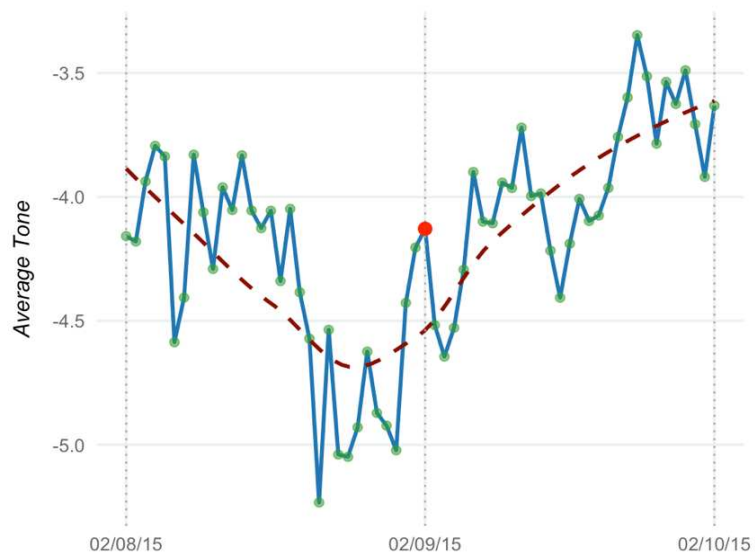


Figure 1.3: Global - The evolution of the average tone of articles about refugees from 02/08/15 to 02/10/15. Average value: -4.16

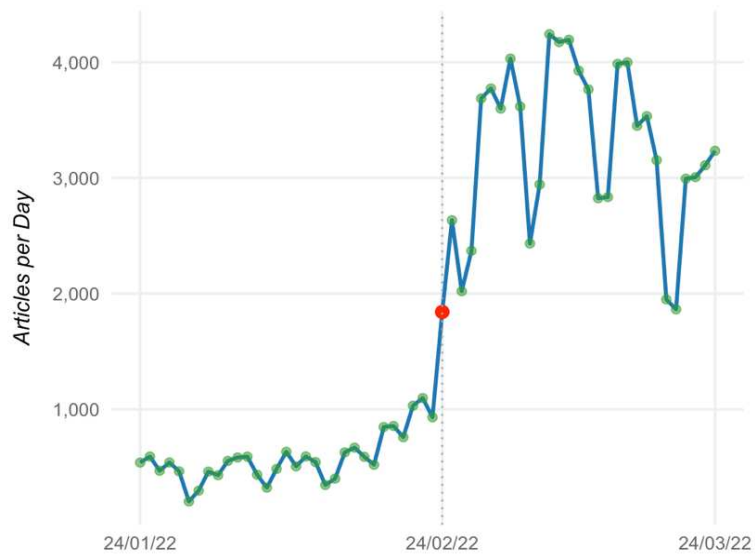


Figure 1.5: Global - The evolution of the total number of articles about refugees from 24/01/22 to 24/03/22

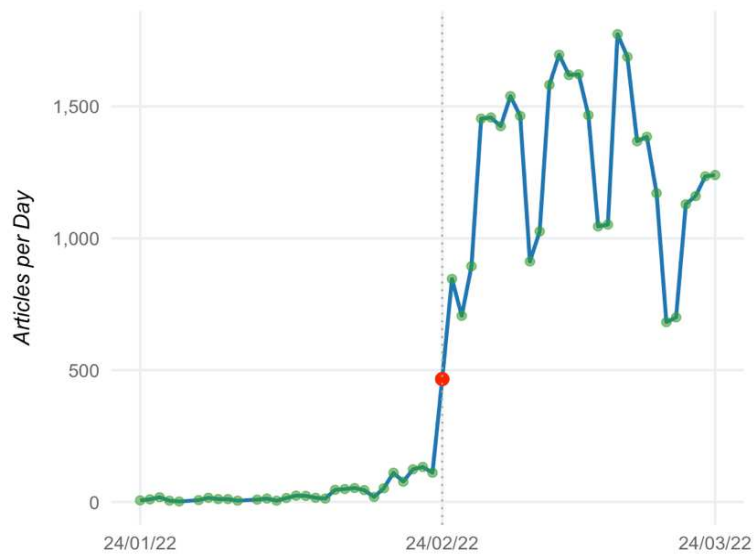


Figure 1.6: Global - The evolution of the total number of articles about Ukrainian refugees from 24/01/22 to 24/03/22

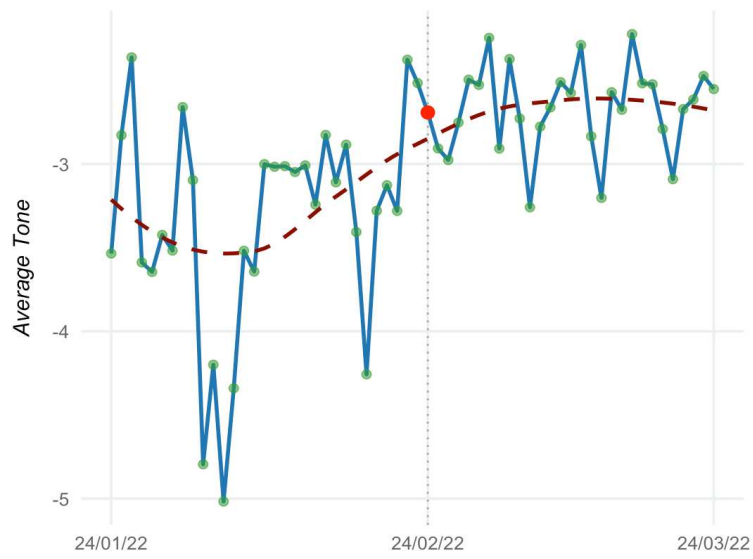


Figure 1.7: Global - The evolution of the average tone of articles about refugees from 24/01/22 to 24/03/22. Average value: -3.02

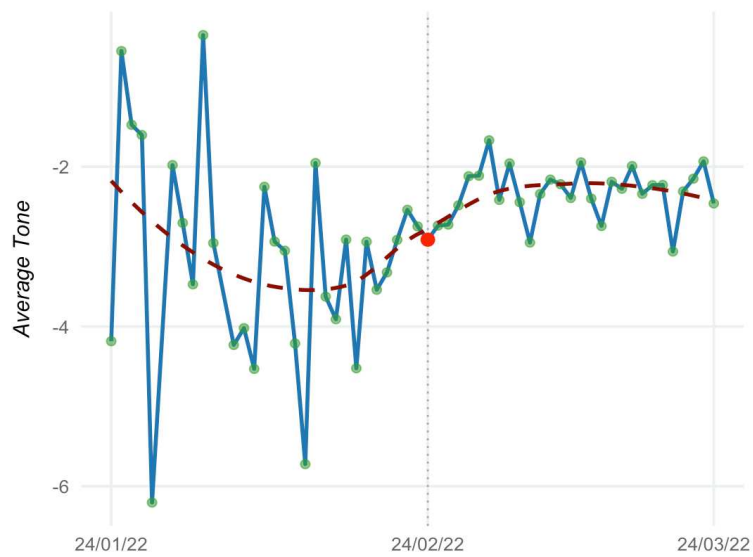


Figure 1.8: Global - The evolution of the average tone of articles about Ukrainian refugees from 24/01/22 to 24/03/22. Average value: -2.75

Similarly, also in 2022 the trends for both refugees in general and Ukrainian ones in particular are remarkably similar. But the total number of articles about both refugees and Ukrainian refugees has decreased compared to 2015. At the same time, compared to the previous period, we can appreciate a higher difference of -0.27 points for the average tone of articles about Ukrainian refugees from the general average. In 2022 the tone values are higher compared to 2015, with a 1.14 increase in the general case and a 1.37 in the specific case. Overall, the global context presents quite consistent results, with a small difference between refugees in general and the specific refugee group in both periods analyzed.

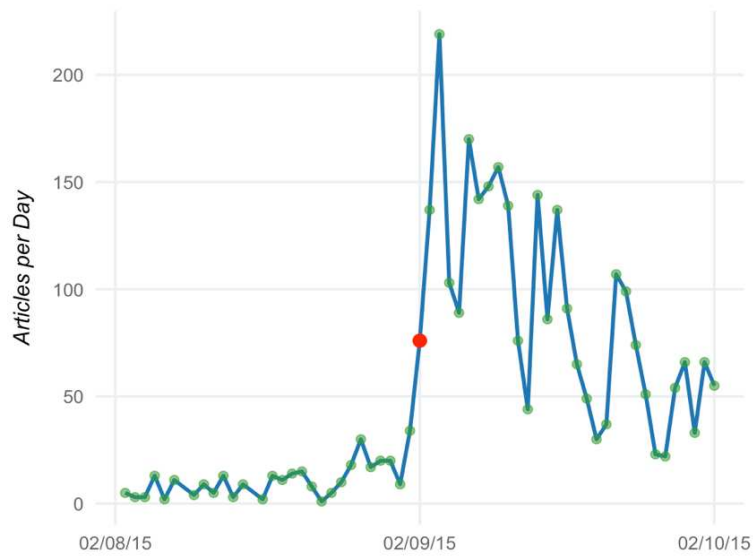


Figure 2.2: UK - The evolution of the total number of articles about Syrian refugees from 02/08/15 to 02/10/15

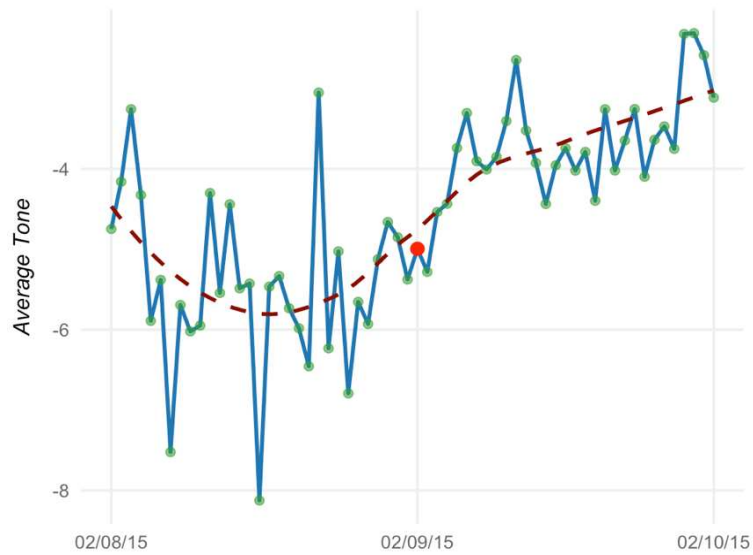


Figure 2.3: UK - The evolution of the average tone of articles about refugees from 02/08/15 to 02/10/15. Average value: -4.57

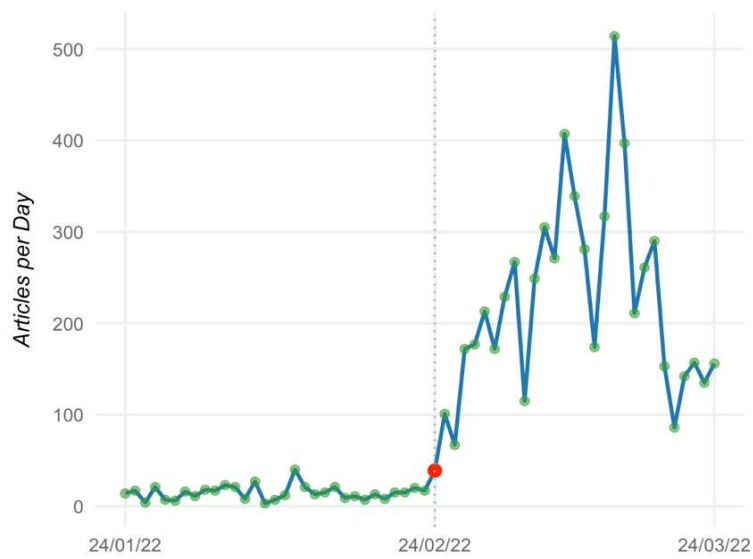


Figure 2.5: UK - The evolution of the total number of articles about refugees from 24/01/22 to 24/03/22

