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Diplomats, Soldiers, and Armed Conflict Databases: Another French Exception?

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Contemporary governments are awash in quantification, as numbers and algorithms play an ever-greater role in public decision-making processes. In the field of defense and diplomacy, the development of armed conflict databases holds out the promise of improved predictive capacities and early warning systems. While this dynamic can be witnessed across a range of European countries, notably Germany and the Netherlands, it appears to be much less present in France. Diplomats and militaries make only marginal use of the available databases, judged both inadequate in their own right and ill-adapted to strategic analysis. This article proposes two explanatory variables to explain this specific appreciation: not only is a relatively limited training in quantitative methods offered to French diplomats and militaries, which leads to a specific use of numbers, but there is also a broader picture link to the will of protecting “digital sovereignty” in the international realm.

Les gouvernements contemporains se retrouvent inondés de quantifications, car le rôle des chiffres et des algorithmes n’a jamais été aussi important dans les processus de prises de décisions publiques. Dans le domaine de la défense et des politiques stratégiques, l’élaboration de bases de données sur les conflits armés s’accompagne d’une promesse, celle d’une amélioration des capacités de prédiction et des systèmes d’alerte précoce. Bien que cette dynamique soit visible dans de nombreux pays d’Europe, notamment en Allemagne ou aux Pays-Bas, il semble qu’elle soit bien moins présente en France. Les diplomates et militaires n’utilisent les bases de données disponibles que de façon marginale, les estimant par nature inadéquates et mal adaptées à l’analyse stratégique. Cet article propose deux variables explicatives pour éclairer cette appréciation. D’une part, les diplomates et militaires français ne reçoivent qu’une formation limitée aux méthodes quantitatives, d’où une utilisation spécifique des chiffres. D’autre part, il existe un lien avec la volonté de protéger une « souveraineté numérique » sur la scène internationale.

Los gobiernos contemporáneos están llenos de cuantificación, ya que los números y los algoritmos desempeñan un papel cada vez más importante en los procesos de toma de decisiones públicas. El desarrollo de bases de datos sobre conflictos armados promete mejorar las capacidades predictivas y los sistemas de alerta temprana dentro del ámbito de la defensa y la política estratégica. Si bien esta dinámica se puede observar en una serie de países europeos, especialmente Alemania y los Países Bajos, esta parece estar mucho menos presente en Francia. Los diplomáticos y los militares solo hacen un uso marginal de las bases de datos disponibles, consideradas inadecuadas por derecho propio y poco adaptadas al análisis estratégico. Este artículo propone dos variables explicativas con el fin de explicar esta apreciación en concreto: no sólo se ofrece una formación relativamente limitada en métodos cuantitativos a los diplomáticos y militares franceses, lo que provoca un uso específico de los números, sino que también existe un mayor vínculo con la voluntad de proteger la «soberanía digital» en el ámbito internacional.

Introduction

Numbers have become key instruments of governance across public policy fields. Under the sign of “new public management,” quantification has increasingly enabled surveillance not only of bodies but also of human minds (Supiot 2017). From the economy to the justice system, the substitution of numbers for other factors in decision-making circles entails a sweeping transformation:

The organization of work is no longer conceived as a machine controlled by the play of weights and forces, in which workers are no more than cogs, but as a programmable system of interacting units adjusting automatically to signal inputs and feedback. (Supiot 2017, 25)

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But is this trend consistent in all spheres of public action—including foreign policy and defense—and is it consistent across all national contexts?

This paper focuses on a specific quantitative tool developed in strategic studies, namely armed conflict databases (ACD). ACD refer, in this study, to any database that furnished quantitative data on issues related to armed conflict. These can be databases dealing with the direct consequences of conflict (deaths, casualties, etc.), state capacity of the belligerent powers (defense expenditures and military capabilities), or the risk of conflict itself (early warning systems and risk indicators). Various in origin—academia, institutes for strategic studies, international initiatives within the European Union (EU) or the United Nations (UN), and think tanks—ACD have proliferated over the past decade. They are presented as a means to help practitioners make better decisions, a decisive asset for apprehending the international environment. These databases may, for example, provide raw materials in the form of quantitative data—quantitative data, as understood here, are any information that can be counted or measured and given a numerical value—to enhance analysis. They may also be aggregated or modeled to uncover new causal relationships, to control

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black swans—events that are unforeseeable by definition—or to forecast potential crises and in a monitored region. In what follows, the focus is on how practitioners use quantitative data from ACD, not the activity of designers or data scientists.

Despite these perceived assets, there is considerable variation in actual uses of ACD in foreign policy. Some countries, such as Germany, the Netherlands, the United Kingdom, and the United States, invest heavily in the exploitation of conflict data. However, in countries such as France, it does not seem institutionalized yet. Practitioners even seem to have put up real resistance not only to the possibilities offered by ACD but also to quantitative data in general. This “exception” comes as a surprise: France has about the same resources as Germany and is even more committed to international crisis management. What is more, following Brexit, France is the only state in the EU with a permanent seat on the United Nations Security Council and an extensive military presence abroad. These factors invite us to examine in greater detail the attitudes of diplomats and military officers in the French ministry of foreign affairs (MEFA) and the French ministry of armed forces (MAF)³ toward the prospect of using databases both to predict and comprehend conflicts and to prepare operations: Why has France resisted the integration of ACD, and more generally of quantitative data, into foreign policy processes? Is this resistance linked to policy officers’ lack of awareness of ACD and other quantitative tools? Is it a lack of interest and training? Is it the result of an institutional mistrust toward quantitative data? In other words, is relative “backwardness” in the use of quantitative tools the result of an intentional choice?

This article does not undertake a systematic comparison. Rather, taking France as a “deviant case”¹ (Gerring 2016), it offers a unique understanding of why French diplomats and military officers, although aware of the claims made in favor of quantification, are not (yet?) strong proponents of it. French practitioners’ resistance to quantitative data is a considered choice—openly proclaimed—not a lacuna, due to lack of information and training. Through an exploration of two distinct (but complementary) analytical variables, we show that this resistance is linked not only to sociological and institutional considerations but also to a broader vision related to the recent, hotly debated discourse around French “digital sovereignty.”

The following proceeds in five sections. After a review of the literature on the use of numbers in the social sciences and in foreign policy studies in particular (I), we clarify the methodology employed to constitute and interpret our corpus of empirical materials (II). The third section (III) delves into the ways in which ACD is perceived in the French case, emphasizing practitioners’ ambiguous relationship with quantitative data. In the fourth section (IV), we explore a set of explanatory variables related to education and training, on the one hand, and cultural and institutional factors, on the other. In the fifth and final part, we chart the connections between limited use of ACD and French strategic ambitions of digital autonomy (V).

