

# The European administrative space over time: Mapping the formal independence of EU agencies

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## Abstract

Throughout the past decades, the EU's agency landscape has continuously expanded in size and scope. In this article, we address the lack of longitudinal data on EU agencies' formal independence. We introduce a newly revised index to measure the formal independence of EU agencies from other EU institutions over time. Applying a rules-as-data approach we coded 206 regulations and amendments to develop a new dataset covering the formal independence of all 39 EU agencies from 1975 to 2022. This longitudinal overview provides first insights about the development of formal independence at the case and population levels. At the case level we identify frequent, albeit gradual reforms of EU agencies' independence. At the population level, we observe remarkable stability in overall independence, but find stark variation across different independence dimensions. Overall, EU-level principals have shifted over time from controlling individual decisions to controlling the agencies' general decision-making apparatus.

**Keywords:** EU administration, EU agencies, formal independence, principal agent theory, rules as data.

## 1. Introduction

EU agencies operate at the heart of the European administrative system (Trondal & Peters, 2013). Throughout the past decades, they have proliferated in size and scope. This expansion of EU agencies' regulatory and implementation functions highlights the perennial tension between independence and control, which is characteristic for the role of agencies in democratic systems: On the one hand, agencies need to possess statutory, formal independence to effectively fulfill their regulatory tasks. One recent example is the European Medicines Agency (EMA), which faced immense political pressure to speed up the authorization of Covid-19 vaccines while ensuring that their efficacy and safety were not compromised. On the other hand, agencies have to be subject to sufficient democratic controls (Busuioc, 2013). For example, EU legislators struggled to sanction the former Frontex director, Fabrice Leggeri, even after evidence of serious misconduct had been revealed. How agencies' legislative principals resolve the tension between independence and control should be reflected, inter alia, in agencies' institutional design. While research on EU agencies and their institutional design has proliferated (e.g., Ruffing, 2022; Scholten et al., 2020), we lack a comprehensive and systematic cross-sectional and longitudinal overview of their independence to explore precisely how EU agencies' principals address this tension through institutional design and reform.

The contribution of this article is twofold. First, studying agency independence presupposes a valid and robust measurement instrument. Thus, our development of such an instrument to measure agency independence is the first contribution of this article. To this end we compile an index for measuring EU agencies' formal

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independence, which draws on and refines existing measurements. Our index is based on the idea of “rules as data,” because we exclusively draw on EU agencies’ founding regulations and respective amendments as data sources. We draw on the comparatively young field of leximetrics, where the standard approach to measure formal institutions is to code legal texts according to predefined rules and aggregate individual items into a composite index (Buchanan et al., 2014; Kholodilin & Pfeiffer, 2021; Voigt, 2013). This approach is particularly well suited to measure the development of *de jure* institutions over time because it preserves the “objectivity” and therefore comparability of the law (Cooter & Ginsburg, 2003). Any valid measure requires precise concepts on which it is grounded, in our case, the concept of formal independence. To specify formal independence, we draw on principal-agent approaches (McCubbins et al., 1987; Thatcher & Stone Sweet, 2002) and the extant literature on domestic and EU agencies’ formal independence (Gilardi, 2002; Wonka & Rittberger, 2010). Building on existing indices of agency independence (Gilardi, 2002; Wonka & Rittberger, 2010), we developed a refined index to satisfy requirements for adequate concept specification (Voigt, 2013) and to account for advancements in the EU agency literature as well as recent method-related insights (cf. Hanretty & Koop, 2012). Our measurement serves as a tool for future research, for instance, to explain longitudinal and cross-sectional variation in agencies’ formal independence. Additionally, the index can serve as a yardstick to inform studies of EU agencies’ *de facto* behavior (Busuioc & Rimkutė, 2020; Maggetti, 2007; Migliorati, 2020; Wood, 2018) and to explain differences between agencies’ *de facto* and *de jure* independence.

The second contribution of our article is to chart the development of EU agencies’ formal independence over the last five decades. To this end, we applied our index to a dataset of all 206 legal documents setting up or amending EU agencies’ founding regulations. Based on this dataset, we first investigate—at the *case level* of individual agencies—changes in formal independence over time. Due to the EU’s decision-making system, these changes require a compromise between multiple EU institutions. We show that EU-level principals regularly adapt EU agencies’ formal independence to their changed preferences and perceived needs. Second, we look at the *population level* and explore changes in EU agencies’ aggregated independence. We find that, over time, principals developed an institutional model for agencies with low levels of independence, while we observe considerable institutional variation in agencies with higher levels of independence. Moreover, we show that even though the median independence score remains remarkably stable across the agency population over time, there is ample change in the sub-categories of our formal independence index. Our findings suggest that EU-level principals changed their preferred steering mode from controlling individual agency decisions to controlling general decision-making in EU agencies.

The remainder of the article is organized as follows: In Section 2, we introduce principal agent-approaches as the conceptual backbone of our index and outline expectations for our descriptive overview. In the ensuing Section 3, we present our refined index, including the conceptual rationale behind each category and item of our index. Section 4 provides the longitudinal overview of EU agencies’ formal independence at the case- and population levels. Section 5 discusses our findings in the light of our research questions and concludes with several suggestions for future research.

## 2. Conceptual foundations for the analysis of EU agencies’ formal independence

To develop a valid measurement, we build on and refine Wonka and Rittberger’s (2010) index of EU agencies’ formal independence. The index rests on the principal-agent approach as the conceptual foundation. We heed to calls to improve our revised index’s conceptual clarity and outline the case- and population-level perspectives that we employ in our comprehensive overview of EU agencies’ independence over time (Hanretty & Koop, 2012).

### 2.1. The principal-agent approach and EU agencies’ formal independence

Governments create independent agencies to credibly commit themselves to performing specific governance tasks (Majone, 1999; Thatcher & Stone Sweet, 2002) or to lock in specific policies against potential reversal by future legislative majorities (Moe, 1990). From a principal-agent perspective, agencies’ independence—their being at “arm’s length” from the ministerial hierarchy (Pollitt et al., 2001)—is seen as necessary for agencies to perform their governance functions effectively without undue political interference. From a principal-agent perspective,

agencies' independence can be designed through institutional mechanisms and "occurs only if political control through procedures is lacking" (McCubbins et al., 1987, p. 260). If the preferences among principals and agents were perfectly aligned, granting agents independence would be unproblematic. Yet, principal-agent relationships are marred with conflicts of interests, because agents may behave opportunistically and pursue their own interests at the expense of the interests of the principals (Pollack, 1997). To minimize the potential of such "agency loss" (Kiewit & McCubbins, 1991), principals limit agents' independence by manipulating the procedural and substantial constraints on agency action (Lupia & McCubbins, 2000; McCubbins et al., 1987). In sum, principals' institutional design decisions—the scope of independence granted to an agency—reflect the tension between the value principals place on the functional benefits accrued from an agent's independence and principals' desire to control the agent's actions.