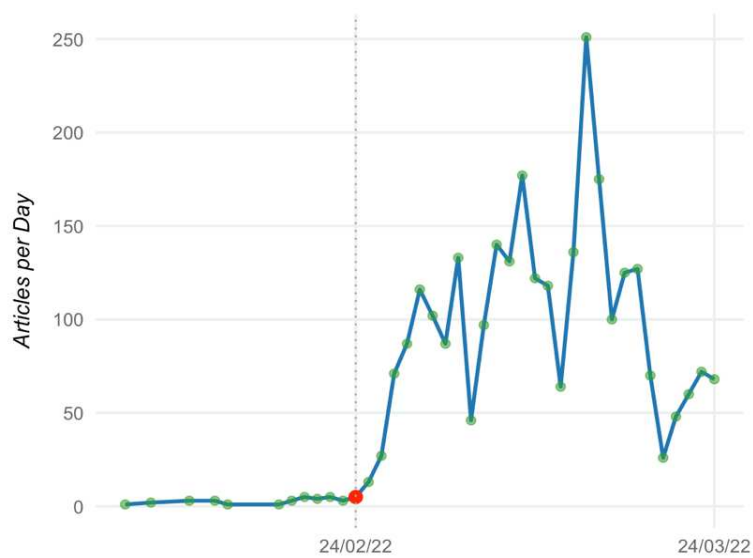


Figure 2.6: UK - The evolution of the total number of articles about Ukrainian refugees from 24/01/22 to 24/03/22

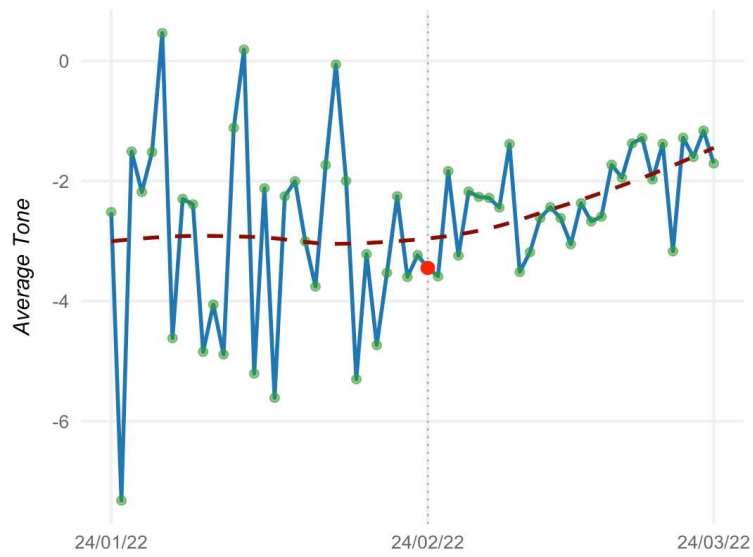


Figure 2.7: UK - The evolution of the average tone of articles about refugees from 24/01/22 to 24/03/22. Average value: -2.64

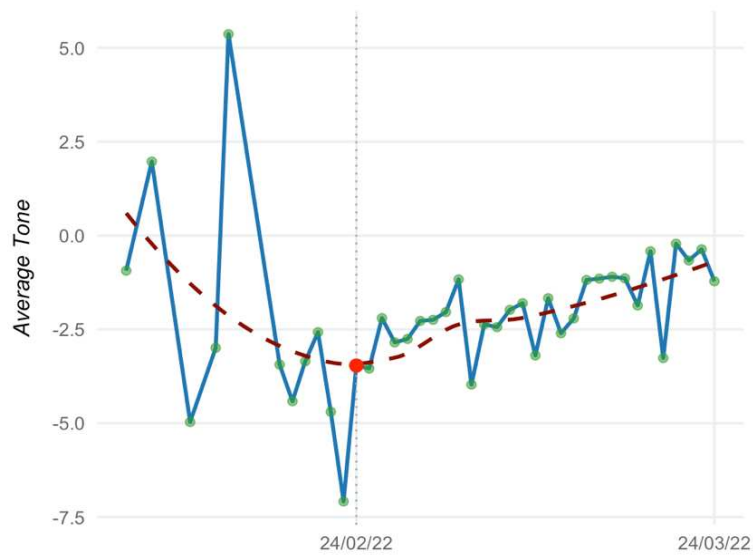


Figure 2.8: UK - The evolution of the average tone of articles about Ukrainian refugees from 24/01/22 to 24/03/22. Average value: -2.11

In 2022 we can observe how the total number of articles is lower compared to 2015, but articles about Ukrainian refugees make up about half of the total articles about refugees. Ukrainian refugees also score an increase of 0.53 points in the average tone value compared to refugees in general, which is remarkably similar to 2015. But also in this case we can observe how the average tone values in 2022 are about two points higher than in 2015.

6.4 France

The graphs show the evolution of the media discourse on refugees from articles published in France, as the URL domain restriction “.fr” has been applied. This is one of the three European national contexts, together with Germany and Italy, that have been chosen for their demographic, political and cultural relevance in the European Union.

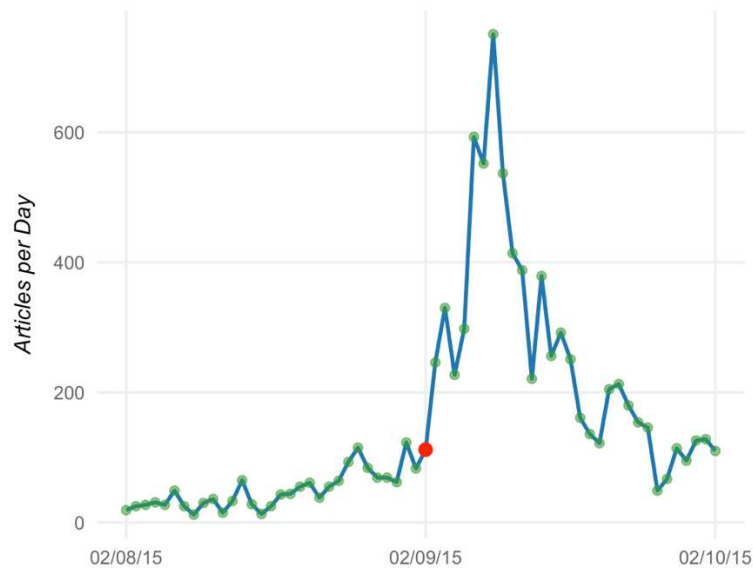


Figure 3.1: France - The evolution of the total number of articles about refugees from 02/08/15 to 02/10/15

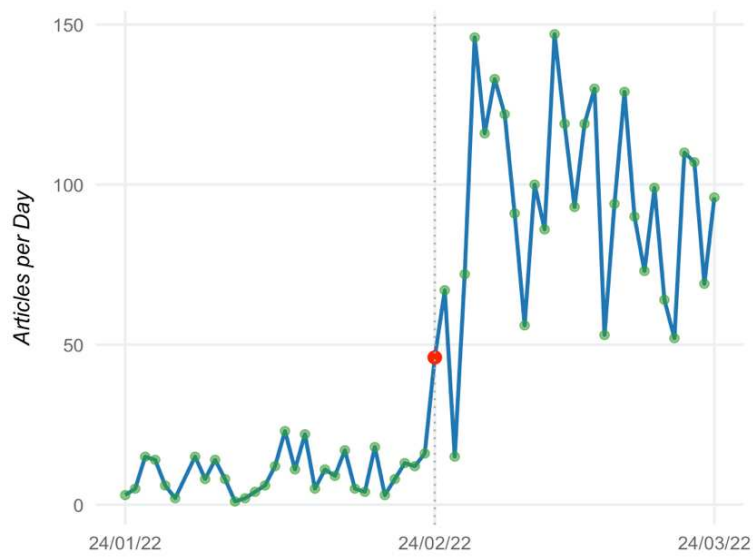


Figure 3.5: France - The evolution of the total number of articles about refugees from 24/01/22 to 24/03/22

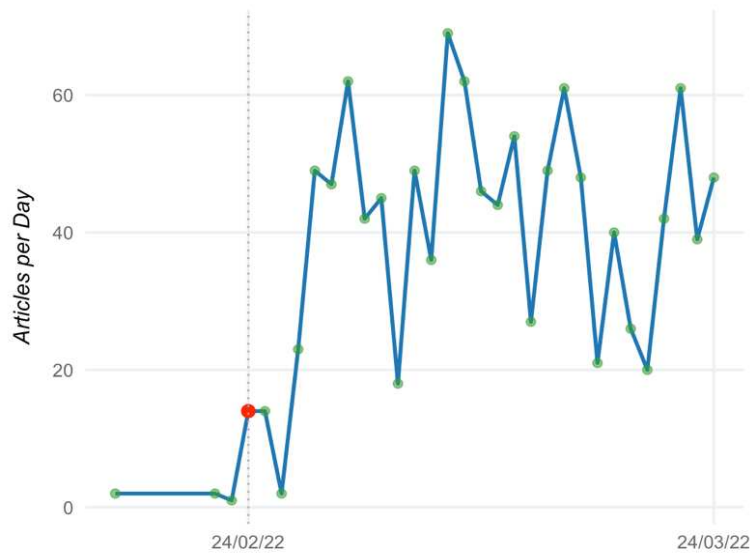


Figure 3.6: France - The evolution of the total number of articles about Ukrainian refugees from 24/01/22 to 24/03/22

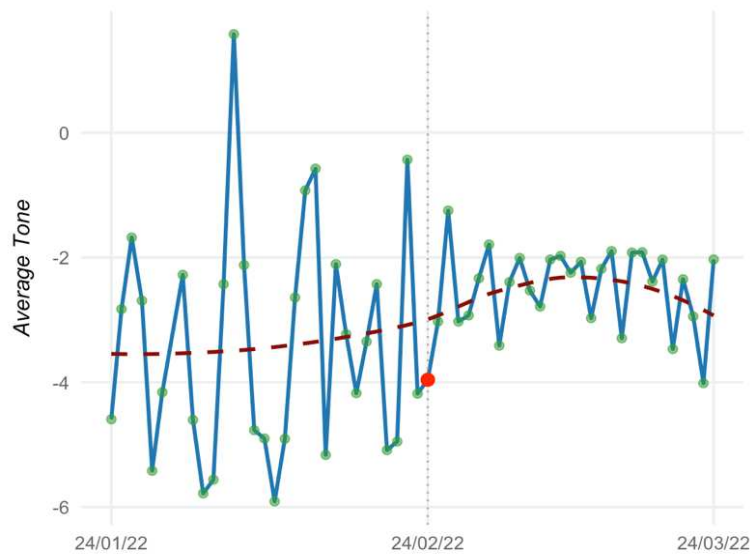


Figure 3.7: France - The evolution of the average tone of articles about refugees from 24/01/22 to 24/03/22. Average value: -2.97

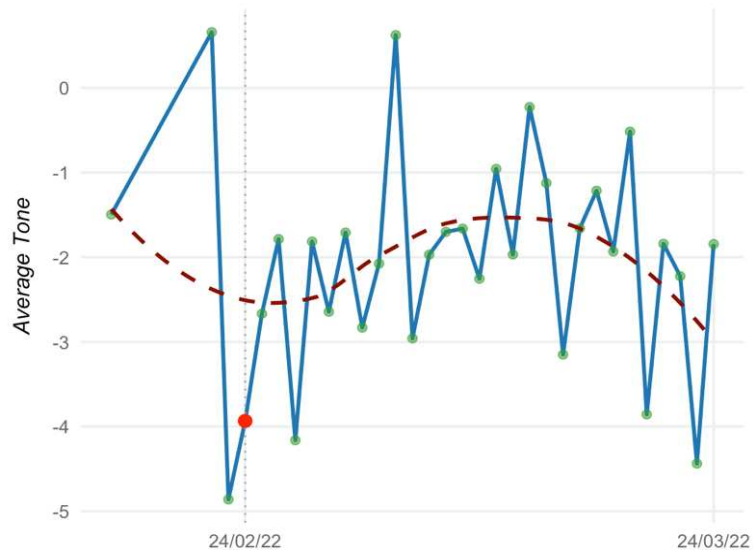


Figure 3.8: France - The evolution of the average tone of articles about Ukrainian refugees from 24/01/22 to 24/03/22. Average value: -2.07

In 2022 articles about Ukrainian refugees constitute a bigger percentage of the total articles about refugees (almost half of the total articles), even though the total number of articles published is remarkably smaller compared to 2015. The invasion definitely started a positive trend for the average tone in both cases, but the average value for Ukrainian refugees shows a bigger increase of 0.9 points from refugees in general (from -2.97 to -2.07). In this case too, the average tone values in 2022 are remarkably higher than in 2015 (-4.03 to -2.97 and -3.57 to -2.07).