I. Explaining (Non-)Conversion to Numbers

Historically, the quantification of conflict takes its roots in the academic field, with the so-called behaviorist turn

in international relations (IR) of the 1960s (Dieckhoff, Martin, and Tenenbaum 2016), and in the construction of the first generation of databases “measuring” conflict dynamics and potential causal indicators. Since then, work based on large-*N* datasets (e.g., those produced by the Correlates of War [COW] project and the Peace Research Institute of Oslo [PRIO]) has bolstered and refined a range of propositions, such as the decline of interstate conflict since 1990 (Harbom, Melander, and Wallensteen 2008) and the role of foreign aid in explaining the success of post-conflict reconstruction (Girod 2015). The importance of this research has grown in tandem with the depth and quantity of available databases expanded. PRIO, for instance, now offers more than thirty datasets on topics ranging from religious cleavages to urban social disorder.²

Research institutes, charities, nongovernmental organizations, and other institutions have likewise all drawn on insights from quantitative studies to forecast armed conflict and adapt their analytical and normative stances (De Franco and Meyer 2011; Ward et al. 2013; Colonomos 2016; Meyer, De Franco, and Otto 2019). These initiatives have emerged as a “second wave” in recent decades. Some databases are interested in the quantification of political violence, such as the Armed Conflict Location Event Data (ACLED) project or the Action on Armed Violence (AOAV) initiative, while others specialize in defense and security matters, such as the annual reports on military expenditures produced by the Stockholm International Peace Research Institute (SIPRI) or the International Institute for Strategic Studies (IISS). Others still have focused on establishing world performance indexes, such as the Fragile State Index (FSI) or the Global Peace Index (GPI). In the field of foresight and anticipatory action, the EU and the UN have also begun to implement projects based on quantitative data, such as INFORM or UN Global Pulse.

One may wonder: What is driving the multiplication of such initiatives? What is the real influence of these databases? Are they used by conflict practitioners, beyond the academic sphere? These questions are all the more important insofar as quantitative data are thought to be a significant asset in policymaking. An extensive scholarly effort to come to grips with these questions dates back decades, with new impetus from the turn of the millennium. One branch has sought to reconstruct how statistics came to be considered a “science of the state” (*Staatskunde*) in the nineteenth century (Mann 1986; Stigler 1986; Porter 1995; Desrosières 2008a, 2008b). Desrosières explains that little by little, statistics “appear[ed] more and more as objects among others, playing a role as a point of support for arguments, as a signal and as a common reference for negotiation and coordination” (Desrosières 2008a, 128). He adds: “the statistical argument is always stretched between a (political) rhetoric of decision and justification, and a (scientific) rhetoric of truth and proof” (Desrosières 2008a, 135). On this last point, Porter’s *Trust in Numbers* (Porter 1995) attempts to clarify, through a series of historical examples, the scientific aura surrounding the use of numbers. Porter shows that “a vast array of quantitative methods [was made] available to scientists, scholars, managers, and bureaucrats.” “These have become extraordinarily flexible,” he writes, “so that almost any issue can be formulated in this language” (Porter 1995, 6). The attractiveness of numbers issues from their apparent credibility. Putatively the result of a scientific process, grounded in positivism, they are thought to embody objectivity. However, Porter also shows how, no matter

¹As Gerring defines it, “A deviant case deviates from an expected causal pattern, as suggested by scientific theories or common sense, thereby registering a surprising result. (. . .) [T]he purpose of deviant case analysis is to probe for novel explanations” (Gerring 2016, 74–76).

²For the full list, <https://www.prio.org/data>.

their form (statistics, graphs, measurements, indices, and rankings), numbers owe their “objective” aura not to any inherently superiority but rather to a complex rationalization process that affords them this appearance (Porter 1995; Denis and Goëta 2013; Gitelman 2013; Denis 2018).

From the very beginning, then, numbers have been closely tied up with power and governance. They played and continue to play a major role in the modernization of Western societies and institutions: “the order, mobility, stability, combinability, and precision of numbers enabled—in a way that words could not—objects and practices such as money, double-entry book-keeping, national statistics, and election results” (Hansen and Porter 2012, 416). This logic survives into the twenty-first century; indeed, it has substantially intensified alongside the introduction of new public management procedures, which transfer control from the private sector to the public sector and prize numerical performance indicators. No sphere of public action seems to have been unaffected by these developments.

The same might be thought to hold true for IR. Greater availability of ACD and related scholarly output (encouraged by open-access initiatives) makes it more likely that practitioners will encounter, and perhaps incorporate, such output into their work routines. Most enticing is the possibility of forecasting potential conflicts or crisis areas. Many see the promise as tempting, given extant examples of the ability to detect regularities in the outbreak of wars and conflicts (see, e.g., Goldstone et al. 2010; Ward et al. 2013), not to mention genocides (see, e.g., Heidenrich and Heidenrich 2001; Goldsmith et al. 2013; Verdeja 2016; Nanlohy, Butcher, and Goldsmith 2017), via the exploitation of quantitative models and databases with and the aid of ever more sophisticated tools (such as machine-learning algorithms). Part of the academic sphere remains quite cautious on what could realistically be achieved at a policy level. Voices were raised quite early on regarding the many barriers to be removed to make models more consistent at an academic level—not to mention policymaking (Cederman and Weidmann 2017; Chadefaux 2017; Hegre et al. 2017; Blair and Sambanis 2020; Hegre, Nygard, and Landsverk 2021). The same authors often even question the desirability and utility of such methods at a political level. Yet, these words of precaution are barely audible amid the clamorous excitement surrounding new avenues to be opened up by quantitative data. This is even more the case since the “second wave” of data-driven initiatives arrived, and with it a serious drive to market these databases.

However, while there is a lot of research on the supply side—scholars working with and on quantitative data and models, the demand side—practitioners who could use these databases—remains understudied. What is more, the existing literature spends a lot of time discussing if data should, or should not, be used in policymaking; however, there is very little research looking at actual uses, and even less research trying to explain why there might be variation in those uses. By exploring the different uses and feelings of two types of French practitioners regarding ACD and quantitative data, this cross-institutional study is a first step to fill the gap.

II. Methodology: Two Paths for Describing the French Approach

Our study is based on two broad types of empirical evidence: a range of approximately thirty interviews conducted within the MEFA and the MAF from September to December 2021

(see appendix 1 for details) and a survey circulated at the *Centre des Hautes Études Militaires* (CHEM—Centre for Advanced Military Studies), an organism that provides training at the strategic level. This section specifies how these data were constituted.

Due to the explorative nature of our research, we proceeded in an inductive fashion, relying mainly on interviews with French foreign policy practitioners in various departments. We thus identified directorates, sections, and subsections within the MEFA and the MAF we considered representative of the use of quantitative data (and therefore ACD) for analytical or foresight purposes in both ministries.³ In order to do so, a combination of authors’ knowledge,⁴ online organizational charts, and academic insights—such as general books on the organization of ministries (Doise and Vaisse 2015)—was used. Details on the number of interviews and names of the directorates are available in the appendix (see appendix 1).

We identified most of our contacts through keyword searches (regional and thematic, in addition to the name of the ministerial position, section, or subsection) on LinkedIn. The rest were provided by other researchers or acquaintances. When a practitioner was identified, a contact was established using the generic email of each institution. The content was quite brief, with an explanation of the research project, a proposition of interview, and a mention of the interview terms (duration, recording, anonymization, some of the main points of the interview grid). Most of the time, it took several weeks before obtaining a date for the interview, as COVID restrictions were still ongoing and teleworking common. Almost every interview was carried out in person, in the relevant ministries, between March 2021 and March 2022. These were semi-structured interviews of between an hour and 90 minutes in duration. There was not only a pre-established interview grid (see appendix 2) but also some room for discussion. At the end of every interview, practitioners were asked whether they knew anyone who could prove useful for the research project, which aided us considerably in identifying additional contacts. Interviews were then transcribed and analyzed by the authors.