EU agencies are set up by the European Commission, the member states via the Council and—since the introduction of the co-decision procedure—the European Parliament (EP). These principals have delegated tasks to EU agencies in order to enhance their institutional capacity to act, for example, by providing independent expertise, and to credibly commit to certain policy objectives, for example, regulatory stability (see Wonka & Rittberger, 2010). Congruent with a principal-agent logic, the EU's multiple principals experience the tension between their preference to grant independence to EU agencies to improve the efficiency and effectiveness of EU cooperation (cf. Kreher, 1997; Thatcher & Stone Sweet, 2002) on the one hand, and their preference for controlling agencies to ensure that policies align with their own institutional interests and policy preferences on the other hand (cf. Kelemen & Tarrant, 2011; Lupia & McCubbins, 2000).

However, the three EU principals might have different preferences regarding agency independence. Dehousse (2008) argues that none of the principals is very keen to grant EU agencies far-reaching independence. If they opt for delegation to an EU agency, each principal apprehensively tries to ensure that no other principal obtains more control over the agency. However, as the principals have different resources available for controlling EU agencies, they prefer different control mechanisms (Kelemen, 2002). The "comparatively well-resourced" member states in the Council prefer "police patrol" oversight mechanisms such as "intergovernmental" Comitology procedures, while the EP with its comparatively lower resources relies more on "fire alarm" oversight such as transparency mechanisms (Kelemen, 2002, p. 97). The Commission supports the delegation of competences to EU agencies if they create additional competences on the EU level and if the EU agencies' technical work allows the commission to focus on its "policy-making and enforcement [core] competencies" (Kelemen, 2002, p. 98). In such cases, it is willing to trade direct control (through delegation to the Commission itself) with its legal and administrative oversight role. These lasting tensions shape the compromises principals must find when setting up EU agencies (Abbott et al., 2020; Blauburger & Rittberger, 2015).

To measure formal independence, principal-agent approaches focus on how principals devise the institutional rules—laid down in the legal act passed by all principals—that constrain an agent's degree of independence. These rules comprise, among others, the regulation of an agent's decision-making procedures and of personnel selection. Selin (2015) coins these two dimensions as decision-maker independence and policy-decision independence. The principal-agent literature distinguishes two types of mechanisms, which principals can use to control decision-makers and decision-making and which we include in our measurement: ex-ante mechanisms are designed, among other things, to prevent the problem of adverse selection, that is, the assignment of agents who are not capable of performing their tasks, and agency drift, by selecting agents who share the preferences of the principals (Kiewit & McCubbins, 1991). Ex-ante mechanisms consist of procedural requirements regarding an agent's agenda and the selection of an agent's staff. The demand for ex-post mechanisms, in turn, arises from information asymmetries between principals and agents. Their purpose is to prevent moral hazard, that is, agent behavior that harms principals' interests and preferences (cf. Lupia, 2003). Ex-post mechanisms consist of institutional rules that facilitate the monitoring of and influence on agency decisions and agency personnel's behavior. These rules include reporting requirements and sanctions of agency personnel.

Our revised measurement of EU agencies' formal independence considers differences and commonalities in the institutional design of EU agencies and allows to capture developments in agencies' institutional design over time. The EU's legislative institutions have created more powerful bodies in recent years (Curtin & Dehousse, 2012) and we also observe considerable legislative activity regarding the legal basis of existing agencies: In the last 15 years, 10 new agencies were created, in 65 instances existing founding regulations were amended,

and in 28 instances replaced with new ones (“re-cast”). Considering this dynamic of the last decade, it is surprising that existing research has neglected the temporal trajectory of EU agencies’ independence. The only two studies that take into account the whole agency population are cross-sectional studies, using the agency’s current legal text at the time of the study (Christensen & Nielsen, 2010; Wonka & Rittberger, 2010).

Principal-agent approaches—the conceptual basis of our measurement—have been criticized for some blind spots. First, the formal independence resulting from an agencies’ legal institutional setup does not determine EU agencies’ de facto behavior. De facto behavior depends, among other things, on EU agencies’ strategic interaction with principals (Groenleer, 2009). Second, in practice, principals’ willingness to actually hold EU agencies to account might be less acute than principal-agent approaches assume (Maggetti & Papadopoulos, 2018; Schillemans & Busuioc, 2015). Third, principal-agent approaches also often take a snapshot perspective at the point of delegation. However, only a “longitudinal perspective allows it to be hypothesized that time helps agencies to expand their expertise and enhance their credibility, which in turn facilitates a ‘mission creep’ that may even exceed the large formal competencies that are delegated to them” (Maggetti & Papadopoulos, 2018, p. 179). Still, the suitability of principal-agent approaches for grasping the formal independence of agencies is rarely contested (Maggetti & Papadopoulos, 2018), which is why we follow this approach. In fact, its conceptualization of principals’ delegation decisions has been applied to capture the formal independence of national agencies and central banks (Elgie, 1998; Gilardi, 2002). Early studies lend support to the credible commitment thesis of delegation to agencies (Gilardi, 2002), while more recent indices map the global variance of the agency model (Jordana et al., 2018). More importantly, there is also evidence that higher levels of formal independence improve the quality of regulatory decisions in agencies (Koop & Hanretty, 2018).

In sum, principal-agent approaches provide an indispensable theoretical and conceptual foundation to devise a measurement of agencies’ formal independence. By providing a valid measurement and a longitudinal perspective, this article also provides a yardstick for future studies of actual EU agency behavior as measures of formal and de facto behavior develop their full potential if taken together (Mungiu-Pippidi, 2023; Voigt, 2013), which could also drive theoretical innovations.