6.5 Germany

The graphs show the evolution of the media discourse on refugees from articles published in Germany, as the URL domain restriction “.de” has been applied. This is one of the three European national contexts, together with France and Italy, that have been chosen for their demographic, political and cultural relevance in Europe.

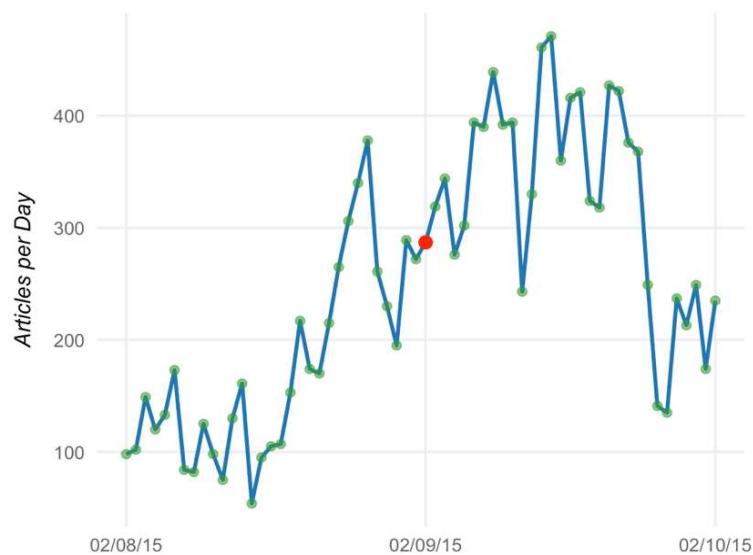


Figure 4.1: Germany - The evolution of the total number of articles about refugees from 02/08/15 to 02/10/15

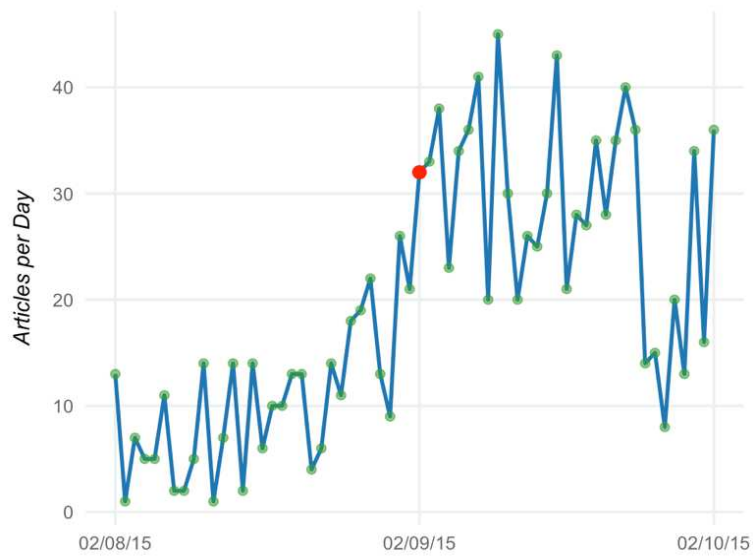


Figure 4.2: Germany - The evolution of the total number of articles about Syrian refugees from 02/08/15 to 02/10/15

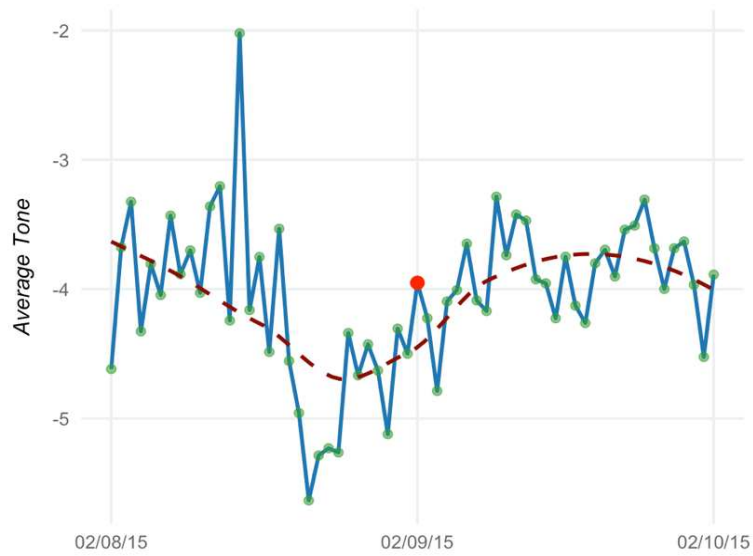


Figure 4.3: Germany - The evolution of the average tone of articles about refugees from 02/08/15 to 02/10/15. Average value: -4.04

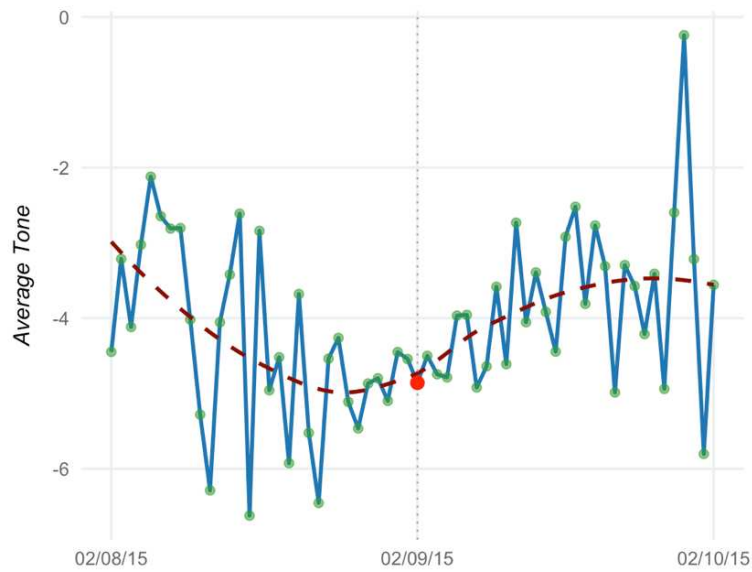


Figure 4.4: Germany - The evolution of the average tone of articles about Syrian refugees from 02/08/15 to 02/10/15. Average value: -4.08

It's interesting to note how in the German context the articles about Syrian refugees constitute only about a 10% of the total articles. At the same time, the average tone value is remarkably similar for refugees in general and Syrian ones (-4.04 and -4.08), with Alan's death creating a similar positive impact in both cases.

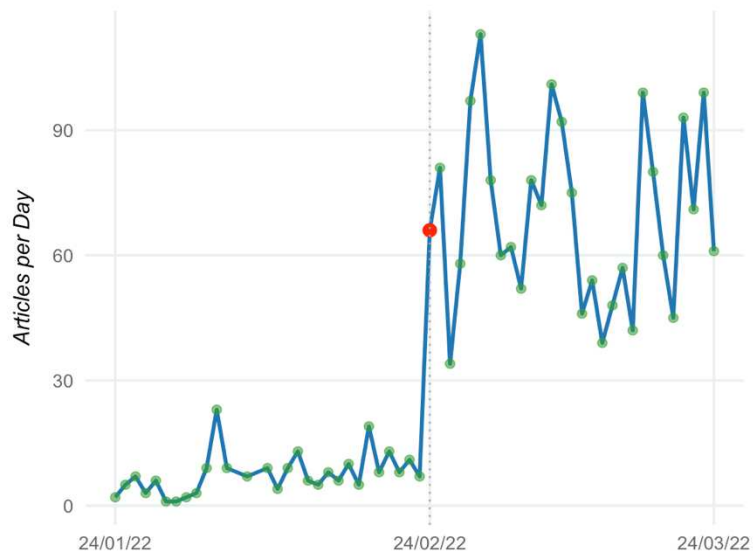


Figure 4.5: Germany - The evolution of the total number of articles about refugees from 24/01/22 to 24/03/22

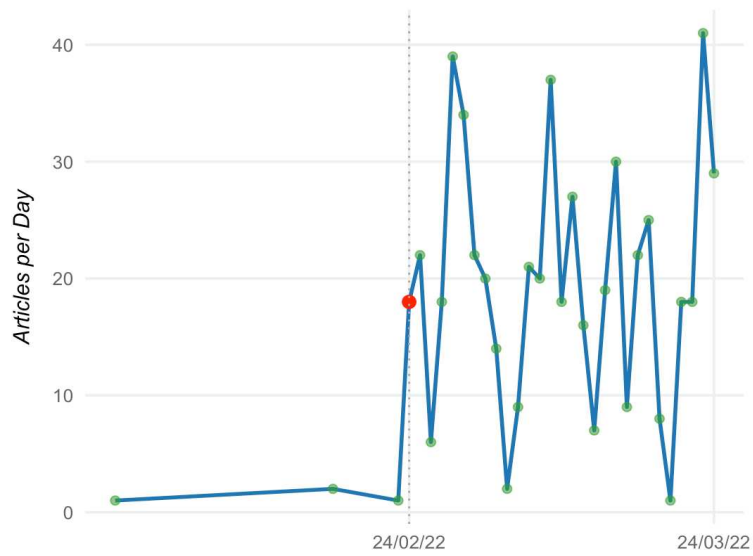


Figure 4.6: Germany - The evolution of the total number of articles about Ukrainian refugees from 24/01/22 to 24/03/22

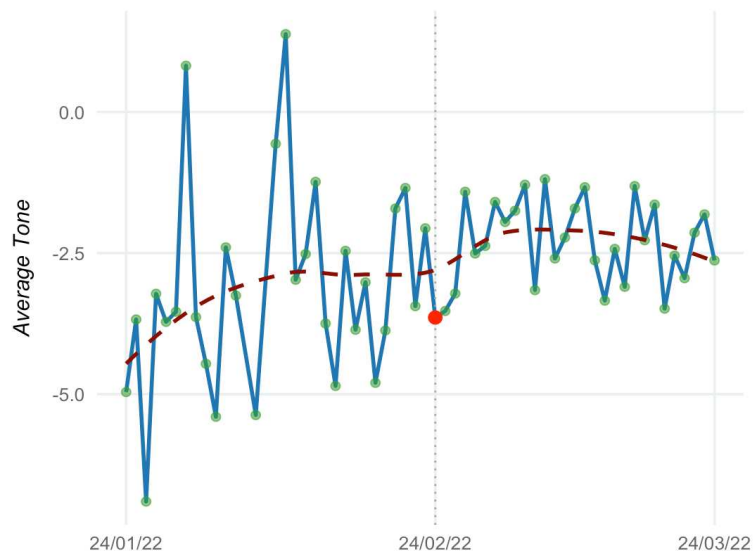


Figure 4.7: Germany - The evolution of the average tone of articles about refugees from 24/01/22 to 24/03/22. Average value: -2.73

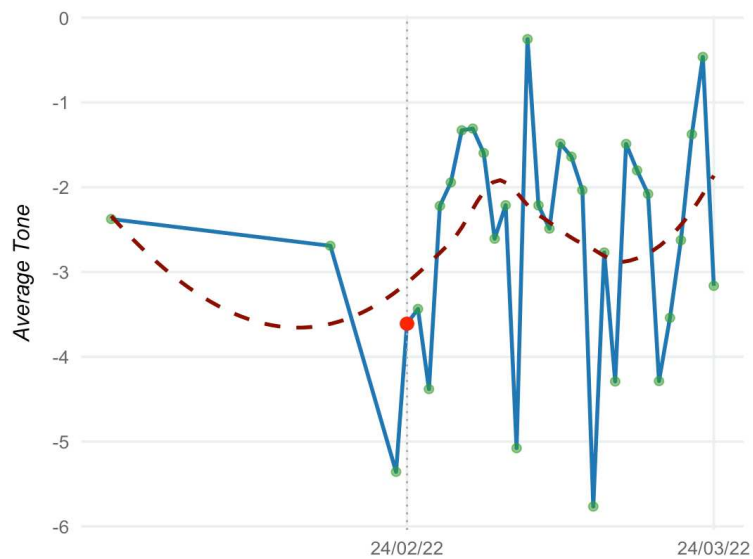


Figure 4.8: Germany - The evolution of the average tone of articles about Ukrainian refugees from 24/01/22 to 24/03/22. Average value: -2.62

The total number of articles is lower in both cases compared to 2015, but articles about Ukrainian refugees tend to constitute around half of the total articles about refugees. In 2022 the two average tone values are remarkably similar (-2.73 for general refugees and -2.62 for Ukrainian refugees). Interestingly, the invasion seems to have caused a more stable increase in the tone about refugees in general. Lastly, we can appreciate again a higher score for average tone values in 2022.