Practitioners interviewed in both ministries were current or former regional and thematic experts with a formation in the military, diplomatic corps, or civil service. Anonymization was offered and was, with a couple exceptions, consistently chosen by our subjects. Although no sensitive information was discussed, this visibly reassured the interviewees.

No quantitative tool and no coding software were used for the analysis of the interviews. It was done manually. A first reading of the interviews, organized by ministries, allowed the identification of recurring themes related to the “nonuse” of quantitative data in each institution. A second reading permitted us to identify and highlight, thanks to a color code, the main arguments related to these different themes. Practitioners’ arguments in each institution were compared and put into perspective. Finally, a third reading was necessary to triangulate, that is, verify that a statement was confirmed by a last one other interview or more, these arguments.

An additional survey at the CHEM—a major component of the *Enseignement militaire supérieur (EMS) de la défense*—was conducted in order to observe how conflict-related

³Intelligence services were put aside for confidentiality reasons.

⁴Coming from previous studies or internships carried out within the studied ministries.

databases are discussed at the highest level.⁵ Coming from the army, air force, navy, gendarmerie, and the defense procurement agency, the thirty yearly auditors are experienced senior officers who have held command responsibilities. For one year, participants are embedded in a political–military and strategic training program that covers operational areas, preparation for the future, management and organization of the armed forces, and interministerial and international aspects of defense and security issues. CHEM is the last training program for senior officers who will be called upon to perform major management functions in the French army. It is a privileged site to observe the training of military elites, even if our approach is not longitudinal over several generations but rather focused on the auditors of the last academic year at the time of our research. We established our first contact with the deputy director of the CHEM by email in September 2021. Once we agreed on the basic ground rules—such as anonymity—we drafted the text on Google Survey (see [appendix 3](#)) and sent it to CHEM auditors in the 2021–2022 cohort. More than one-third of those solicited (twelve out of thirty) completed the survey and responded by December 2021.

III. On the Traces of Armed Conflict Databases: Targeted Use, Specificity, and Rhetoric Use

The first finding of this study is that, within French ministries, the use of ACD is very limited, mainly because the use of quantitative data in general is minimal. In fact, one could argue that the French data consumption system in foreign policy is confined to either highly specific or opportunistic uses. This part of the paper describes this limited data consumption system to better demonstrate how ACD may be incorporated into it.

Restrained Consumption of Data

The prevailing sentiment among practitioners at the politico-strategic level, whether analysts in the MAF or in the MEFA, officers, or diplomats, is that quantitative data are of no interest as a tool for conflict analysis.⁶ The majority of those interviewed dismissed quantitative methods altogether, on the grounds that they have yet to prove their worth. As one interviewee put it: “for the moment, we are working without it [quantitative data] and we feel that we’re getting along rather well without it. I don’t think anyone has considered the concrete contribution that quantitative data might offer us.”⁷

This feeling regarding an absence of reflection, confirmed within several suborganizations of both ministries, reflects French practitioners’ belief that quantitative data are simply unsuited for their work. More specifically, some believe that they can do without such data because they have a specific, qualitative expertise that no amount of data, however shrewdly analyzed, could replace.⁸ Others think that it would be a waste of time to integrate quantitative material into their routine⁹ because “numbers are sometimes useful, but, most often, obstacles to reflection”¹⁰ and that, in

general, the accompanying methodological debates are too time-consuming, as practitioners may “spend hours arguing about numbers, because they’re always contested and open to question.”¹¹ As such, numbers are thought to be more an obstacle than an aid, employed rarely and in very disparate ways. The CHEM survey sheds light on a similar pattern of use. When asked how frequently they made use of quantitative data, almost three quarters of the respondents (72 percent) admitted to consulting them infrequently (less than once a month) or never.

Quantification as a Rhetorical Strategy

However, two exceptions to the rule are worth mentioning. First, quantitative data may be mobilized as a rhetorical strategy. However skeptical they might be, practitioners recognize the rhetorical authority quantitative data and are sometimes inclined to invoke it in a more or less opportunistic fashion.¹² As one officer explained, “use of quantitative data is not that frequent, except in support of a statement, an analysis, or a hypothesis, but it is more momentary and distended than continuous.”¹³ In other words, quantitative data are invoked in support of conclusions arrived at by other means. Their function is not so much analytical as a rhetorical:

Numbers distort our perception, but sometimes we use numbers to influence the perception of others. It’s political.¹⁴

Depending on the data [and] what we do with it, we can make it say whatever we want.¹⁵

The power of persuasion and the credibility associated with numbers is thus a decisive factor, notwithstanding recent arguments to the contrary (Baele, Coan, and Sterck 2018). Here, the source of the quantitative data mobilized may be an ACD, especially since these are readily available and tender a vast array of definitions, dates, and categories. However, institutional databases (e.g., EU, UN) are also summoned in connection with thematic issues and may possess an additional aura of legitimacy—especially for practitioners unfamiliar with the academic world.¹⁶ Finally, it is important to highlight that this rhetorical use of quantitative data paradoxically reinforces practitioners’ mistrust in quantitative analysis: since it is known that such data can be malleable, they are also thought to be manipulable by others in their use—whether discursive or analytical—and subject to politicization.¹⁷

A Highly Targeted Use of ACD

The second exception to the rule is a very targeted use of quantitative data for specific themes and missions.¹⁸ However, the question arises in different terms for each of the ministries.

On the one hand, for officers, defense capabilities expressed in the form of quantitative data and defense expenditures are indispensable in their analyses. While these figures obviously weigh on operational and tactical planning

⁵ For the presentation of this institution, see <https://www.defense.gouv.fr/dems/centre-hautes-etudes-militaires/presentation-du-centre-hautes-etudes-militaires>.

⁶ Interviews 1, 2, 5, 6, 7, 8, 9, 10, 13, 14, 16, 19, 20, 21, 22, 23, 24, 25, 26, 27 (2021–2022).

⁷ Interview 19 (2021).

⁸ Interviews 1, 2, 4, 5, 9, 10, 13, 16, 19, 23, 24, 26, 27 (2021–2022).

⁹ Interviews 4, 5, 8, 10, 11, 13, 22 (2021).

¹⁰ Interview 22 (2022).

¹¹ Interview 22 (2022).

¹² Interviews 1, 3, 5, 7, 8, 11, 12, 17, 18, 22, 28 (2021–2022).

¹³ Interview 8 (2021).

¹⁴ Interview 12 (2021).

¹⁵ Interview 7 (2021).

¹⁶ Interviews 5, 17, 18 (2021).

¹⁷ Interviews 2, 3, 5, 7, 10, 12, 13, 18, 22, 28 (2021–2022).