## 2.2. Exploring the trajectory of agency governance in the EU

Our measurement device and dataset allow us to speak to different literatures on EU agency governance. More specifically, by describing our longitudinal dataset on agencies’ formal independence from a case- and a population-centered perspective, we provide a fine-grained moving picture about changes in the institutional design of EU agencies. First, a longitudinal *case-centered* perspective highlights how *individual* EU agency’s independence has changed over time. Most EU agencies developed incrementally from administrative networks rather than through radical changes (Levi-Faur, 2011). In order to change the institutional design of an EU agency, its various principals have to find a compromise (Dehousse, 2008; Kelemen, 2002). Within the EU’s political system, each of the three principals can block any changes (Kelemen & Tarrant, 2011). Nevertheless, we can observe a high amount of legislative activity around existing EU agencies, providing their principals with recurring opportunities to not only change EU agencies’ formal competences but also adapt their formal independence. In fact, case studies addressed how this incremental process of competence accretion continued after agencification (cf. Deruelle & Engeli, 2021; Dunn Cavelty & Smeets, 2023; Scipioni, 2018). There are, however, no analyses tracing the development of formal independence over time. The debate about EU agencies’ “accountability overload” (Everson & Vos, 2021, p. 316) suggests that EU agencies’ independence remains constrained. Considering the intricacies of reaching compromises among principals in reducing control mechanisms and increasing formal independence, we would thus expect gradual changes in EU agencies’ formal independence at best. A longitudinal *case-centered perspective* allows to trace these compromises regarding formal independence.

Second, a population-centered perspective asks whether EU agencies at large gained or lost independence over time. Unlike many national agencies, EU agencies have originally been endowed with very limited tasks (Kreher, 1997), primarily due to existing legal barriers for the delegation of decision-making competences in the EU, the so called *Meroni* doctrine (Everson, 1995). However, EU agencies have not only obtained more de facto decision-making tasks (Gehring & Krapohl, 2007; Ruffing, 2022), but also legislators have granted them increasingly vast formal decision-making tasks (Busuioc, 2013; Curtin & Dehousse, 2012). In the EU’s polycrisis of the

last decade, EU-level principals have often resorted to strengthening EU agencies in their crisis responses (Everson & Vos, 2021). Regarding EU agencies' formal independence, the Commission has stressed that EU agencies' formal independence is their functional "raison d'être" (European Commission, 2002). The academic literature also argues that this is the backbone of the EU's output legitimacy (Majone, 1999). Likewise, member states saw in EU agencies' formal independence a safeguard against an increase in Commission power (Kelemen, 2002). A longitudinal, *population-centered perspective* can, therefore, explore whether agencies saw a decrease or increase of formal independence over time, and how principals balance the conflicting objectives of having capable agencies and effectively controlling them. Even though existing cross-sectional research on EU agencies has not addressed this question, we can derive two contradicting expectations from its insights: In cross-sectional studies Christensen and Nielsen (2010) demonstrated that EU agencies were granted less formal independence as their competences expanded. If this relationship holds cross-sectionally, it should *ceteris paribus* also hold longitudinally. As EU agencies gained considerable competences over time (Everson & Vos, 2021), EU agencies should also see less formal independence over time. By contrast, Wonka and Rittberger (2010) demonstrated that political insecurity is a main driver of EU agencies' formal independence: when worried about being outvoted in internal market policies, the "supranational" former first EU pillar, legislators sought to create more independent agencies to shield their policy preferences from political reversals. Legislators were thus less interested in creating independent agencies in internal and external security within the former "intergovernmental" second and third pillars where member states retained their veto and could hence block possible policy reversals. Since the Lisbon Treaty, the EU does not operate on the former pillar structure anymore, and (super-)majority decisions have become a crucial component of the Ordinary Legislative Procedure. We can therefore expect that EU agencies gain more formal independence over time as the likelihood of policy reversals by future majorities looms larger.

### 3. Measuring EU agencies' formal independence over time

To cross-sectionally and longitudinally measure the formal independence of EU agencies, we revise the index proposed by Wonka and Rittberger's (2010), which builds on Gilardi (2002). In the first section, we outline the four areas in which we revised the old index (Wonka & Rittberger's, 2010) to improve its validity on the basis of recent research. In the second section, we substantiate the content validity of the revised and newly created items of our index and demonstrate how the individual items align with the concept of formal independence.

#### 3.1. Adapting the Wonka and Rittberger (2010) index of EU agencies' independence

We extensively overhauled Wonka & Rittberger's (2010) index to improve its content validity as well as to account for advances in the agency literature. According to Adcock and Collier (2001), "[v]alid measurement is achieved when scores (including the results of qualitative classification) meaningfully capture the ideas contained in the corresponding concept." EU agencies' formal independence is "made" of rules. Our index is composed of indicators that capture rules contributing to their formal independence (see Mungiu-Pippidi, 2023 for a similar approach; see OECD, 2008 for an overview). As no other measurements of this type exist, it is not possible to ensure measurement validity by pitching the measurement results against other measurements. In line with the approach by Adcock and Collier (2001) we will rely on demonstrating the content validity of our index, which is given if the measurement captures the full content of the concept, does not omit key elements, and does not include inappropriate elements (i.e., elements grasping other concepts than the one under investigation).

To improve the original index, we first incorporated recent conceptual critiques of previous indices. Earlier indices included agencies' competences as an item contributing to their formal independence. Hanretty and Koop (2012) argued that an agency's competence, that is, its tasks and turf, should conceptionally not be considered as part of its independence. An agency may possess limited competences, yet still exercise them independently. Instead, an agency's scope of competences could be a potential explanatory variable for an agency's level of independence, as legislators might be more hesitant to grant agencies with a broad scope of competences a high degree of independence. In addition, both Gilardi (2002) and Wonka and Rittberger (2010) capture competences with one item that makes up 20, respectively 25 per cent of their overall independence score (see Table A1 in



Appendix S1). We drop the competence item and replace it with items that measure the independence in performing such tasks.

Second, we treat EU institutions, like Wonka and Rittberger (2010), as unitary actors despite potential intra- and interinstitutional preference heterogeneity (Dehousse, 2008; Kelemen, 2002). There are very few instances in which EU institutions—as EU agencies' multiple principals—can apply control mechanisms without cooperation. Even in items where this is empirically a possibility (e.g., the dismissal of the agency head), this does not occur empirically. We, therefore, do not distinguish between the different principals' control tools or tools that can be used by one principal alone in contrast to tools that need cooperation. Our index captures the formal rules that govern the relationships between EU agencies and their institutional principals (Commission, Council, and EP). Our index does not contain items measuring the extent of independence from national governments beyond their influence in the Council. Since recent research shows that the preferences of management board members from national competent authorities differ from those of Council members (Busuioc, 2012; Font, 2018; Ruffing, 2015), we assume that a strong role of national representatives in management boards increases EU agencies' independence vis-à-vis their EU principals. This is also in line with research on national agencies, which typically sees the existence of management boards as one of the main drivers of formal independence (Koop & Hanretty, 2018; Yesilkagit & Christensen, 2010). However, we adapted some items to better capture the ratio between management board members from national authorities and from other EU institutions and the influence they can exert.