6.6 Italy

The graphs show the evolution of the media discourse on refugees from articles published in Italy, as the URL domain restriction “.it” has been applied. This is one of the three European national contexts, together with Germany and France, that have been chosen for their demographic, political and cultural relevance in Europe.

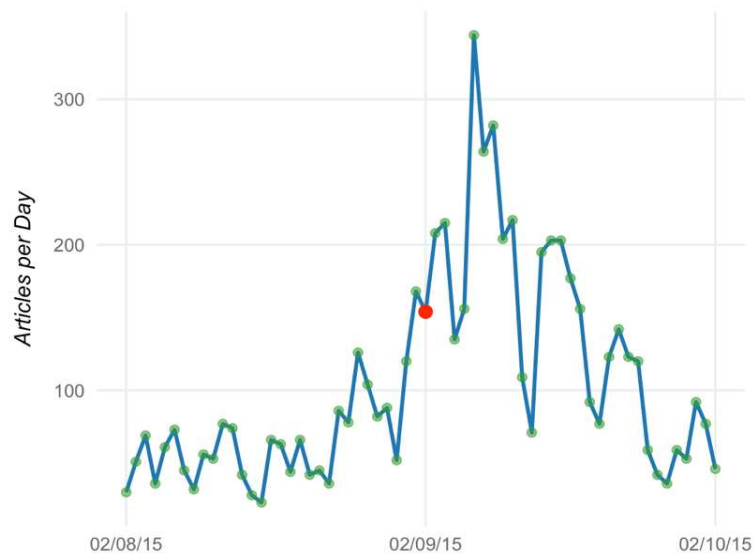


Figure 5.1: Italy - The evolution of the total number of articles about refugees from 02/08/15 to 02/10/15

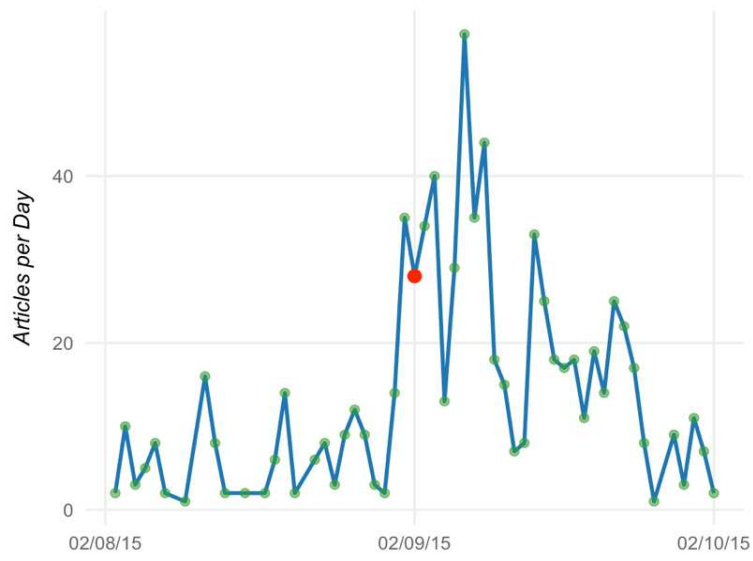


Figure 5.2: Italy - The evolution of the total number of articles about Syrian refugees from 02/08/15 to 02/10/15

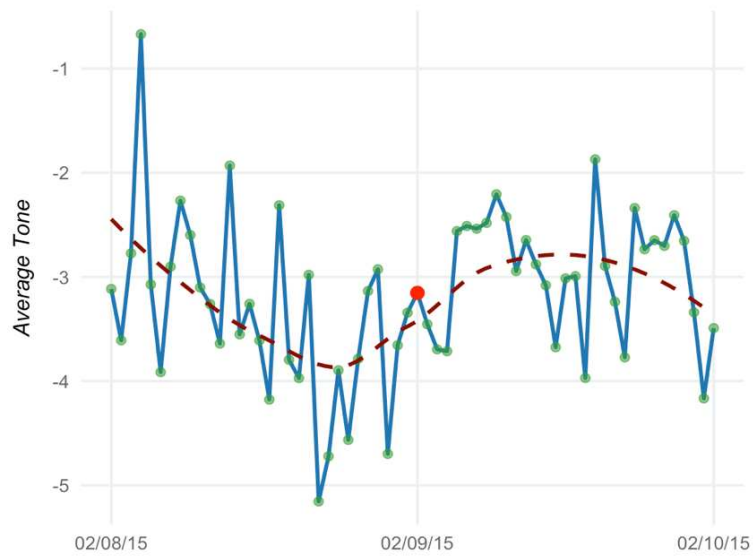


Figure 5.3: Italy - The evolution of the average tone of articles about refugees from 02/08/15 to 02/10/15. Average value: -3.17

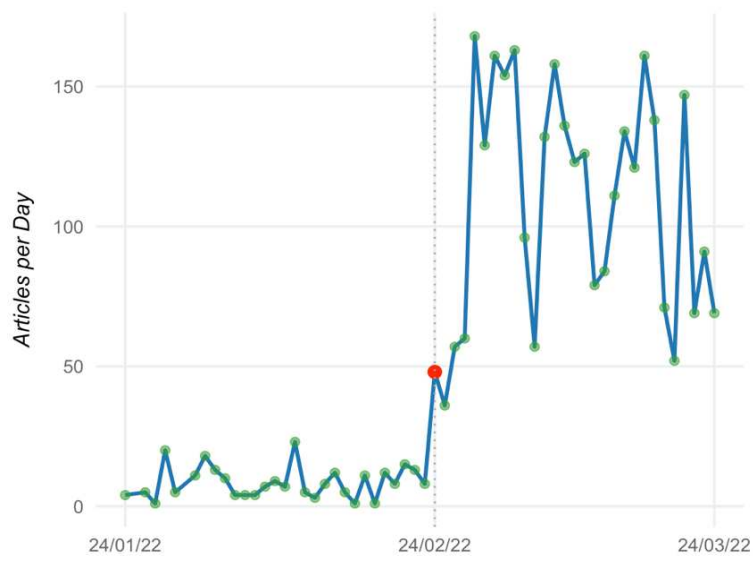


Figure 5.5: Italy - The evolution of the total number of articles about refugees from 24/01/22 to 24/03/22

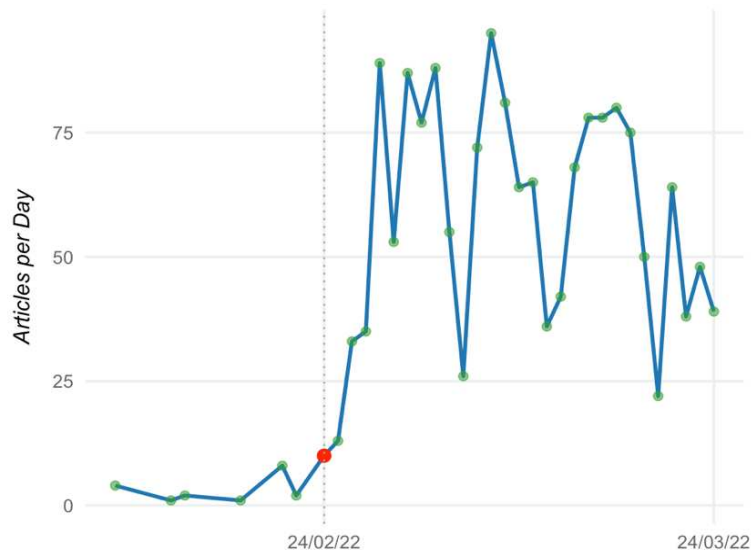


Figure 5.6: Italy - The evolution of the total number of articles about Ukrainian refugees from 24/01/22 to 24/03/22

In 2022, the number of articles about Ukrainian refugees is about half of the total number of articles about refugees in general. Differently from 2015, their average tone is also not similar, as it shows a remarkable increase of 1.19 points (-1.27 for Ukrainian refugees versus -2.46 for refugees in general). Ukrainian refugees score a significantly higher score compared to Syrian ones, as their value shows a 1.87 points increase (-3.14 in 2015 to -1,27 in 2022).

6.7 Hungary

The graphs show the evolution of the media discourse on refugees from articles published in Hungary, as the URL domain restriction “.hu” has been applied. This is one of the three Eastern-European post-soviet national contexts, together with Lithuania and Poland, that have been chosen both for their historical, cultural and geographical proximity to Ukraine and for their strong anti-migration stance in European politics in the recent years.

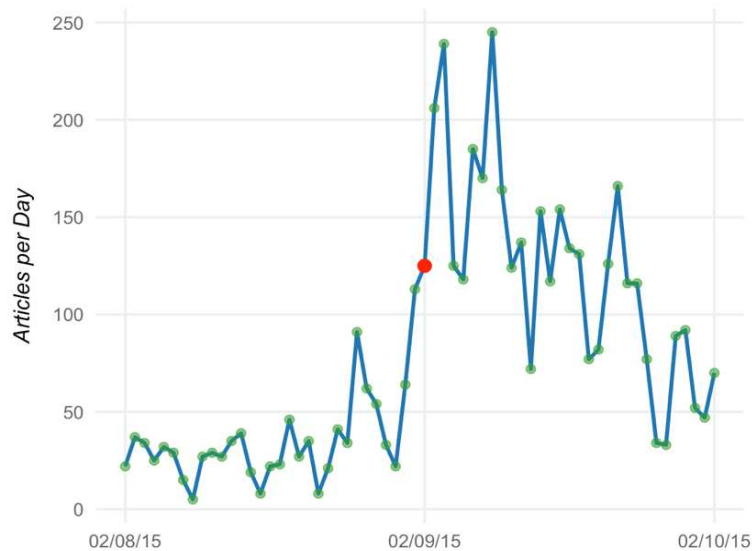


Figure 6.1: Hungary - The evolution of the total number of articles about refugees from 02/08/15 to 02/10/15

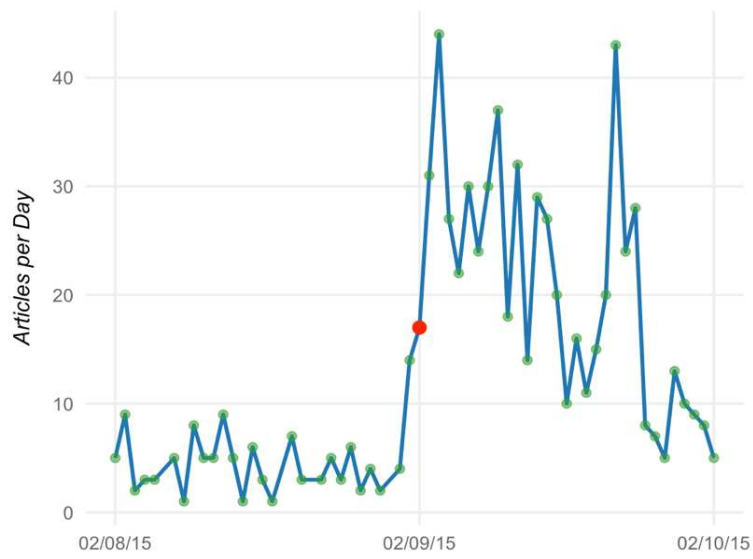


Figure 6.2: Hungary - The evolution of the total number of articles about Syrian refugees from 02/08/15 to 02/10/15