¹⁸ Interviews 3, 7, 8, 11, 12, 13, 15, 17, 18, 22 (2021).

and the definition of capacity issues, they are also integrated at a politico-strategic level. Within the MAF, for example, there is a specific office in charge of analyzing, comparing, and cross-checking international defense expenditures. Practitioners from this office mobilize a variety of sources, internal and external alike (e.g., North Atlantic Treaty Organization (NATO) and EU external action service reports). Data are regularly drawn from the most well-known ACD, such as the Military Balance+ of the IISS and the SIPRI arms transfers, arms industry, and military expenditure databases. This finding echoes the CHEM survey results: among the respondents, the (few) military professionals who use open-source databases also consult IISS and SIPRI data (chosen from a list of twenty-three databases; see [appendix 2](#)). Based in London, the IISS generates an annual assessment of the military capabilities and defense budgets of more than 171 countries as well as topical information on particularly momentous subjects. Highlights in 2021 included the effects of the coronavirus pandemic, progress (or lack thereof) of European defense, and military modernization in China and Russia, all relevant to France's foreign policy interests. This is not a surprise, since the IISS works closely with NATO and the EU. The institute is, in fact, more than a producer of data: it also organizes colloquia and publishes books, blogs, and analytical tools.¹⁹ Since 2017, it has also offered an online database, Military Balance+, available at any time and updated in real time. In exchange for a (nonpublic) subscription fee, it provides defense budget data, procurement data, information on military deployments, and policy and capability analyses by region and even by country. SIPRI, based in Stockholm, is best known for its yearly report on "armament, disarmament and international security," derived from its own online databases. The institute also generates analyses of conflict management and chemical and biological warfare.

Thus, when mobilizing quantitative data from those ACD, the main ambition of French military officers is two-fold: to gauge the global strategic situation (especially in terms of balance of power) and thereby to justify future defense outlays. It is not so much the raw facticity of the data that counts as the documentation of change over time: as one practitioner said, "what matters to us is the long-term trend, [...] what it says about a country's ambitions and tactical operational effectiveness."²⁰ Once practitioners have established a strong trend, they typically go on to unpack the issue in more qualitative terms.

On the other hand, diplomatic practitioners from the MEFA have a very different use of ACD—far less structuring. It is only within the *Direction générale de la mondialisation, de la culture, de l'enseignement et du développement international* that we found practitioners using ACD. This directorate is mostly in charge of issues of economic diplomacy, sustainable development and culture, education, and research. As such, it works closely with the French Development Agency (ADF), a public institution charged with international policies aimed at fighting poverty and promoting sustainable development. More specifically, practitioners using ACD are working on "fragility contexts" and the French humanitarian response to crisis and postcrisis contexts. As such, they are likely to mobilize indexes such as the FSI or INFORM and may be interested in detecting trends with ACLED—but always "with skepticism."²¹ For the MEFA, in short, ACD are less a tool of analysis—still less policymaking—than a means

of verifying analyses of "fragile states" and the allocation of humanitarian funds, particularly when integrated into European projects. This process is facilitated by internal indicators; MEFA practitioners exploit ACD to gain perspective on quantitative data collected in the field. Outside ACD, however, they do use quantitative data from international organizations (mostly UN bodies), which relate to displaced populations, immigration, or economic matters (GDP, imports, exportations, market share, etc.).

The Effects of Using Quantification

The use of ACD within the French ministries in charge of foreign policy and defense is quite delimited. Quantitative data derived from it are mainly mobilized as a rhetorical strategy, not as a tool of analysis—except for defense expenditures, and, to some extent, "fragile states." That said, purely rhetorical use does not exclude concrete effects at a cognitive level, most obvious in the reinforcement of pre-existing biases. Quantitative data may thereby promote wishful thinking, with the risk that practitioners themselves fall prey to the mirage of certitude conjured by subjective and politicized interpretations of quantitative data. As Andreas and McGreen explain,

when information supports a person's preconceived notions, he or she is less apt to question it, while when the opposite is true, he or she can be quite adept at summarily dismissing it (...). Furthermore, once people proffer or adopt numbers, they will have strong tendencies to try to confirm them, a psychological idiosyncrasy that can create motivated biases even in previously disinterested parties. (Andreas and Greenhill 2011, 18)

The consequence is clear: practitioners will focus on a narrower, rather than expansive, range of policy options. Another conjecture would be to investigate the way quantitative data shape assertions and perceptions in the two ministries. For the MEFA, the main quantitative data used relate to very general trends, expressed in large orders of magnitude. As such, they seem to have a power of abstraction: practitioners have admitted, for instance, that they may never truly realize what half a million displaced people represent—simply because it is cognitively impossible.²² This could create a gap between the understanding of a situation and the reality, for example, by underestimating certain trends. For the MAF, quantitative data commonly deal with military capabilities and defense expenditures. Contrary to the data used by the MEFA, these would rather have a power of concreteness, insofar as they concern material things that one "can easily enumerate"²³ and that are expressed in relatively small orders of magnitude. By being more concrete, they can give practitioners the impression that they are self-sufficient, as if their meaning was inherent, and their significance intrinsic. Most practitioners interviewed contextualize these data in their analyses (using other variables they consider important), but, as specialists on the matter, they have the knowledge to do so. However, as the use of these indicators is widely spread within the ministry and specifically asked for by policy makers, one could question the potential effects, notably: could it create (or sustain) alarmism regarding certain countries? But also, could it lead to an underestimation of other (nonquantifiable) forms of power?

¹⁹ IISS website, n.d.

²⁰ Interview 12 (2021).

²¹ Interview 17 (2021).

²² Interviews 5, 7, 11, 15, 17, 18 (2021–2022).

²³ Interview 12 (2021).

IV. Educational to Cultural Obstacles

This part of the article mobilizes a first set of variables in order to explain the limited use of quantitative data—and ACD in particular—in French foreign policy by bringing to the table sociological and institutional arguments that seem to establish, as it was described in interviews, another “French exception.”²⁴

An Ambiguous Relationship to Quantitative Data

Attitudes toward ACD, and quantitative data in general, in part reflect deeper sociological determinants, in particular educational formation. Our respondents routinely observed that they had never been exposed to quantitative data analysis during their training,²⁵ although a slight distinction should be made between the MAF and the MEFA.

In the MAF, military officers often have quite different educational backgrounds. Generally, they follow an established career path, alternating between combat experience, training periods in schools, and staff work (Joana 2012). Officers in charge of regional desks often hold the rank of lieutenant-colonel or colonel and have several different areas of expertise to their credit. Respondents to the CHEM survey are representative of this diversity: some are engineers, some have enrolled in the preparatory classes that form a springboard to France’s elite *Grandes Écoles*, others even come from *Sciences Po*.

Civil servants of the MAF and the MEFA often followed the classical way of elite (re)production in France.²⁶ As Eymeri-Douzan and Tanguy underline it,

[W]hereas everywhere else in Europe, future managers of the civil service are simply educated in “normal” schools and universities, in France (...) the *hauts fonctionnaires* come from distinct and distinguished education institutions enjoying a special prestige. (Eymeri-Douzan and Tanguy 2020, 126)

After secondary school—most often done in prestigious high schools—several institutions are favored by future practitioners of the civil service (Loriol 2009a; Piotet, Loriol, and Delfolie 2013; Lequesne 2017). Unlike “nonselective” universities, these are accessible after a competitive entrance examination and may require 1–3 years of preparatory classes. Most practitioners specialized in politics and public administration in *Sciences Po* and graduated with a master’s degree in public affairs or international affairs. After their master’s degree, some prepared for the competitive entrance examinations of the *Quai d’Orsay* (another name for the MEFA) or of the *École nationale d’administration (ENA)*. As it is possible to enter the MEFA without going through these competitions, pursuing studies is often justified by the will to obtain a different status within the ministry—in terms of both social prestige and financial advantages. For instance, the *ENA* is a training establishment for future civil servants considered as “the elite of the elite” (Suleiman 1997, 34).