Third, we adapted Wonka and Rittberger's (2010) index to developments in the EU's political system and advancements in the EU agency literature. We only measure EU agencies' formal independence from agencies' formal EU principals and therefore dropped all items measuring independence from other stakeholders. This approach clearly distinguishes formal independence from accountability, which includes a much wider set of arrangements and actors surrounding an EU agency. We, however, added an item that takes the strengthened role of the EP vis-à-vis the Commission and the Council in the post-Lisbon era into account. In addition, we refined items to take into account that control mechanisms have become more differentiated. In most cases, this means that items needed to be rescaled to comprise the more fine-grained control options EU institutions developed over time. To make our index suitable for a longitudinal measurement, we also refined the values of some items to capture absolute, not relative independence. By adapting insights from research on national agencies to the EU's political system, we ask what maximal (and minimal) independence at the EU level would look like; in other words, our index is not designed to measure only what the most (least) independent agency is of today, but allows to both capture past independence levels and leaves room for future developments in EU agencies' formal independence. All in all, our index consists of 24 items, 7 of which we took directly from Wonka and Rittberger's (2010) index, 11 are rescaled items from the previous index and 6 are newly added. We discarded nine items from the previous index. Table 1 displays our revised index and Tables A1–A3 in Appendix S1 provide a more detailed overview of these changes and also describe the rationale behind every change. To show the differences between the two index versions, we replicated the cross-sectional measurement of Wonka and Rittberger on the basis of the regulations in force in 2008 and recoded them using the revised index (see Fig. A1 in Appendix S1). The results indicate that the revisions and in particular dropping the conceptually problematic competence measurement led to substantially different results.

Finally, Hanretty and Koop (2012) as well as Jordana et al. (2018) further criticized the weighting among categories and items in Wonka and Rittberger's (2010) index. They argue that the weighting of categories needs better theoretical and/or methodological justifications. Since we focus on “rules in books” only conceptual justifications are available (Voigt, 2013). We emphasize these conceptual justifications in the revision of the index to take this critique into account. As we discussed earlier, we can broadly distinguish between principals attempt to control an agency's decision-making procedures or its decision-makers. We, therefore, adapt the index to differentiate conceptually between these two dimensions of *decision-making* and *decision-maker* independence (Selin, 2015).

*Formal independence in decision-making* captures the structural dimension of principal-agent relationships. Its first category (C1) measures an EU agency's independence in general decision-making. It covers, for instance, the ex-ante and ex-post control mechanisms of EU-level principals to determine an agency's agenda. Its second category (C2) observes policy independence. Instead of measuring the competence of an EU agency, it registers whether EU institutions can ex-ante oblige an EU agency to act, whether they can exert influence during

**Table 1** EU agency independence index: Categories, items, and values

C1	Formal independence in general decision-making	
V1	Formal independence of agency	1.00 = agency's independence formally stated 0.00 = agency's independence not formally stated
V2	Agency's formal reporting obligations—annual reports (retrospective)	1.0 = no reporting obligations 0.75 = presentation of annual report 0.50 = submission of annual report to EU institutions 0.25 = annual report requires opinion by EU institution 0.00 = annual report requires approval by EU institution
V3	Agency's formal reporting obligations—annual working program (prospective)	1.00 = no reporting obligations 0.75 = –presentation of annual working program 0.50 = submission of annual working program to EU institution 0.25 = annual working program requires opinion by EU institution 0.00 = annual working program requires approval by EU institution
V4	Official evaluation of agency performance	1.00 = no regular evaluation required 0.50 = non-regular evaluation required 0.00 = yes, regular evaluation required
C2	Formal independence in policy decision-making	
V5	Other involved actors	1.00 = agency can take binding regulatory decisions/takes part in operations – no consent from other EU institutions needed 0.67 = prepares regulatory decisions for which consent by Comitology of legislative actors is needed/ organizes operations 0.33 = agency is consulted for regulatory decisions/coordinates operational capacities 0.00 = agency provides information and best-practice examples
V6	Agency discretion to decide on activities (of provision coded in V5)	1.00 = agency decides autonomously when to act 0.50 = other EU institutions can ask agency to act 0.00 = other EU institutions can commit agency to act
V7	Agency appeal boards	1.00 = agency does have an appeal board 0.00 = agency does not have an appeal board
C3	Formal independence in managerial decision-making	
V8	Competence to design agency's internal organization	1.00 = AH alone 0.67 = AH with MMB 0.33 = MMB with other institutions 0.00 = other EU institutions
V9	Recruitment of agency's permanent staff	1.00 = AH alone 0.67 = AH together with MMB 0.33 = MMB with other EU institutions 0.00 = MMB on proposal of other EU institutions
V10	Resource dependency of agency	1.00 = agency levies fees for its services and exclusively finances itself with these 0.5 = agency is run on mixed financial resources (EU budget, member state contributions, fees) 0.0 = agency is run on the EU's (yearly) budget plan
C4	Formal independence of agency head (AH)	
V11	Term of AH	1.00 = over 6 years 0.75 = 5 to 6 years 0.50 = 3 to 4 years 0.25 = 1 to 2 years 0.00 = no fixed term
V12	AH selection and appointment	1.00 = MMB select and appoint AH 0.67 = MMB select AH candidates, other institution(s) appoint(s) AH 0.33 = other institution(s) select(s) AH candidates, MMB appoint AH

(Continues)

Table 1 Continued

		0.00 = other institution(s) select(s) and appoint(s) AH
V13	Rules for AH dismissal	1.00 = dismissal impossible (except in cases of legal breaches/disciplinary offenses)
		0.67 = dismissal by MMB
		0.33 = dismissal by MMB upon suggestion from other institution
		0.00 = dismissal at discretion of other institution
V14	Reappointment of AH	1.00 = no
		0.50 = yes, once
		0.00 = yes, more than once
V15	(Formal) AH independence	1.00 = yes, formal requirement
		0.50 = requirement to reveal conflicts of interest
		0.00 = no formal requirement
V16	Formal requirement of AH qualifications	1.00 = yes
		0.00 = no
V17	Reporting obligations towards EP	1.00 = no
		0.00 = yes
C5	Members of the Management Board (MMB)	
V18	Term of office MMB	1.00 = over 6 years
		0.75 = 5 to 6 years
		0.50 = 3 to 4 years
		0.25 = 1 to 2 years
		0.00 = no fixed term
V19	Composition of MMB	1.00 = only member state representatives (nominated members) with voting rights
		0.67 = EU institution representatives (nominated members) with voting rights (less than 1/3 of votes)
		0.33 = EU institution representatives (nominated members) with voting rights (more than 1/3 of votes)
		0.00 = only EU institution representatives (nominated members)
V20	Reappointment of MMB	1.00 = no
		0.50 = yes, once
		0.00 = yes, more than once
V21	(Formal) MMB independence	1.00 = yes, formal requirement
		0.50 = requirement to reveal conflicts of interest
		0.00 = no formal requirement
V22	Formal requirement MMB qualification	1.00 = yes
		0.00 = no
V23	Voting quorum MMB	1.00 = simple majority
		0.67 = absolute majority
		0.33 = qualified majority/two-thirds
		0.00 = unanimity
V24	Budgetary, administrative or other sub-forum of management board	1.00 = sub-forum in founding regulation
		0.50 = optional sub-forum
		0.00 = no sub-forum in founding regulation

decision-making processes and to which degree they can ex-post litigate against or change decisions. The third category (C3) measures managerial independence. It captures the degree to which EU-level principals can exert ex-ante and ex-post control through selecting staff, organizing the agency's internal structure and adjusting an EU agency's budget.