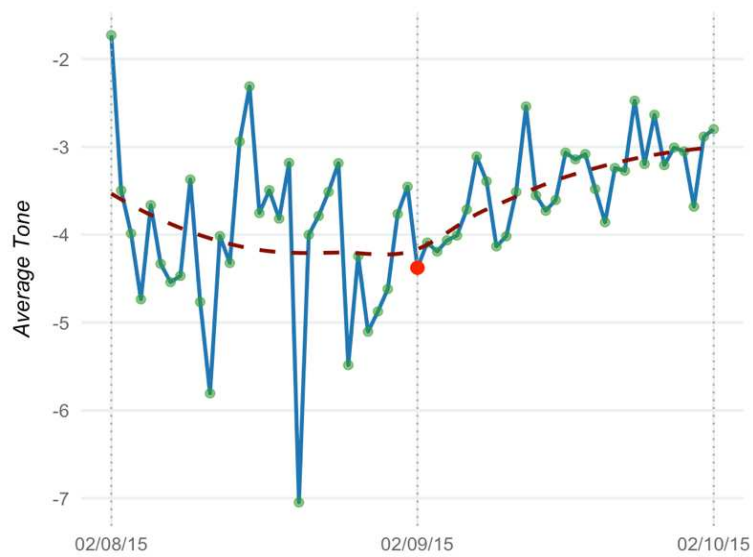


Figure 6.3: Hungary - The evolution of the average tone of articles about refugees from 02/08/15 to 02/10/15. Average value: -3.74

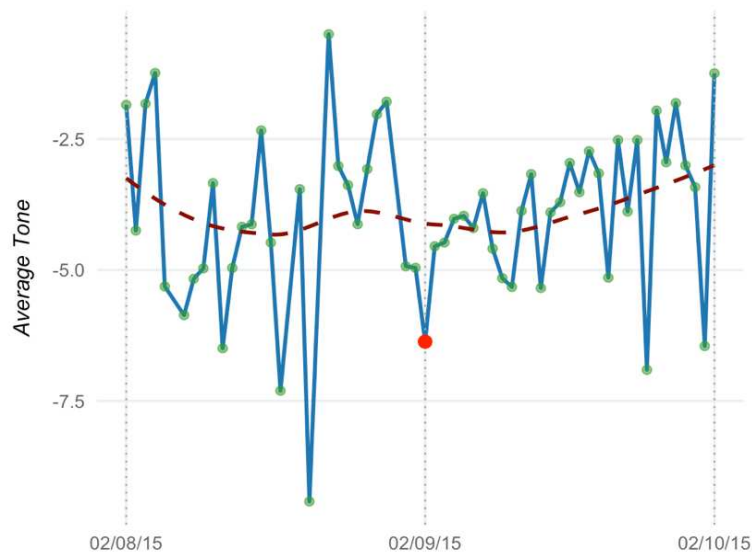


Figure 6.4: Hungary - The evolution of the average tone of articles about Syrian refugees from 02/08/15 to 02/10/15. Average value: -3.94

The number of articles about Syrian refugees is about a fifth of the total number of articles about refugees in general, following a similar evolution. Despite Alan's death overall positive impact on the tone values, their average tone value is also 0.2 points lower compared to the tone of articles about refugees in general.

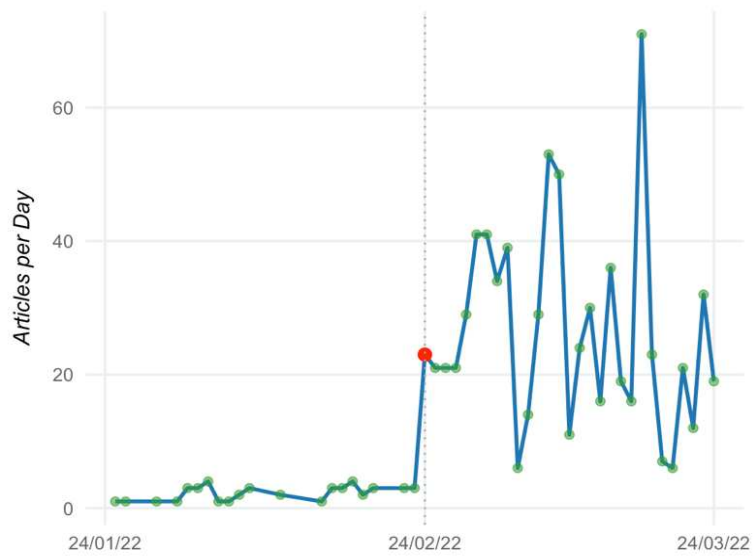


Figure 6.5: Hungary - The evolution of the total number of articles about refugees from 24/01/22 to 24/03/22

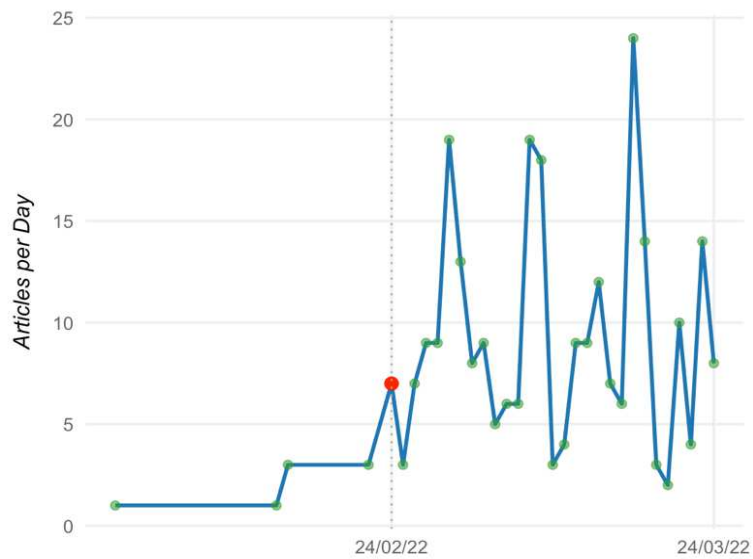


Figure 6.6: Hungary - The evolution of the total number of articles about Ukrainian refugees from 24/01/22 to 24/03/22

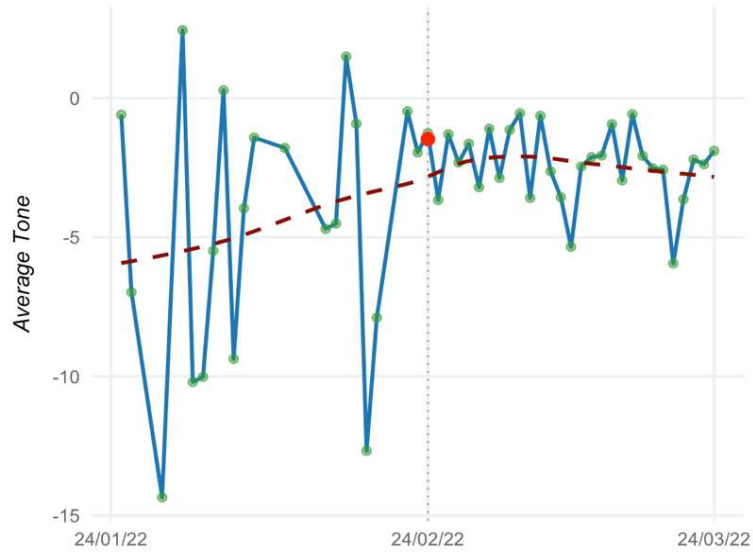


Figure 6.7: Hungary - The evolution of the average tone of articles about refugees from 24/01/22 to 24/03/22. Average value: -3.31s

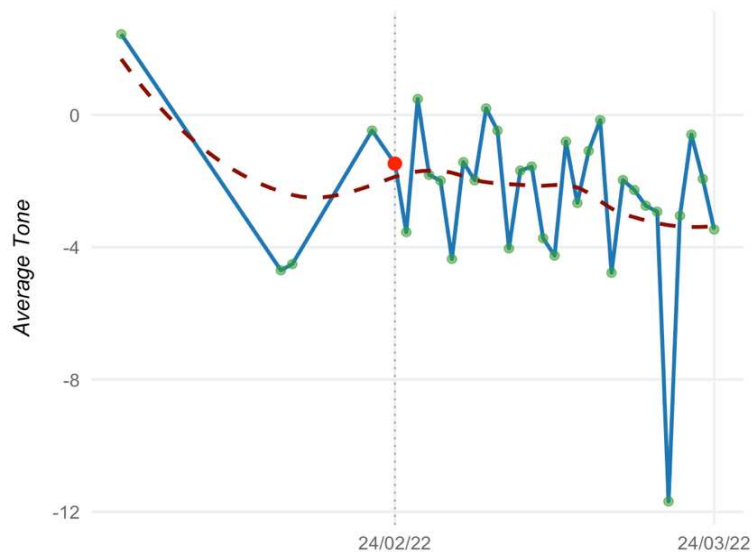


Figure 6.8: Hungary - The evolution of the average tone of articles about Ukrainian refugees from 24/01/22 to 24/03/22. Average value: -2.39

In 2022, the number of articles about Ukrainian oscillates between a third and a half of the total number of articles about refugees, even though the total number of articles in 2022, compared to 2015, is much lower also in this context. The average tone of articles about Ukrainian refugees is also 0.92 points higher compared to the tone of articles about refugees in general (-2.39 compared to -3.31). In this context also, average tones are higher in 2022, especially the ones regarding Ukrainian refugees compared to Syrian ones, with a 1.55 points increase (-3.94 in 2015 to -2.39 in 2022).

6.8 Lithuania

The graphs show the evolution of the media discourse on refugees from articles published in Lithuania, as the URL domain restriction “.lt” has been applied. This is one of the three Eastern-European post-soviet national contexts, together with Hungary and Poland, that have been chosen both for their historical, cultural and geographical proximity to Ukraine and for their strong anti-migration stance in European politics in the recent years.