²⁴ Interviews 2, 4, 8, 10, 13, 16, 22, 23 (2021–2022).

²⁵ Interviews 1, 2, 3, 5, 7, 8, 9, 11, 12, 13, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28 (2021–2022).

²⁶ As Jean-Michel Eymeri-Douzan notes: “the more one practices comparative European administration studies, the more one is led to question the specificities of the profile of French senior civil servants, especially with regard to their German counterparts; it is also clear that the originality of our senior civil servants is largely due to their “making,” a notion that is understood here as the constant process of selection and socialisation in and through which professional groups usually reproduce themselves” (Eymeri-Douzan 2005, 101).

As such, all respondents noted that quantitative data were not really integrated into their educational background, let alone quantitative analyses of conflict:

I followed a “literary” preparatory class, so I’m not terribly familiar with figures and quantitative data.²⁷

Where I went to school, quantitative data was not exactly trendy (laughs)!²⁸

When interviewees did mention training in quantitative methods, they consistently expressed confusion about how they were taught and the utility of the training itself, often adduced as evidence for the peculiarities of the “French model”:

I have vague memories of courses on statistics... but it was linked to computer science... It was a bit of a mix... We had courses in stats and economics in which we had to do more or less scientific calculations to make monographs of the economic curve, but overall, no advanced teaching on data.²⁹

We may have seen some quantitative conflict approaches (...) but it was more like saying to us that it was a field of study that exists and that we should be capable of investing, because figures say something, so we need to be able to interpret it. At least, those were the broad outlines, in reality it was a little different (...) but there was something very resistant among the students to this type of approach, which most of us were not exposed to or used to at all. Those who had studied computer science were a little more sensitive to it, but for those who came from the humanities, there was a real ... I wouldn’t say tension, but a real rejection of this type of approach.³⁰

At *Sciences Po* I did some quantitative techniques and there was nothing I loved more than when we were beating the shit out of stats.³¹

However, this is slightly different for military officers. For instance, the CHEM survey shows how the integration of quantitative data in their educational background runs from marginal (45 percent of respondents) to moderate (27 percent) to significant (27 percent). Most (64 percent) had significant previous experience with the manipulation of quantitative data, but not conflict databases as such. Finally, when choosing between “optimistic,” “neutral,” “inexperienced,” or “pessimistic” to qualify their attitude toward quantitative data, only one person admitted to being “inexperienced” and the majority (64 percent) proclaimed themselves to be neutral. Thus, militaries are more used than other practitioners to handle quantitative data. This can be explained by previous experiences at an operational level, where quantitative data—notably through the digitization of the battlefield—have been increasingly used since the 2000s (Lefez 2017). However, considering the results discussed in the second section of this article, the question of the quantification of conflict was apparently never considered as a personal career, especially at a politico-strategic level.

²⁷ Interview 18 (2021).

²⁸ Interview 13 (2021).

²⁹ Interview 17 (2021).

³⁰ Interview 8 (2021).

³¹ Interview 13 (2021).

Cultural and Cognitive Frames

A second argument relies on shared representations of the analyst functions in both ministries.³² IR scholars, notably in the orbit of the so-called English School, have explored how diplomatic culture structures relations between states by socializing actors to adopt common intergovernmental norms (McConnell and Dittmer 2016). However, diplomatic culture goes beyond the cultivation of civility and tact. It also encompasses the sum of practices and representations that make for national singularity on the world stage. These particularities do not necessarily suffice in and of themselves to explain policy decisions, but they do shape conditions of possibility for action in the international arena. In the MEFA, analysts are habituated to privilege qualitative information from the field, and practitioners remain deeply attached to notes and reports written by embassy staff with the aid of local sources. This often came up during the interviews as a justification for the nonuse of ACD and quantitative data in general:

I think that the French diplomatic culture is one where we have made our own analysis. We have embassies almost everywhere, with people who are supposed to know a little about the region.³³

Analysts are also tasked with monitoring media coverage of current events as reported in television and radio broadcasts, newspapers, and online outlets. Such materials leave room for the three main “techniques” of diplomatic information-processing: contextualization, data mining, and synthesis (Kurbalija 2002). In contrast, quantitative data are thought to be insufficiently subtle. As one practitioner mentioned,

I came across this kind of [quantitative] analysis a few years ago (...). From an observer’s point of view, it’s interesting, but from a practitioner’s point of view, it seems more delicate to me because these things are terribly deterministic. Determinism for diplomats is a horror.³⁴

Finally, as producers of knowledge (Loriol 2009b), practitioners at the MEFA tend to focus on qualitative work as well: literature reviews, notes of context, factsheets, and talking points are key elements for French diplomacy. As one practitioner remarked, this shows how “our institutional culture orients our practices towards literary analysis and the demonstration of an intellectual superiority anchored in social science.”³⁵

A similar position is dominant in the MAF. The presence of such a focus on qualitative data attests to a well-documented national strategic culture, frequently defined by opposition to the North American scene. As a set of beliefs, attitudes, and behavioral patterns, this culture is best understood as a “general context” (Gray 1999) rather than a specific causal factor. If strategy in the United States, especially since the “Revolution in Military Affairs” of the 1990s, has been characterized by a fascination for technology, French strategists insist on their distinctive mastery of the “human element” in warfare (Coutau-Bégarie 2006; Irondelle and Schmitt 2013; Lefeez 2017). Although the abandonment of conscription in France in 1996 rattled long-standing claims to uniqueness across the different service branches (Lecoindre 2009), this tradition has

persisted. Respondents to the CHEM survey mentioned reports from theaters of operation, detailed qualitative analysis of conflicts, and domain-specific expertise as the main tools of their trade. A former high-ranking army staff officer frankly expressed reluctance to be interviewed on the grounds that quantitative data and methods were irrelevant to the French military establishment. Reflexes of this kind seem to be deeply institutionalized. As one practitioner observed, “we don’t even ask ourselves the question (. . .) we haven’t even had the debate.”³⁶

Beyond the particularities of each ministry, the special exigencies of foreign policy itself must be taken into account. For practitioners at both the MAF and the MEFA, French analyses of foreign policy are centered on politics, thought to be unquantifiable.³⁷ Such a position relies on cognitive frames shared in both institutions. Whether they are qualified as “paradigms (Hall), belief systems (Sabatier) [or] *référentiels* (Jobert and Muller),” these frames “are intended to refer to coherent systems of normative and cognitive elements which define, in a given field, ‘world views,’ mechanisms of identity formation, principles of action, as well as methodological prescriptions and practices for actors subscribing to the same frame” (Surel 2000, 496). As one policy advisor said, “it is easy to quantify matters such as arms transfers, because it is concrete and material, but it is another thing to quantify political violence or even perceptions.”³⁸ As a way to distinguish their own perspective, practitioners often mentioned what they considered to be “the US viewpoint,” supposedly preoccupied by economic factors and therefore more susceptible to quantification:

It is a very French tradition to put politics at the center of the *schmüblick*,³⁹ and it is absolutely founded, because it is a substratum, a crucible, it is an apparatus which itself is nourished by a set of things which come from its cultural, historical background (...) whereas there is a simplifying essentialism in the American schools of trying to find the technical or economic martingales.⁴⁰

Numbers are a way to formalize reality (...), to start acting... and the political and security dimension of foreign policy does not lend itself to this easily (...). The idea that numbers are a substitute for political analysis is more complicated for us than for other countries.⁴¹

Why should soldiers or diplomats adopt a system of analysis so alien to their culture? Getting practitioners to use quantitative data as a tool of analysis or build an early warning system would just require too much time and money, especially in a (long-lasting) context of budget cuts:

There is a lack of resources, quite simply (...) we don’t have the means (...) And that’s it, it takes time. It’s long, heavy, complex, and expensive. And I think we never wanted to invest. And on top of that, as we had a priori cultural gestures and in terms of legitimacy (...) the financial factor... it’s ultimately the last nail in the coffin.⁴²

³⁶ Interview 10 (2021).

³⁷ Interviews 2, 5, 7, 8, 10, 13, 16, 21, 24 (2021–2022).

³⁸ Interview 14 (2021).

³⁹ French word invented by the comedian Pierre Dac, commonly used to refer to something that is difficult to describe or to pin down.

⁴⁰ Interview 10 (2021).

⁴¹ Interview 13 (2021).

⁴² Interview 19 (2021).

³² Interviews 1, 2, 3, 4, 5, 8, 10, 11, 13, 16, 19, 20, 29, 30, 31, 32, 33, 34 (2021–2022).

³³ Interview 13 (2021).

³⁴ Interview 10 (2021).

³⁵ Interview 8 (2021).

In contrast, the German government readily incorporated quantitative data in the development of its crisis prevention policy. When German authorities decided to invest in early warning tools, in 2017, they did not balk at the considerable cost of the systems themselves or the requisite IT infrastructure.

The Failed Project of an Early Warning System in France

To better illustrate how the structural factors just considered helped create a long-lasting resistance to quantitative data, it is illustrative to consider the attempted development of an early warning system within the *Centre de crise et de soutien* (CDCS) of the MEFA. The CDCS is a service that operates 24 hours a day, 7 days a week. It ensures the protection of French nationals living abroad and coordinates France's emergency humanitarian action. As such, it must closely monitor the situation abroad and strive to anticipate the coming crises. It benefits from numerous information channels, mostly internal. In 2017, a diplomat with an engineering background tried to implement an early warning system using internal and open-source data, notably from ACD. The fact that he was computer literate allowed him to build a system from scratch, with a sufficient level of granularity for the center's missions. He and his team spent a lot of time dissecting the various databases available, assessing their pros and cons. However, this project engendered little interest before it was eventually unwound for restructuring reasons.⁴³

This thwarted experiment calls for two comments. First, it is worth noting that the inspiration for the project came from one individual and depended entirely on this particular diplomat's interest in IT matters. Second, the lukewarm response of the leadership and other members of the ministry indicates their conviction (by virtue, no doubt, of their sociological background and the institutional culture of their *milieu*) that a quantitative early warning system was unworthy of serious interest. Their reluctance in turn had effects on the project team (which was, at its height, composed of four civil servants), on funding allocation, and ultimately on its abandonment.

V. Digital Sovereignty as a Factor of Resistance

Yet, another explanatory variable could be put forward to explain the resistance of French practitioners. The limited use of ACD may be related to how the use of quantitative data has emerged as an inseparable issue from digital sovereignty in France. Often defined as “the control of our present and our destiny as manifested and directed by the use of technologies and computer networks” (Bellanger 2012, 154), digital sovereignty has become a quite important issue of France's public debate in the last decade.

First related to the United States' dominance in the digital field—with the five tech giants, Google, Apple, Facebook, Amazon, and Microsoft (GAFAM)—and the management of private data, the term has become increasingly popular since 2013, following the revelations of Edward Snowden on the mass surveillance carried out by the United States (Kempf 2018). During the first mandate of President Macron, the ongoing French reflection on these issues has led to the development of the first outlines of a doctrine

⁴³ Details on this project were corroborated by several interviews and documents. However, it is not possible, because of confidentiality reasons, to directly mention them here.

of a “digital sovereignty” through different official policy papers and reports. Per a recent report to the French National Assembly, it can be divided into three main axes:

- *The freedom of public authorities to make strategic and technological choices* in the digital field, and therefore, in a sense, to choose their “dependencies” as well.
- *The ability of the public authority to control its choices*, which implies having “the expertise to assess the risks and solutions and to internalize certain functions” (. . .).
- Finally, as a corollary to the principle of freedom, the possibility for the public authorities to reverse some of their decisions (. . .). This corresponds in fact to the *principe of reversibility*. (Commission d'information de l'Assemblée nationale 2021, 24–25)

These three axes—simultaneously economic, cultural, and strategic—clearly emphasize the role of governmental institutions as defenders of sovereignty in a digital world. As Danet and Desforges demonstrate, it is “based on the representation (. . .) of a loss of state sovereignty in the digital space and a desire to reappropriate cyberspace, perceived as a territory to be conquered” (Danet and Desforges 2020, 183). In this context, ACD seem to be considered as obstacles to this conquest rather than decision-making aids.

French Wariness

The first body of evidence for this argument lies in how practitioners mentioned, on several occasions, their mistrust of using data that were not coming from French sensors, feared to represent foreign interests and bias analyses.⁴⁴ This wariness was mainly reflected in doubts regarding the methodology used by those compiling the ACD, regarding not only the definitions they chose and how they collected and aggregated the data, but also potential distortion introduced by partisan interests. Regarding the former, practitioners believe that one must be careful with the definitions and thresholds chosen: an example that was often given is the ACLED definition of what is considered as a “demonstration,” which has caused a certain skepticism among practitioners.⁴⁵ In the ACLED codebook (n.d.), it is explained that a demonstration can be coded either as a protest (“peaceful protest,” “protest with intervention,” “excessive force against protesters”) or as a riot (“violent demonstration” or “mob violence”). For some practitioners, this coding of events is problematic:

In France we have a lot of demonstrations, they don't always end in riots ... There is this whole issue of the reliability of the data. And if the basic data is not reliable, the indexes will not be either.⁴⁶

Then there are some criticisms of data collection itself—the areas covered, the methods implemented, and the sources:⁴⁷

Whether it is ACLED or UCDP, there are many areas of the world that are not covered (...) a study that was done in 2013 (...) shows that on ACLED there were big problems with geolocation.⁴⁸ And the UCDP (...)

⁴⁴ Interviews 3, 5, 7, 8, 11, 12, 15, 17, 18, 22, 28 (2021–2022).

⁴⁵ Interviews 7, 8, 18, 22 (2021).

⁴⁶ Interview 7 (2021).

⁴⁷ Interviews 3, 5, 7, 8, 18, 22, 28 (2021–2022).