The second dimension of our index measures the *formal independence of decision-makers*. Its two categories (C4 and C5) focus on the formal independence of agency heads and management board members. We argue that higher independence of these decision-makers from EU-level principals both in their nomination, that is, through



an independent selection procedure, and in office, that is, through an independent dismissal procedure, leads to higher independence of EU agencies.

The values of each of the 24 items of the index varies between 0 and 1, with 1 meaning maximum independence and 0 meaning minimum independence. The index is additive and all categories have the same weight. To compile an independence score for an agency, we add the means of each category and divide the result by five. Thereby, our independence scores also vary between 0 and 1. As a consequence, independence in decision-making contributes slightly stronger to an agency's formal overall independence than the independence of decision-makers. We argue that this slightly stronger weight of independence in decision-making is justified by the fact that decision-makers' high independence is only meaningful if their agency can take decisions which are not largely determined by other EU institutions. Table 1 displays the index categories and items. Tables A1–A3 in Appendix S1 provide an overview how the weighting of our categories differs from the weighting in Wonka and Rittberger (2010). In Appendix S1, we also discuss why we opt for weighting our items with such a composite index instead of an IRT model and present the results of such a model with empirically weighted items in Figures A2 and A3.

### 3.2. The categories and items of the independence index

This sub-section discusses the items of the revised index. For differences to the Wonka and Rittberger (2010) index, please consult Tables A1–A3 in Appendix S1.

First, dimension 1 encompasses the categories C1 to C3, measuring structural independence in *decision-making*. Category C1 measures general independence provisions in EU agencies' decision-making procedures, while categories C2 and C3 differentiate between the agencies' independence in policy and managerial matters. This differentiation is in line with mainstream research on national agencies that distinguishes between an agency's room for maneuver in policy and organizational questions. It has also been applied to EU agencies (Kleizen & Verhoest, 2020) and might be the result of different agencification motives: Whereas category C2 clearly mirrors Majone's (1999) take on agencies as hubs of decision-making based upon independent expertise, category C3 reflects the perspective of the New Public Management literature on agencification, which emphasizes the intention to separate policy and operation (Verschuere & Bach, 2012).

C1 is a framework category capturing general decision-making independence. It consists of four items measuring whether EU agencies' general decision-making is shielded from the influence of other EU institutions. V1 measures whether an EU agencies' independence is formally stated in its founding regulation. Such provisions reveal legislative principals' most general intention for an agency's mission. They further enable agency officials and management board members to deflect principals' attempts to influence decision-making. V2 and V3 capture the extent to which an EU agency is obliged to report prospectively and retrospectively on its actions. Combined, they measure whether an EU agency's programming and account-giving provides other EU institutions with ex-ante and ex-post opportunities to influence their agenda. Lastly, V4 captures whether an EU agency is subject to regular or non-regular evaluations by other EU institutions. Even though an evaluation might result in the expansion of an agency's independence, it primarily brings an agency into the spotlight of its EU-level principals. Because it provides a justification to revisit an EU agency's legislative basis it reminds decision-makers within the agency of the "shadow of hierarchy" looming over its decision-making.

Category C2 measures agencies' *policy decision-making independence* with regard to three aspects: Do agency decisions require the consent of other EU institutions? Is it free to act at will? And how accessible are its decisions for external review? V5 measures the influence of other EU institutions on an agency's policy decision. Establishing decision-making procedures which require an agency to cooperate with other actors or which can be used to overrule the agency, is a typical ex-ante control mechanism (McCubbins et al., 1987). The baseline of no independence here is that an agency can only provide information, but the Commission, the Council and the EP decide if and how a decision will be taken. The agency has more independence if its decisions take effect unless its principals overrule it or if it can decide alone. When measuring an agency's independence in decision-making, we account for two distinct types of agency decisions: EU agencies' independence in taking regulatory decisions and their independence in engaging in operational decisions. For instance, the European Maritime Safety Agency (EMSA) may provide advice on the Commission's regulatory agenda upon request. Regarding regulatory

decisions, this is mere information provision and coded as no independence. However, EMSA independently decides on visits to member states to inspect their application of maritime safety regulations. As other EU institutions are not involved in EMSA's decision to schedule visits, it is coded as independent from other EU institutions in its operational decision-making procedure. If an agency is involved in different types of procedures, we coded the one in which it enjoys the highest independence. V6 complements this decision-making measurement by accounting for an agency's independence to decide when to act in the procedure coded for V5 or whether it is bound by specific requests by other EU institutions in its actions. This is a second integral component of ex-ante control: Even if EU institutions are not a part of the decision-making process, they can shape and steer an EU agency if they are able to request it to become active. V7 turns to an agency's protection from ex-post controls, namely whether an agency has an appeal board. Appeal boards shield an agency from other types of external review. From a legal perspective, this board usually has to decide first before a case may go to the European Court of Justice. From an institutional perspective, an appeal board additionally protects decision-makers in an agency from attempts by other EU institutions to revise their decisions (see for example for the energy sector Hancher et al., 2021).

Category C3 captures *independence in managerial decision-making* by measuring an EU agency's ability to decide on its internal structures, the selection of its staff and whether its budget is shielded from principals' influence. V8 captures the actors who decide on the internal organization of the agency. Bureaucratic theory argues that organizational structures have a strong impact on how agencies distribute their attention and internal resources across potential issues (Egeberg & Trondal, 2018). The less the principals are involved in these decisions, the higher the agency's independence in determining the focus of its work. In our index, an agency is most independent if its head decides on its internal structures alone. V9 measures the recruitment of agency staff. One important ex ante control mechanism is principals' involvement in the selection of personnel and its ability to select staff that shares its preferences (Ennser-Jedenastik, 2016; Moe, 1990). The more limited the involvement of principals in staff decisions, the greater therefore the independence of the agency. V10 measures an agency's independence with regard to financial resources: If the agency is financed mostly by fees, paid for example by market participants, it is financially independent from its principals and the ex-post control mechanism of reducing the budget is unavailable.