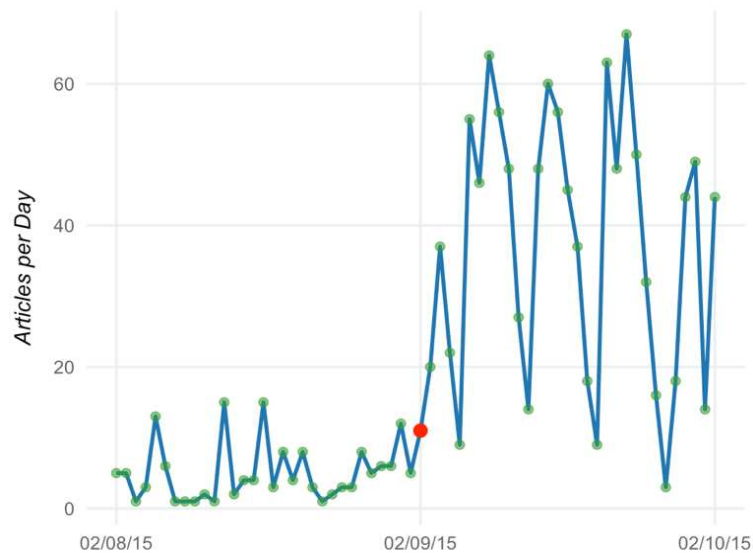


Figure 7.1: Lithuania - The evolution of the total number of articles about refugees from 02/08/15 to 02/10/15

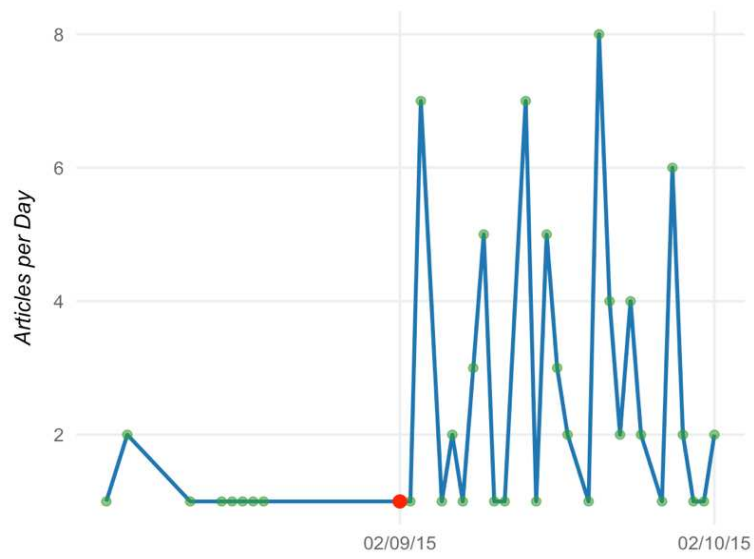


Figure 7.2: Lithuania - The evolution of the total number of articles about Syrian refugees from 02/08/15 to 02/10/15

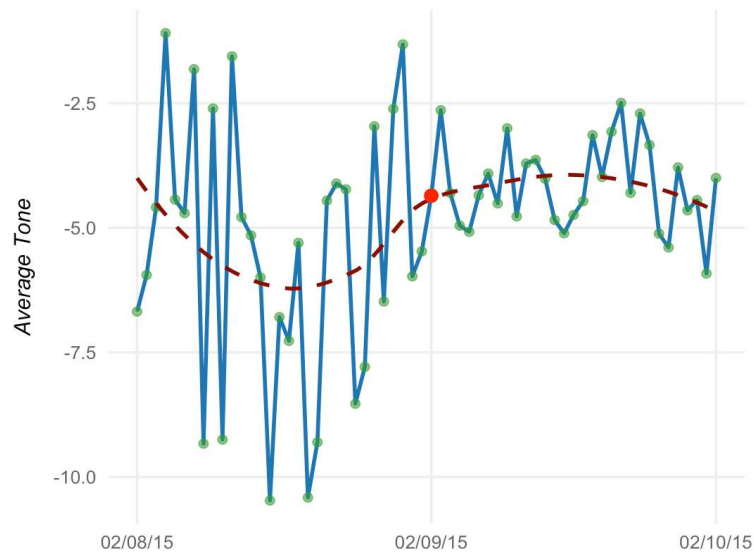


Figure 7.3: Lithuania - The evolution of the average tone of articles about refugees from 02/08/15 to 02/10/15. Average value: -4.84

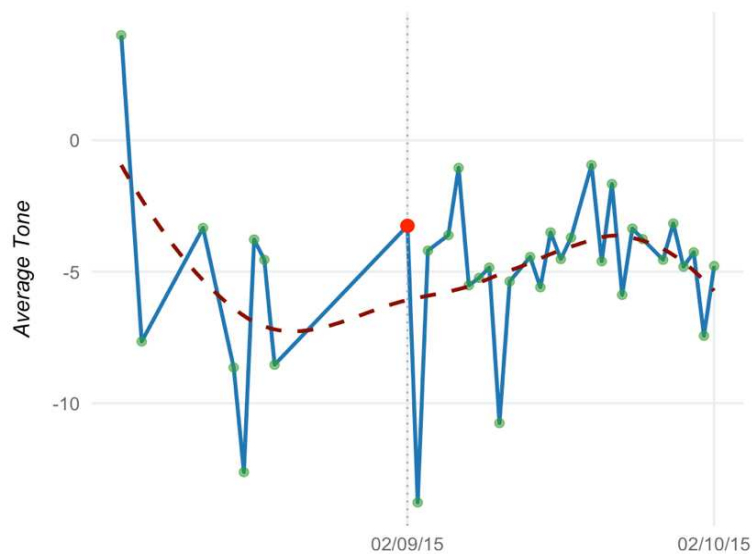


Figure 7.4: Lithuania - The evolution of the average tone of articles

about Syrian refugees from 02/08/15 to 02/10/15. Average value: -4.96

It is interesting to note how this context produced the smallest number of articles about Syrian refugees compared to the total articles about refugees. A lot of date points indicate 0 articles about Syrian refugees. At the same time, their average tone is 0.12 points lower than the average tone of refugees in general, with Alan’s death having had quite a limited impact.

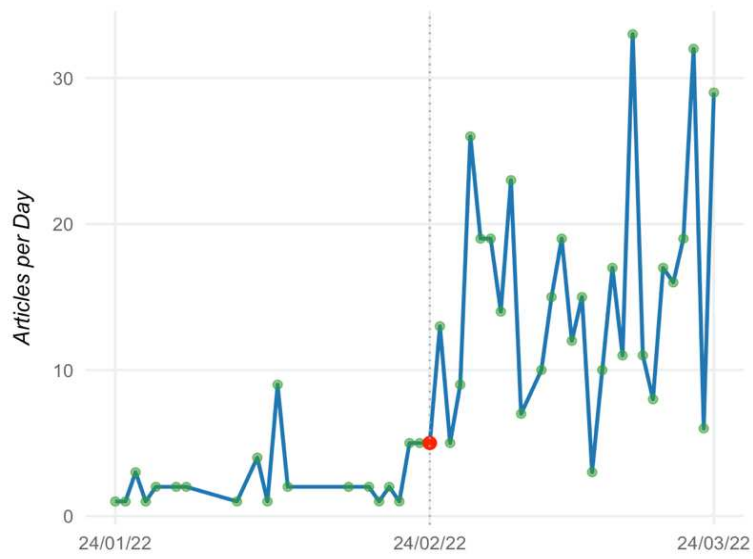


Figure 7.5: Lithuania - The evolution of the total number of articles about refugees from 24/01/22 to 24/03/22

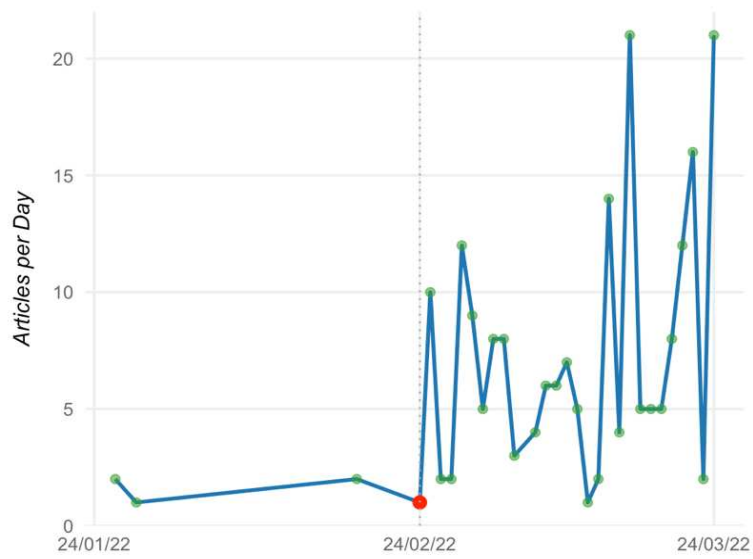


Figure 7.6: Lithuania - The evolution of the total number of articles about Ukrainian refugees from 24/01/22 to 24/03/22

In 2022 we can observe an opposite trend, as articles about Ukrainian refugees constitute more than half of the total articles about refugees. At the same time, higher average tone values are again produced compared to 2015. It is interesting to note how the average tone of articles about Ukrainian refugees scores a higher value (-2.43) compared to articles about refugees in general (-3.17). This context also produced a large 2,53 difference in average tone values between 2015 and 2022, especially between Ukrainian refugees (score of -2.43) and Syrian ones (score of -4.96).

6.9 Poland

The graphs show the evolution of the media discourse on refugees from articles published in Poland, as the URL domain restriction “.pl” has been applied. This is one of the three Eastern-European post-soviet national contexts, together with Hungary and Lithuania, that have been chosen both for their historical, cultural and geographical proximity to Ukraine and for their strong anti-migration stance in European politics in the recent years.

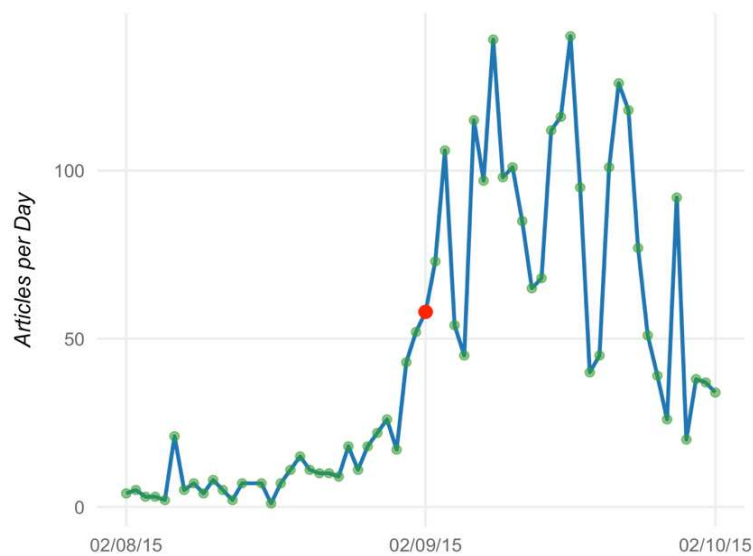


Figure 8.1: Poland - The evolution of the total number of articles about refugees from 02/08/15 to 02/10/15

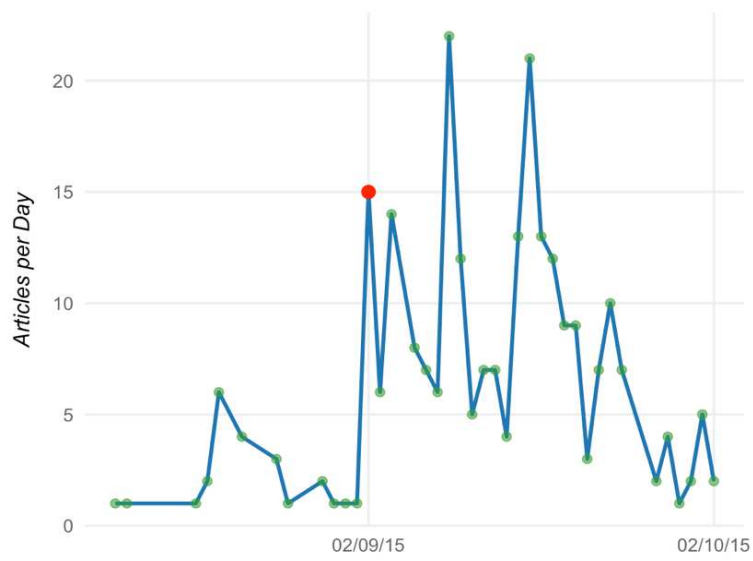


Figure 8.2: Poland - The evolution of the total number of articles about Syrian refugees from 02/08/15 to 02/10/15

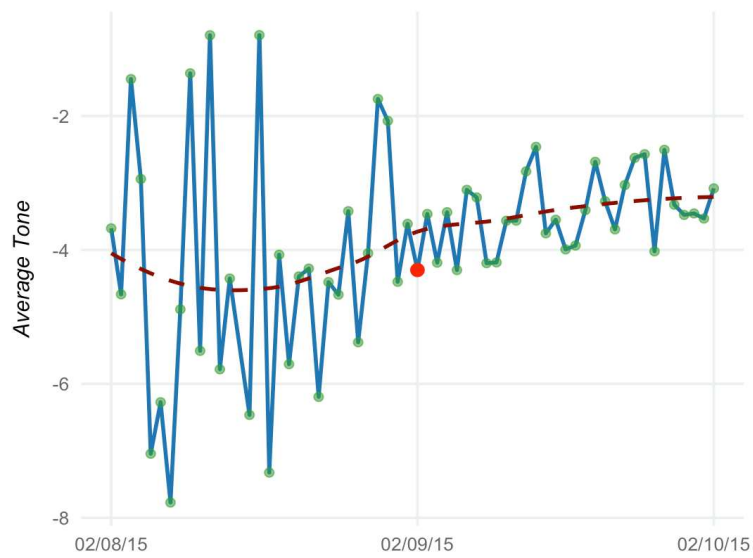


Figure 8.3: Poland - The evolution of the average tone of articles about refugees from 02/08/15 to 02/10/15. Average value: -3.88