⁴⁸ Eck, K. (2012). In *Data We Trust? A Comparison of UCDP GED and ACLED Conflict Events Datasets*, *Cooperation and Conflict* 47 (1), 124–141.

they only update the database once a year. That's very long. And where does the information come from? Always the same problem: does it come from the news, from people on the ground? There are also language issues!⁴⁹

Finally, data aggregation is also sometimes considered to be problematic, aggravating the effects of other biases, as the chosen indicators give weight to certain dimensions at the expense of others. Concerning INFORM, for example, one respondent noted that by “giving a prominent place to the GDP [in the modeling of the index] (. . .) it was always favorable to the same country”⁵⁰—namely, here, the United Kingdom. The underlying assumption is that, because most researchers working on the INFORM index in the Joint Research Center of the EU are British, they purposely chose a modeling that suits their own country. In the yearly ranking, the United Kingdom thus always seems to award a “very low” risk propensity, whereas other great powers fall into the “low” risk category.

This last element is crucial. In fact, ACD and early warning projects are often dismissed as a tool of analysis within French ministries because they are associated with foreign interests. Although the main argument is methodological, the underlying discourse refers to foreign threats. A few examples can be put forward. For some practitioners, ACLED is considered as American-driven: it is registered in the United States and receives financial support from the Bureau of Conflict and Stabilization Operations at the State Department (it should be noted that the Dutch Ministry of Foreign Affairs and the German Federal Foreign Office are also involved), which has led some practitioners to speak of ACLED as being an instrument of US power. SIPRI is also considered, at least by some practitioners, to suffer from unwanted bias:

The SIPRI is special because its policy is led by a think tank that has a particular discourse and thinking. When it comes to [quantitative data from] the SIPRI, we are going to be much more cautious, because they see an environment that is rearming as a danger, and that their desire is rather to reduce conflict. The discourse here is not an analysis, but rather a justification for a policy or a political discourse that may go against our own interests.⁵¹

Finally, to follow up on the observation on INFORM, the index is habitually arraigned for being under the influence of the United Kingdom.

French Digital Sovereignty

Thus, within both ministries, ACD are perceived to be tools of “digital diplomacy” conducted by other states—and therefore impeding France’s digital sovereignty. Digital diplomacy refers to the extension of traditional diplomacy by means of information and communication technologies (ICTs). As Holmes explains, “from a public diplomacy perspective, then, the goal of utilizing ICTs, or digital diplomacy strategies, is the production, dissemination and maintenance of knowledge that helps to further state interests” (Holmes 2015, 18). Recent IR literature on the question takes the example of diplomats’ use of social

networks such as Facebook and Twitter. For French practitioners, ACD belong alongside these platforms, which serve not only to transmit information but also to produce it. As a result, ACD data are instinctively treated as a partial interested source.

One reason why the attempt to implement an early warning mechanism in the *CDCS* proved so unconvincing is its reliance on public (that is to say, foreign) databases. If ever such a project should be revived, non-French databases would not be an option. As one practitioner explained,

if we want to be totally independent (...) in the years to come, we should not overlook the development of a [quantitative] tool that would be our own, and on which we have total control and total mastery of the methodology, of the data collection, visualization and interpretation.⁵²

Control over the production, storage, and exploitation of data, especially in sensitive areas such as foreign and military policy, is in this sense a proxy for the state’s capacity to make independent choices, a definitional attribute of political legitimacy in the interstate system.

Ultimately, it appears that the discourse around digital sovereignty clearly resonates with some of the main features of French foreign policy identity. First, as some authors have rightfully shown, digital sovereignty is linked—if not sometimes confused—with the idea of strategic autonomy formulated by General De Gaulle (Danet and Desforges 2020), whose principles are still very influential in foreign policy as of today (Vaisse 2009; Balzacq 2019). Second, distrust toward the United States (which served as a prequel to introduce the debate around digital sovereignty and can be found in many interviews emphasizing US interests in the matter) could be traced back to the myth of abandonment by the Anglo-Saxons in World War II (Heuser 1998). Although this myth was also maintained by De Gaulle to justify the idea of strategic autonomy, Heuser shows how it is deeply rooted in a much older “tradition” of France promoting its national interest over its alliances. Thus, beyond the importance of the debate on digital sovereignty in the public arena, what can explain practitioners’ adoption of the principle is also that it resonates quite well with the *référentiels* they have been trained to defend within both their training and experience within ministries.

Conclusion

This article has focused on representations and practices cultivated by French diplomats and militaries toward ACD. It has documented considerable reluctance stemming from cognitive frames shared by practitioners at the Quai d’Orsay and the Ministry of Armed Forces. Such frames in part reflect educational backgrounds that do not equip students to work with quantitative data and methods at large that help to use ACD. However, other factors are also at work. Suspicion and hostility with respect to data-driven analysis also resonates with a deep-seated national strategic culture and conception of sovereignty. Diplomats and militaries consider these models and datasets as Trojan horses for foreign meddling. The picture ACD provide must be interpreted very cautiously because their methods, their collection of data, and their sources are not controlled

⁴⁹Interview 7 (2021).

⁵⁰Interview 7 (2021).

⁵¹Interview 12 (2021).

⁵²Interview 18 (2021).

directly by French practitioners. In other words, practitioners stick to their own interpretations of armed conflicts and strategic trends in order to preserve their autonomy in the international realm. This claim for protecting digital sovereignty is thus connected to “data sovereignty,” which means a strong control over data in the form of a strategic asset.

These results help identify the position of French practitioners in the cleavage between the “perspectives of the ‘data enthusiasts’ and the concerns of the ‘data skeptics’” (Fast 2017, 709). Clearly, the positions taken by French practitioners are more skeptical than optimistic. This may change in the future, but, whatever the case, no pivot to quantitative data will succeed without accounting for digital sovereignty as an expression of the national interest. Beyond this study of the French administration, this article provides considerable insights into the use of ACD as a foreign policy tool. These uses are not necessarily governed by “objective needs,” such as national interests or threats. Rather, they are partially shaped by elite socialization, institutional cultures, and national foreign policy identities.

This conclusion invites IR scholars to take into account some logics beyond instrumental rationality, that is, associated with the use of numbers in governance and public policy practices. If algorithms and ACD are increasingly seductive for their supposedly “more” objective description of reality, this study shows that they can also be a source of confusion and even of fears. To what extent is the French case exceptional, though? Following the development of comparative approaches, additional studies focusing on the decoding of strategic behavior and the use of numbers on war analysis are needed. This is even more so that, as the war in Ukraine demonstrates, an excessive usage of numbers can clearly lead to misconceptions, such as the “inability to grasp singular events that change existing dynamics of violence; the difficulty of quantifying psychological factors such as intentions and emotions; and the corollary assumption of universal rationality that often informs policies of deterrence and sanctions” (Datawar 2022).

Finally, if there is a French exception, to what extent could it be followed? Could we not imagine and suggest a reasoned and reasonable practice of numbers in foreign policy? And if yes, how? These last questions draw a link with the normative theory of IR (Brown 2018; Brown and Eckersley 2018), especially with thinkers who provide ways to explore prudence in IR (Brown 2012; McCourt 2012). According to us, this normative issue dedicated to the ethical usages of numbers cannot be evaded.

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Supplementary Information

Supplementary information is available at the *Global Studies Quarterly* data archive.