Dimension 2 focuses on the *independence of the decision-makers* within the agency. It captures the rules for the (de-)selection of agency heads (category C4) and the composition of management boards (category C5), which are the main decision-making bodies of EU agencies.

Category C4 measures the *independence of agency heads* through four ex-ante and three ex-post control mechanisms. The appointment procedure of the agency head is an important ex-ante control mechanism. The first item in category C4 is the duration for which an agency head is appointed (V11). The assumption is that a longer term of an agency head leads to greater independence. We assume that agency heads have a stronger incentive to cater to principals' preferences if the period to re-appointment is shorter. A longer duration of a term reduces this incentive and makes it also more likely that the agency head will retire at the end of their term. V14 asks whether an agency head can be reappointed. This item follows a similar logic as V11: If reappointment is not a possibility, an agency head can fulfill their duties without considering the impact on principals' willingness to reappoint them. V12 concerns the selection and appointment procedure: Agency heads have the greatest independence if they are selected and appointed by the agency's own management board. We assume that management board members, usually working for national authorities, have the weakest incentive to appoint an EU agency head who will cater to the interest of EU principals. The more these EU principals are involved in the selection and appointment process, the higher the likelihood that the agency head is picked according to the agenda of these institutions which, we argue, reduces an agency head's independence from the agency's principals. Finally, V16 measures whether the agency head needs to fulfill any formal qualification. This provision both shrinks the possibilities for nepotism and increases the likelihood that agency heads can act independently from other EU institutions, building upon their expertise and qualifications. Three items measuring ex-post control complement these measurements of ex-ante controls. De-selection is one of the most obvious ex-post control mechanisms. V13 captures the rules for agency head dismissal: A weaker influence of EU principals on this decision reduces the agency heads incentives to consider their preferences. Independence is highest, if the agency head cannot be dismissed for political reasons. V15 measures whether

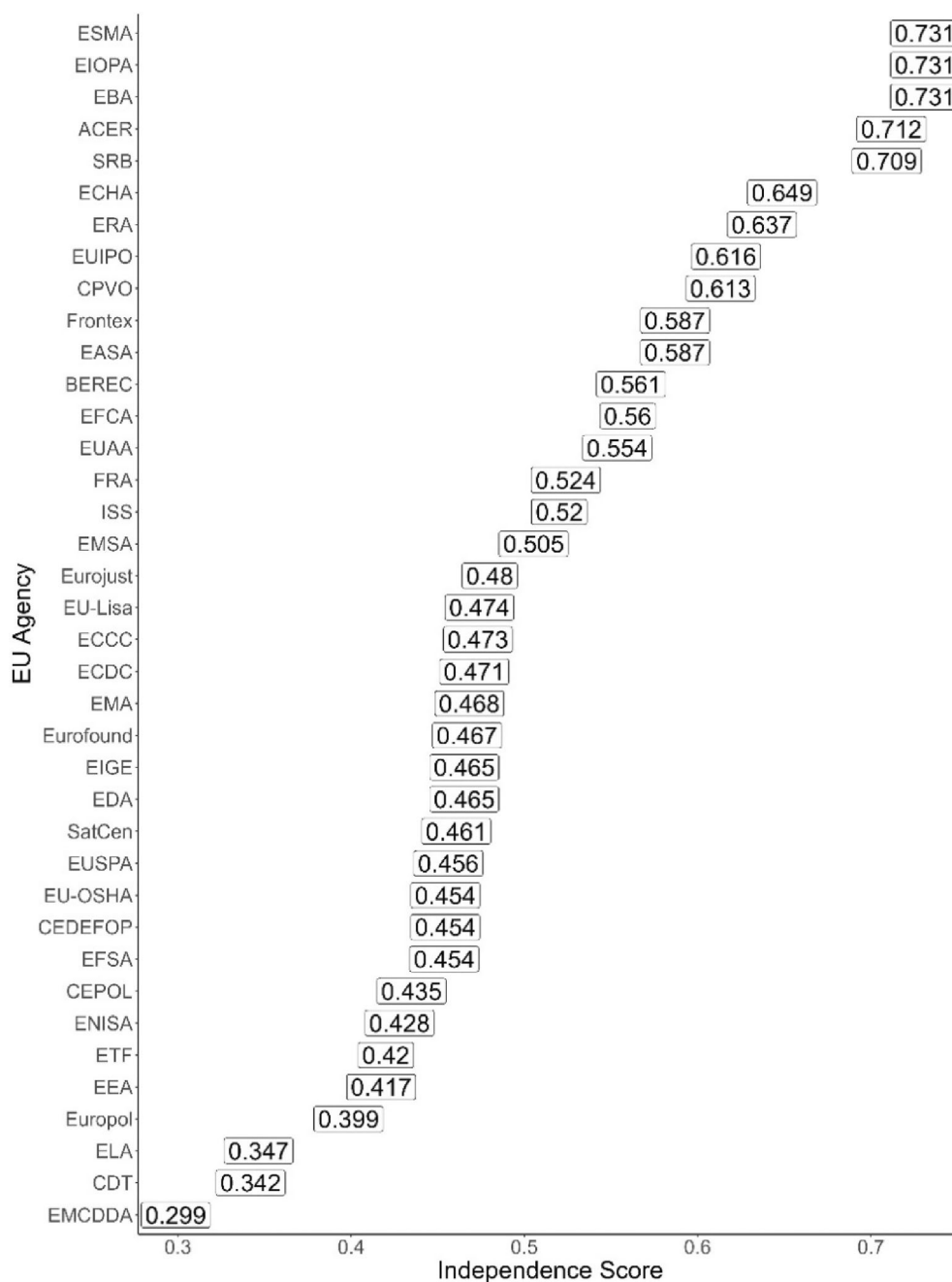
independence of an agency head is formally laid down in an agency's founding regulation. The Council has been involved in the setup of all EU agencies and all EU agencies thus need to report to the Council. However, the rise of agencies occurred in parallel to the strengthening of the EP. Its members are driven by partisan motives and the diverse political groups represented in the EP lends its oversight a politicized character (Font & Perez Duran, 2016). Accordingly, the EP increased its oversight over EU agencies by introducing regular parliamentary hearings of the agency head. Hence, V17 captures the formal reporting obligation of the agency head vis-à-vis the EP (V17). Such reporting requirements, we argue, reduce agency heads' independence as they introduce another layer of control than reporting requirements to the Commission and the Council.