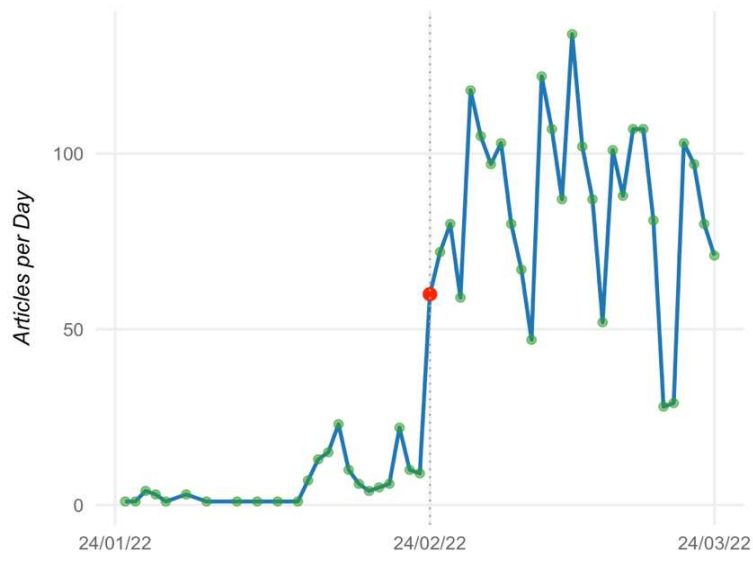


Figure 8.5: Poland - The evolution of the total number of articles about refugees from 24/01/22 to 24/03/22

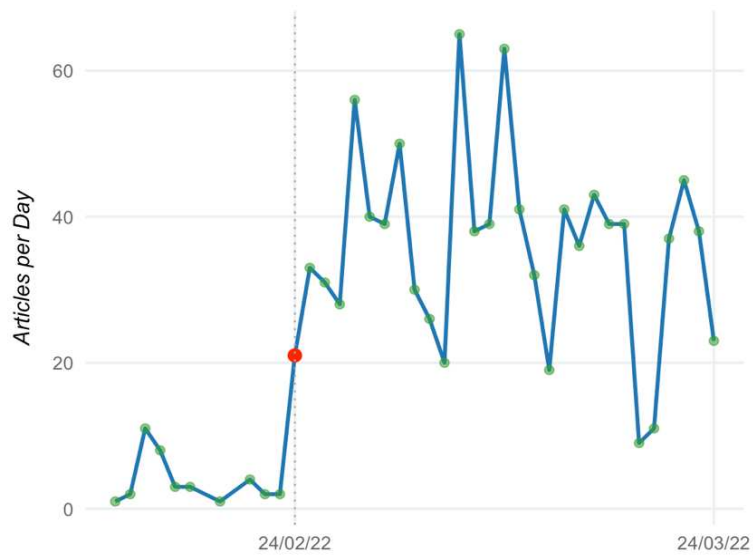


Figure 8.6: Poland - The evolution of the total number of articles about Ukrainian refugees from 24/01/22 to 24/03/22

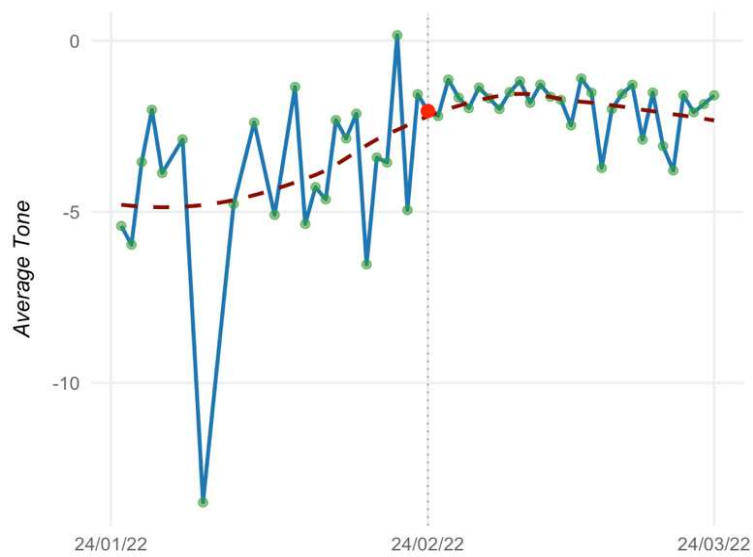


Figure 8.7: Poland - The evolution of the average tone of articles about refugees from 24/01/22 to 24/03/22. Average value: -2.84

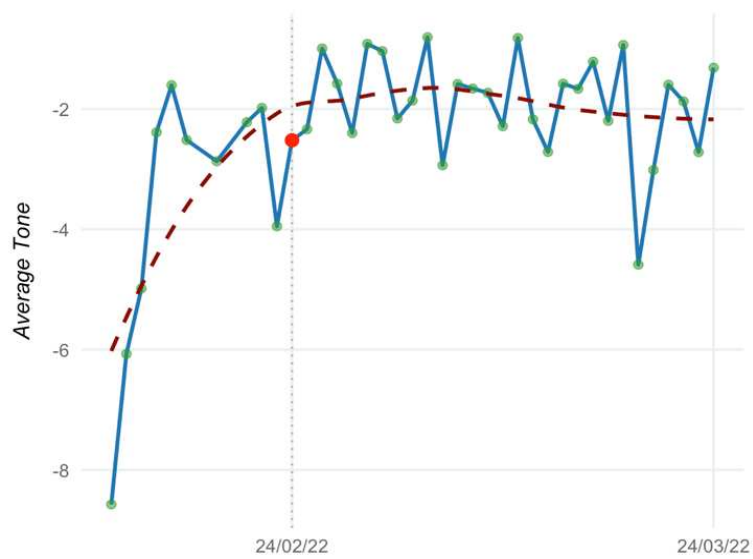


Figure 8.8: Poland - The evolution of the average tone of articles about Ukrainian refugees from 24/01/22 to 24/03/22. Average value: -2.37

In 2022 articles about Ukrainian refugees tend to constitute half or more than half of the total articles about refugees. At the same time, the average tone values is higher for Ukrainian refugees compared not only to refugees in general in 2022 (-2.37 compared to -2.84), but especially to Syrian refugees (-2.37 compared to -4.01).

7. Limitations

Firstly, as GDELT is based on the English CAMEO codebook, a language bias might interfere with a proper overall understanding of the articles, as nuances in language or cultural contexts might be lost or misinterpreted. This will in turn affect the calculation of the average tone and a proper identification of actors and their attributes. Therefore, it comes as no surprise that the UK is the context that produced the highest number of articles (excluding the global one), as it is easier for GDELT's Natural Language Processing to categorize the different attributes from English. Similarly, articles written in more different and complex languages (like Polish or Hungarian) are more difficult to analyze and categorize for GDELT, thus producing a lower amount of results. At the same time, another critical aspect resides in the specific scripts of the SQL queries, as filtering for a specific nation, executed by considering URLs that contain that nation's specific domain (like .it for Italy), might also include (although in a very small percentage) other articles that present the same combination of dot and letters. Moreover, GDELT does not offer any kind of screening in order to filter out fake or artificially generated news pieces and might also consider the same articles twice if published on another website.

8. General comparisons

The following chapter will draw comparisons between the results from different contexts, highlighting similar trends and recurring tendencies. Firstly, it is quite evident that the media narration about refugees in 2022 was more positive than the one in 2015 in all of the contexts analyzed. This is even more noticeable when we look at the specific refugee groups in question, as Ukrainian refugees score tone values at least 1.5 points higher compared to Syrian refugees in every context. Lithuania is the context where this difference is the most pronounced, as Syrian refugees score a value -2.53 points lower than Ukrainian ones.

Secondly, even though both Alan's death and the Russian invasion have created spikes in the media discourse about refugees, the total amount of articles was usually much higher in 2015 than in 2022. Interestingly, even though the total number is inferior, in most cases articles about Ukrainian refugees tend to constitute a higher percentage of the total articles about refugees, compared to Syrian ones. In most cases, we can also observe how Alan's death caused an immediate and steep increase in the centrality of the refugee discourse in the media. But this interest fizzled out quite quickly, decreasing rapidly over the course of the next month. On the other hand, the invasion starts a constant increase in the number of articles, which does not dissipate in the following month. Moreover, while there was a predictable increase in the average tone of articles regarding Ukrainian refugees after the invasion, we cannot affirm the same for Syrian refugees in the months around Alan's death. In fact, only in the UK, France and Italy we observe a higher average tone compared to the tone of articles about refugees in general, while in the other the four contexts the average tone of articles about Syrian refugees is actually lower than the general one. Germany shows remarkable similarity between the values for refugees in general and the specific ones considered, with a 0.04 points difference in 2015

and a 0.11 points difference in 2022. Surprisingly, Italy shows noticeably higher average tone values in every case compared to all other contexts. If average values for 2015 revolve around -4 for all the other contexts, Italy shows a -3.17 score for refugees in general and a -3.14 score for Syrian refugees. In 2022, the difference with other tones about refugees in general is not as pronounced, but it is relevant for the tone about Ukrainian refugees, as they score a remarkable -1.27 average tone value, compared to all other context values being lower than -2. Hungary, Lithuania and Poland show a common trend of attributing a lower tone to Syrian refugees compared to the general group in 2015, while showing a remarkable higher value for Ukrainian refugees compared to the general group in 2022.

Country	Avg Tone '15	Syr Tone	Avg Avg tone '22	Ukr Tone	Avg
Global	-4.16	-4.12	-3.02	-2.75	
UK	-4.57	-4.06	-2.64	-2.11	
France	-4.03	-3.57	-2.97	-2.07	
Germany	-4.04	-4.08	-2.73	-2.62	
Italy	-3.17	-3.14	-2.46	-1.27	
Hungary	-3.74	-3.94	-3.31	-2.39	
Lithuania	-4.84	-4.96	-3.17	-2.43	
Poland	-3.88	-4.01	-2.84	-2.37	

Table 1: Average tone values for every context

9. Final considerations

The research confirms the hypothesis of a racial and cultural bias at play in the narration of refugees in the 2015 and 2022 migration crises. As the theoretical framework previously provided suggests, media discourse has a direct impact on the reality-making process of the audience, therefore producing very real societal and institutional responses. This becomes particularly true in the context of humanitarian and refugee crises and conflict-related scenarios, as the media become the primary source of knowledge and sense-making about such complex and disruptive situations.

The results provided by this investigation constitute hard evidence of the hypothesized disparity and corroborate previous academic findings on the direct link between media discourse and public acceptance of refugees. On one hand, in 2015, a narration that does depict refugees as victims, but even more so as threats to the national identity and security, emphasizing their otherness and incompatibility. This produced a questionable and fragmented institutional response by European states, which in turn fueled illegal and deadly migratory routes into Europe. On the other hand, in 2022, a narration that humanizes refugees and highlights their need for support, depicting them as part of an in-group and therefore worthy of help. This produced a united and humane response to the crisis with the first-ever adoption of the TPD, a clear common legislative framework to support Ukrainian refugees. This hypocrisy becomes particularly clear when looking at the three Eastern European countries considered in the research, which moved from a staunch anti-migrant stance in 2015 to a much more open and welcoming attitude in 2022. The common past of soviet domination and cultural closeness to Ukraine might help in explaining why these countries displayed such a proactive effort in welcoming Ukrainian refugees. Moreover, despite a decrease in the overall volume of articles about

refugees in 2022 compared to 2015, the fact that Ukrainian refugees constitute a higher percentage of the total articles compared to Syrian refugees, suggests that comparatively more media exposure was offered to them and their stories. In conclusion, this research framework can constitute a solid methodological framework on which further investigations might be conducted. By considering not only more prolonged timeframes, but also by comparing specific regional and political subgroups (northern and southern Europe for example), we can delineate even more complete depictions of the media discourse and its impact on society. The discourse topic can also be declined into other topics than that of refugees, in order to analyze media discourse around other kind of socio-political crises.