Appendix 1. Interviews conducted by directorates and ministries. (2021)

<i>Ministry of Europe and foreign affairs (MEFA)</i>	<i>Ministry of Armed forces (MAF)</i>
The <i>Centre d'analyse et de prévention</i> (CAPS – Centre for Analysis and Prevention): 8 interviews.	The <i>Direction générale des relations internationales et de la stratégie</i> (DGRIS – Directorate General for International Relations and Strategy): 9 interviews.
The <i>Centre de crise et de soutien</i> (CDCS – Crisis and Support Centre): 2 interviews.	The <i>État-major des armées (EMA – Military Staff)</i> : 3 interviews.
The <i>Direction pour la coopération de sécurité et de défense</i> (DCSD – Directorate for Security and Defence Cooperation): 3 interviews.	The <i>Centre interarmées de concepts, doctrines et expérimentations</i> (CICDE – Joint Centre for Concepts, Doctrines and Experiments): 3 interviews.
The <i>Direction générale de la mondialisation, de la culture, de l'enseignement et du développement international</i> (DGM – Directorate-General for Globalisation, Culture, Education and International Development): 4 interviews.	The <i>Institut de recherche stratégique de l'École militaire</i> (IRSEM – Strategic Research Institute of the Military Academy): 2 interviews.

Appendix 2. Interview Protocol (2021).

I. The practitioner

- Where and what did you study after secondary school?
- How were numbers integrated into this educational background?
- Could you mention some of your previous experience(s) (and link with data, if any)?
- When did you arrive in your position and what are your missions (and link with data, if any)?

II. Data in its daily work

- What type of data do you favor in terms of conflict analysis? (Internal/external? Qualitative/quantitative?)
- Do you make use of open-source quantitative conflict databases (FSI, INFORM...) or open-source early warnings? If so, which ones?
- Do you create collect and/or process quantitative data?
- Do you feel that you have a good “command” over quantitative data (understanding, interpretation...)?
- Do you think it is possible to compile data on different cases to derive regularities?
- In the absence of identifiable or usable quantitative data, how do you get around this obstacle?

III. Uses

- Functionality:** what use(s) of quantitative data do you favor (e.g., critique, identification, evaluation, verification...)?

Temporality: how often do you consult or make use of quantitative data? Daily, weekly, monthly?

Importance of data (necessary, useful, convenient): are quantitative data a fundamental element of any of your analysis/report/evaluation?

Objective: forecasting, planning, analysis, understanding, fact-checking?

Do you verify quantitative data? Their precision? Their methodology (cross-checking, comparison...)?

IV. Effects

Do you think it is possible to predict conflicts?

Do you think quantitative data may influence how you understand the international environment?

What are future perspectives in your profession regarding the use of quantitative data?

V. Stakes

Do you perceive concrete changes in your practices and decisions caused by the increased use of quantitative data over the last ten years?

Have you witnessed debates within your institution concerning the usefulness of data?

Is there any project of quantitative early warning within your institution?

VI. Final Considerations

Do you have any experiences or reflections you would like to discuss that haven't already been addressed?

Would you have any interest in the development of a tool that would facilitate understanding of databases?

Appendix 3. CHEM Survey (2021).

This survey was designed by Louise Beaumais and Frédéric Ramel in order to describe the representations and uses of quantitative data related to armed conflicts by practitioners (the term "quantitative data" is equivalent to "numerical data" produced in the strategic and International Relations fields).

I. The use of quantitative data on armed conflict

- What type of data do you favor in your analysis of armed conflict?
 - Qualitative data
 - Quantitative data
 - Both in a complementary manner
- Do you use quantitative databases on armed conflict?
 - Yes
 - No
- If yes, are they available:
 - Open source
 - In-house
 - Both
- If yes, which open-source databases do you use (several answers possible)?
 - Aclé
 - Aggle
 - Conflict Barometer
 - Correlates of War (CoW)
 - Fragile state Index (FSI)
 - Global Database for Events Language Tone (GDELT)
 - Global Peace index
 - Global PULSE (UN)
 - Global terrorism database

Heidelberg Institute for International Conflict Research (HIIC)

Humanitarian Data Exchange (HX)

INFORM (from the European Union)

Integrated Conflict Early Warning System (ICEWS)

International Crisis Behavior

International Institute for Security Studies (IISS)

Open Situation Room Exchange

SIPRI

Uppsala Conflict Data Program (UCDP)

Ushahidi

World Event Interaction Survey (WEIS)

Other: *free response*

- Do you feel you have an adequate knowledge concerning quantitative data (understanding, interpretation...)?
 - Very good
 - To be consolidated
 - Insufficient
 - NA
- Do you question the origin and construction of the figures produced by the organizations that deliver these quantitative data?
 - Yes
 - No
- In the absence of identifiable or usable figures, how do you get around this obstacle?
 - Free response*
- Do you think it is possible to compare the different types of data?
 - Yes
 - No
 - NA
- For what purpose?
 - Free response*
- Do you cross-reference your data with other sources?
 - Yes
 - No

II. Objectives related to the use of numerical data on armed conflict

- What is your preferred use of data on armed conflict?
 - Criticize
 - Observe
 - Evaluate
 - Verify
 - Other: *Free response*
- Could you give examples that illustrate these preferred uses?
 - Free response*
- How often do you consult and use this quantitative data?
 - Daily
 - Weekly
 - Monthly
 - Episodic
- Do you consider these figures to be necessary elements in the analysis of contemporary armed conflicts?
 - Yes, completely
 - Yes, but insufficient on their own
 - No, not at all
- If yes:

At the political-strategic level

Yes

No

At the operational level

Yes

No

At the tactical level

Yes

No

- If the analysis of data on armed conflicts should be linked to an objective, what would it be (formulate your preferences in descending order, 1 being the most important, etc.)?

Anticipate strategic trends and in particular the risks of armed conflict

Plan operations (prepare the projection of military forces)

Adapt your needs in terms of equipment, organization and/or training

Analyze the strategic situation (general context, understanding of actors)

Verify facts (fact-checking)

- If you do not use figures for these objectives, what do you use?

Free response

III. The effects of conflict-related figures

- Do you perceive concrete changes in your practices and decisions caused by the increased use of quantitative data over the last ten years?

Yes

No

- If yes, do you think that numbers have an influence on the way you approach contemporary strategic reality?

Yes

No

- Do you think that a critical reflection on the figures leads to a more pessimistic position on contemporary conflict?

Yes

No

IV. Your educational background

- What did you study before joining the army?

Free response

- What was the integration of numbers and quantitative analysis in this training?

Marginal integration

Moderate integration

Significant integration

Constant integration

- In your positions before coming to CHEM, what was your usage of figures?

Marginal

Moderate

Strong

Constant

- If this usage has changed in recent years, could you describe how?

Free response

- Have you perceived debates within your institutions on the issue of quantitative data? If so, what exactly were they about (malleability, unreliability of numbers, lack of interest, fear of AI...)

Free response

- What “attitude” do you think you have towards numbers?

Optimistic

Pessimistic

Neutral

Unexperienced

- If you think you are pessimistic, could you explain why?

V. Final considerations

- Are there any specific needs in terms of quantitative data production/collection/analysis that you would like to see improved?

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