Category A5 also measures the *independence of management board members* from EU institutions through items capturing four ex-ante and three ex-post control mechanisms. The four items measuring ex-ante control through appointment procedures are analogous to category 4, capturing term of office (V18), possibility of reappointment (V20), statement of formal independence (V21) and requirement of formal qualifications (V22). To capture the impact of ex-post controls on agencies' formal independence, we added three new items, that take hitherto neglected peculiarities of EU agencies into account: First, we consider the composition of the management board. V19 indicates how strongly the agency's principals are represented among voting members on agencies' management boards. V19 thus captures the formal means available to EU principals to shape the decisions of an agency's management board. Second, V23 takes the voting quorum in the management board into account: The smaller the majority needed, the weaker the influence of voting members from its EU principals and the more independent the agency. For instance, if a board decides with unanimity, a voting board member from the Commission can veto any decision. The influence of individual representatives from EU institutions on the board is much lower if a decision requires only a simple majority among board members. Finally, item V24 captures whether an EU agency's management board has a sub-board for administrative questions. Empirical studies demonstrate, that the members on management boards coming from national authorities are often too busy domestically to keep up with the engagement of Commission members (Busuioac, 2012; Font, 2018) and that these sub-boards mushroomed in recent years across EU agencies. We therefore assume, that a formally required sub-board for financial, administrative or similar tasks frees resources among member state members of the management board to address substantial questions otherwise left to the Commission representatives and therefore weakens the control function of the Commission. This increases the independence of the agency (Font & Pérez-Durán, 2022; Leidorf-Tidå & de Boer, 2022).

#### 4. The formal independence of EU agencies: Superficial stability and temporal variation

We measure EU agencies' formal independence on the basis of legal texts. Our dataset covers the founding regulations of all currently existing 38 agencies, 33 overhauls or re-casts of these founding regulations, and 129 amendments to regulations.<sup>1</sup> In addition, it includes the founding regulation of the now defunct European Agency for Reconstruction (EAR) plus five amendments. Combined, we thus have 206 observations (founding regulations, revised regulations, and amendments to regulations). The data provide systematic and comprehensive information on the formal independence of EU agencies, ranging from the first two agencies founded in 1975 (CEDEFOP working on vocational training and EUROFOUND working on living and working conditions) to newly created agency for cyber security ECCC, as well the most recent amendments to founding regulations that were adopted in 2022. For a first overview, Figure 1 shows the independence scores of the latest legal basis of all EU agencies. Table A5 in Appendix S1 provides the summary statistics for the latest legal basis of all EU agencies, while Table A4 in Appendix S1 lists the independence scores as well as the values for the two dimensions and the five categories for all agencies.

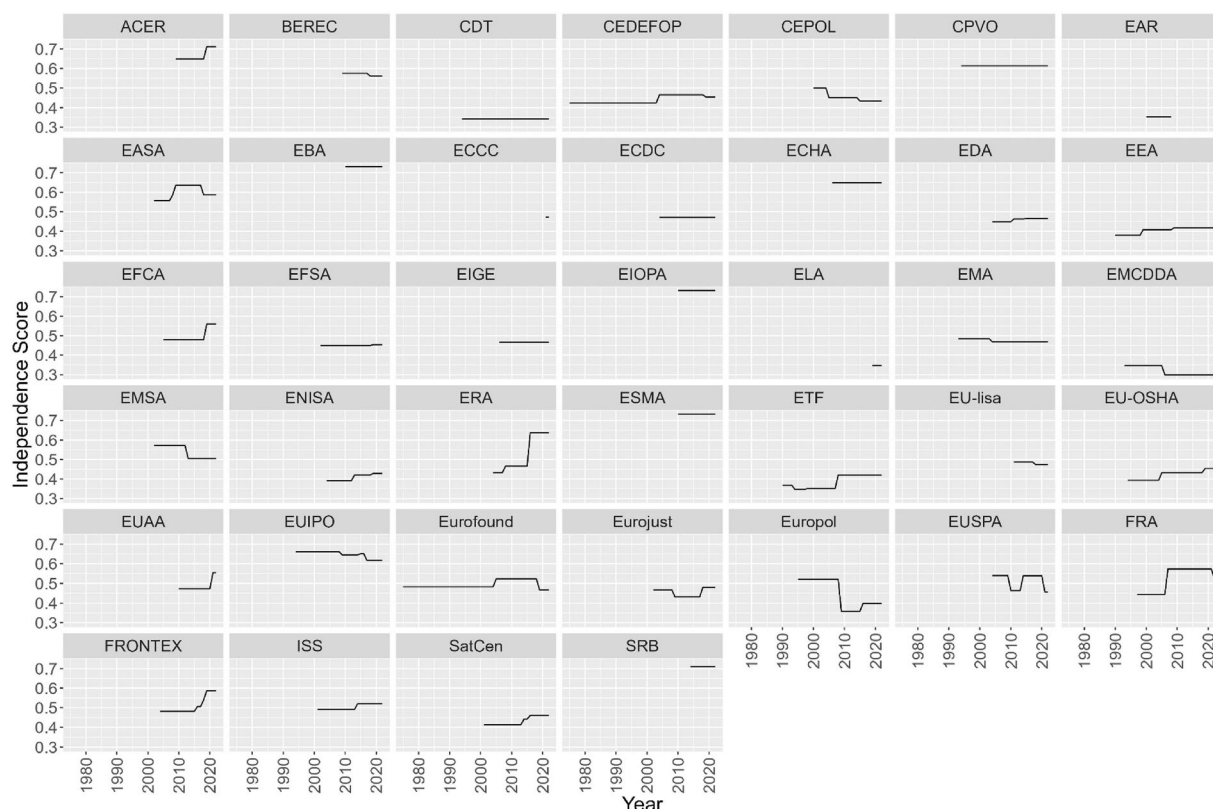
The following section provides a comprehensive longitudinal overview of EU agencies' formal independence in two steps. First, we take a case-centered perspective and analyze if and how the independence of individual EU agencies has changed over time. Second, we take a population-centered perspective and analyze how independence scores changed across all EU agencies.