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Appendix – SQL codes

- Code used to extract the dataset about refugees in general in the media discourse for the two months in question in 2015. The .XX following SOURCEURL LIKE stands for a specific context web domain. For example, it would be .it for Italy and .fr for France, while for the global context this restriction is removed.

```
SELECT
  SQLDATE AS PublicationDate,
  AVG(AvgTone) AS AvgTonePerDay,
  COUNT(*) AS TotalArticlesPerDay
FROM
  `gdelt-bq.gdeltv2.events_partitioned`
WHERE
  _PARTITIONTIME >= TIMESTAMP("2015-08-02") AND
  _PARTITIONTIME <= TIMESTAMP("2015-10-02")
  AND (
    (Actor1Code LIKE '%REF%') OR
    (Actor2Code LIKE '%REF%')
  )
  AND (
    SOURCEURL LIKE '%.XX%'
  )
GROUP BY
  SQLDATE
ORDER BY
  SQLDATE;
```

- Code used to extract the dataset about refugees in general in the media discourse for the two months in question in 2022. The .XX following SOURCEURL LIKE stands for a specific context web domain. For example, it would be .it for Italy and .fr for France, while for the global context this restriction is removed.

```

SELECT
  SQLDATE AS PublicationDate,
  AVG(AvgTone) AS AvgTonePerDay,
  COUNT(*) AS TotalArticlesPerDay
FROM
  `gdelt-bq.gdeltv2.events_partitioned`
WHERE
  _PARTITIONTIME >= TIMESTAMP("2022-01-24") AND
  _PARTITIONTIME <= TIMESTAMP("2022-03-24")
  AND (
    (Actor1Code LIKE '%REF%') OR
    (Actor2Code LIKE '%REF%')
  )
  AND (
    SOURCEURL LIKE '%.XX%'
  )
GROUP BY
  SQLDATE
ORDER BY
  SQLDATE;

```

- Code used to extract the dataset about Syrian refugees in the media discourse for the two months in question in 2015. The .XX following SOURCEURL LIKE stands for a specific context web domain. For example, it would be .it for Italy and .fr for France, while for the global context this restriction is removed.

```

SELECT
SQLDATE AS PublicationDate,
AVG(AvgTone) AS AvgTonePerDay,
COUNT(*) AS TotalArticlesPerDay
FROM
`gdelt-bq.gdeltv2.events_partitioned`
WHERE
_PARTITIONTIME >= TIMESTAMP("2015-08-02") AND
_PARTITIONTIME <= TIMESTAMP("2015-10-02")
AND (
(Actor1Code LIKE '%REF%' AND Actor1CountryCode LIKE
'%SYR%') OR
(Actor2Code LIKE '%REF%' AND Actor2CountryCode LIKE
'%SYR%') OR
(Actor1Code LIKE '%REF%' AND Actor1Geo_FeatureID
LIKE '%SY%') OR
(Actor2Code LIKE '%REF%' AND Actor2Geo_FeatureID
LIKE '%SY%')
)
AND (
SOURCEURL LIKE '%.XX%'
)
GROUP BY
SQLDATE
ORDER BY
SQLDATE;

```

- Code used to extract the dataset about Ukrainian refugees in the media discourse for the two months in question in 2022. The .XX following SOURCEURL LIKE stands for a specific context web domain. For example, it would be .it for Italy and .fr for France, while for the global context this restriction is removed.

```

SELECT
  SQLDATE AS PublicationDate,
  AVG(AvgTone) AS AvgTonePerDay,
  COUNT(*) AS TotalArticlesPerDay
FROM
  `gdelt-bq.gdeltv2.events_partitioned`
WHERE
  _PARTITIONTIME >= TIMESTAMP("2022-01-24") AND
  _PARTITIONTIME <= TIMESTAMP("2022-03-24")
  AND (
    (Actor1Code LIKE '%REF%' AND Actor1CountryCode
    LIKE '%UKR%') OR
    (Actor2Code LIKE '%REF%' AND Actor2CountryCode
    LIKE '%UKR%') OR
    (Actor1Code LIKE '%REF%' AND
    Actor1Geo_FeatureID LIKE '%UP%') OR
    (Actor2Code LIKE '%REF%' AND
    Actor2Geo_FeatureID LIKE '%UP%')
  )
  AND (
    SOURCEURL LIKE '%.XX%'
  )
GROUP BY
  SQLDATE
ORDER BY
  SQLDATE

```

Appendix – R codes

- **Code used to create the graphs about the evolution of the average tone of articles per day in the two months in question in 2015**

```
data <- SPECIFIC_CONTEXT_DATASET

# Loading ggplot2 package

library(ggplot2)

# Turning the publication date into a Date object

data$PublicationDate <- as.Date(as.character(data$PublicationDate),
format="%Y%m%d")

# Highlighting relevant dates

highlight_dates <- as.Date(c("2015-08-02", "2015-09-02", "2015-10-02"))

custom_breaks <- highlight_dates

custom_labels <- c("02/08/15", "02/09/15", "02/10/15")

# Highlighting a specific date point on the graph

highlight_point <- subset(data, PublicationDate == as.Date("2015-09-02"))

# Creating the plot

ggplot(data, aes(x = PublicationDate, y = AvgTonePerDay)) +

  geom_line(color = "#1f78b4", size = 1) +

  geom_point(color = "#33a02c", size = 2, alpha = 0.6) +

  geom_smooth(method = "loess", color = "darkred", se = FALSE, linetype =
"dashed", na.rm = TRUE) +

  geom_vline(xintercept = as.numeric(highlight_date), color = "darkgray",
linetype = "dotted", size = 0.5) +
```

```

    geom_point(data = highlight_point, aes(x = PublicationDate, y =
AvgTonePerDay), color = "red", size = 3) +

    scale_x_date(breaks = custom_breaks, labels = custom_labels,
date_labels="%d/%m/%y") +

    labs(x = NULL, y = "Average Tone") +

    theme_minimal(base_size = 14) +

    theme(

      axis.title.x = element_text(size = 12, face = "italic", margin = margin(t =
10)),

      axis.title.y = element_text(size = 12, face = "italic", margin = margin(r =
10)),

      axis.text = element_text(size = 10, color = "gray40"),

      panel.grid.major = element_line(color = "#ecf0f1"),

      panel.grid.minor = element_blank(),

      legend.position = "bottom"

    )

```

- **Code used to create the graphs about the evolution of the total number of articles published per day in the two months in question in 2015**

```

data <- SPECIFIC_CONTEXT_DATASET

# Loading ggplot2 package

library(ggplot2)

# Turning the publication date into a Date object

data$PublicationDate <- as.Date(as.character(data$PublicationDate),
format="%Y%m%d")

#Highlighting relevant dates

highlight_dates <- as.Date(c("2015-08-02", "2015-09-02", "2015-10-02"))

custom_breaks <- highlight_dates

custom_labels <- c("02/08/15", "02/09/15", "02/10/15")

# Highlighting a specific date point on the graph

highlight_point <- subset(data, PublicationDate == as.Date("2015-09-02"))

# Creating the plot

ggplot(data, aes(x=PublicationDate, y=TotalArticlesPerDay)) +

  geom_line(color="#1f78b4", size=1) +

  geom_point(color="#33a02c", size=2, alpha=0.6) +

  geom_point(data=subset(data, PublicationDate == highlight_date),
color="red", size=3) +

  labs(x=NULL, y="Articles per Day") +

  theme_minimal(base_size = 14) +

  theme(

```



```
axis.title.y = element_text(size=12, face="italic", margin=margin(r=10)),
axis.text = element_text(size=10, color="gray40"),
panel.grid.major = element_line(color = "#ecf0f1"),
panel.grid.minor = element_blank()
) +
scale_x_date(breaks=custom_breaks, labels=custom_labels) +
scale_y_continuous(labels=scales::comma)
```

- **Code used to create the graphs about the evolution of the average tone of articles per day in the two months in question in 2022**

```

data <- SPECIFIC_CONTEXT_DATASET

# Loading ggplot2 package

library(ggplot2)

# Turning the publication date into a Date object

data$PublicationDate <- as.Date(as.character(data$PublicationDate),
format="%Y%m%d")

# Highlighting relevant dates

highlight_date <- as.Date("2022-02-24")
custom_breaks <- as.Date(c("2022-01-24", "2022-02-24", "2022-03-24"))
custom_labels <- c("24/01/22", "24/02/22", "24/03/22")

# Highlighting a specific date point on the graph

highlight_point <- subset(data, PublicationDate == as.Date("2022-02-24"))

# Creating the plot

ggplot(data, aes(x = PublicationDate, y = AvgTonePerDay)) +

  geom_line(color = "#1f78b4", size = 1) +

  geom_point(color = "#33a02c", size = 2, alpha = 0.6) +

  geom_smooth(method = "loess", color = "darkred", se = FALSE, linetype =
"dashed") +

  geom_vline(xintercept = as.numeric(highlight_date), color = "darkgray",
linetype = "dotted", size = 0.5) +

  geom_point(data = highlight_point, aes(x = PublicationDate, y =
AvgTonePerDay), color = "red", size = 3) +

  scale_x_date(breaks = custom_breaks, labels = custom_labels) +

```

```
labs(x = NULL, y = "Average Tone") +  
theme_minimal(base_size = 14) +  
theme(  
  axis.title.x = element_text(size = 12, face = "italic", margin = margin(t =  
10)),  
  axis.title.y = element_text(size = 12, face = "italic", margin = margin(r =  
10)),  
  axis.text = element_text(size = 10, color = "gray40"),  
  panel.grid.major = element_line(color = "#ecf0f1"),  
  panel.grid.minor = element_blank(),  
  legend.position = "bottom"  
)
```

- **Code used to create the graphs about the evolution of the total number of articles published per day in the two months in question in 2022**

```

data <- SPECIFIC_CONTEXT_DATASET

# Loading ggplot2 package

library(ggplot2)

# Turning the publication date into a Date object

data$PublicationDate <- as.Date(as.character(data$PublicationDate),
format="%Y%m%d")

# Highlighting relevant dates

highlight_date <- as.Date("2022-02-24")
custom_breaks <- as.Date(c("2022-01-24", "2022-02-24", "2022-03-24"))
custom_labels <- c("24/01/22", "24/02/22", "24/03/22")

# Highlighting a specific date point on the graph

highlight_point <- subset(data, PublicationDate == as.Date("2022-02-24"))

# Creating the plot

ggplot(data, aes(x=PublicationDate, y=TotalArticlesPerDay)) +

  geom_line(color="#1f78b4", size=1) +

  geom_point(color="#33a02c", size=2, alpha=0.6) +

  geom_point(data=subset(data, PublicationDate == highlight_date),
color="red", size=3) +

  geom_vline(xintercept = as.numeric(highlight_date), linetype="dotted",
color="darkgray", size=0.5) +

  labs(x=NULL, y="Articles per Day") +

  theme_minimal(base_size = 14) +

```

```

theme(
  axis.title.y = element_text(size=12, face="italic", margin=margin(r=10)),
  axis.text = element_text(size=10, color="gray40"),
  panel.grid.major = element_line(color = "#ecf0f1"),
  panel.grid.minor = element_blank()
) +
scale_x_date(breaks=custom_breaks, labels=custom_labels) +
scale_y_continuous(labels=scales::comma)

```

- **Code used to calculate the average tone means**

```

data<- SPECIFIC_CONTEXT_DATASET
average_tone <- mean(data$AvgTonePerDay)

# Printing the result
print(paste("Average Tone Value:", average_tone))

```