**Figure 1** EU agencies' independence score today.

#### 4.1. The case-centered perspective: The impact of agency reforms on formal independence

EU agencies have multiple principals. Any change in their legal framework and thus any change in their formal independence requires the support of the Commission, the EP and most of the EU's 27 member states in the Council. The 33 revisions of EU agencies' founding regulations as well as the 134 amendments demonstrate that agencies' principals regularly change their formal institutional design. On average, each agency has seen four reforms of its legal basis. The agency whose legal basis has been amended most often is the medicines agency EMA with 13 changes. The founding regulations of only five EU agencies have never been amended or re-cast. In two cases, the labor authority ELA (established in 2019) and cybersecurity centre ECCC (established in 2021), this is due to these agencies' recent creation. How did these legislative changes affect EU agencies' formal



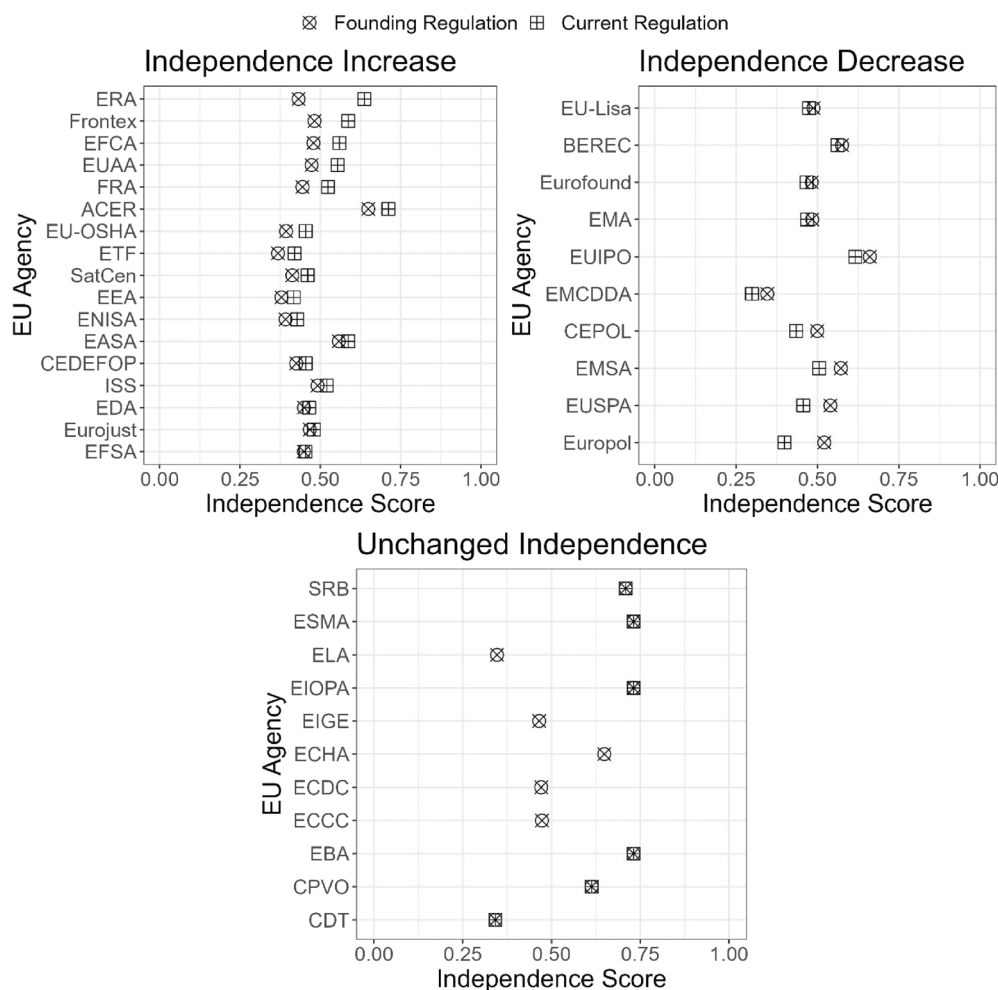
**Figure 2** EU agencies' independence score over time.

independence? Figure 2 traces the changes in formal independence for each EU agency over its entire life cycle. It shows both considerable changes in formal independence as well as differences in the magnitude and direction of these changes across agencies.

While 17 EU agencies' formal independence increased, 10 saw a decrease in independence from their EU principals.<sup>2</sup> For seven EU agencies changes to their founding regulations did not affect their formal independence. Nine agencies show both increases as well as decreases in their formal independence over time. This is a first indication that policy-makers do not use one agency blueprint but tailor EU agencies' institutional design to their respective preferences. Figures A5–A11 in Appendix S1 trace the changes in formal independence for each EU agency for each dimension and category of our index.

We now provide a more detailed picture of changes to agencies' formal independence and their implications. Figure 3 sorts the 38 EU agencies operating today into three groups: Agencies whose independence increased, decreased or did not change at all since their creation. Within each group the ordering of EU agencies reflects the size of changes to their formal independence. At first glance the data imply stability: On average the formal independence of EU agencies has increased by a mere 0.01 over time. A closer look, however, reveals considerable variation: The formal independence of EU agencies whose independence increased has, on average, risen by 0.06. Within the group of agencies that has seen a reduction in formal independence, the mean independence score decreased by 0.05. We identify considerable variation within each group: While the formal independence of the food authority EFSA has only increased by 0.005, the independence of the railway agency ERA has increased by 0.2. The range of changes among agencies with decreasing independence scores is smaller. The formal independence of the IT agency EU-Lisa fell by 0.01, while that of the space and satellite agency EUSPA fell by 0.13.

How do we interpret such small or large changes in independence? To provide readers with an idea about the actual institutional changes captured by these values, we illustrate these for two agencies whose formal independence has changed least and two agencies who experienced largest changes in their formal independence.



**Figure 3** Independence score change within each EU agency between their founding regulation and their current regulation.

The two agencies with the smallest positive and negative changes are EFSA and EU-Lisa. The independence of EFSA has only slightly increased despite 10 amendments to its founding regulation. Only the most recent amendment in 2019 changed its formal independence. It increased its independence from EU principals by reducing the direct control of management board members. At the same time, EFSA has experienced a small reduction of its independence through the abolishment of fixed terms for management board members. In practice, this change strengthened the influence of domestic regulators and weakened the influence of EU institutions. The same is true for EU-Lisa whose founding regulation has been amended eight times and which lost formal independence in the revision of its founding regulation in 2018. It lost independence by the abolishment of any limits for term renewals of its management board members who now also do not have to possess IT qualifications anymore. The agency also lost independence in the hiring of its staff. At the same time, EU-Lisa gained independence in its ability to decide on its internal structure and through the formal requirement of its board members' independence. Principals reconfigured both EU-Lisa's managerial decision-making independence and its management board member independence resulting in a net loss of independence. Despite the small change in formal independence, both EU agencies saw multiple changes fine tuning different control mechanisms.

The two agencies with the largest positive and negative changes of their independence are ERA and the internal security agency Europol. ERA is the agency that gained most independence over time. All formal independence gains occurred in the revision of its founding regulation in 2016. Most strikingly, it gained policy decision-making independence by, for example, being able to take binding decisions that can hardly be overruled by other actors. In addition, it gained management board member independence. Despite being the agency that



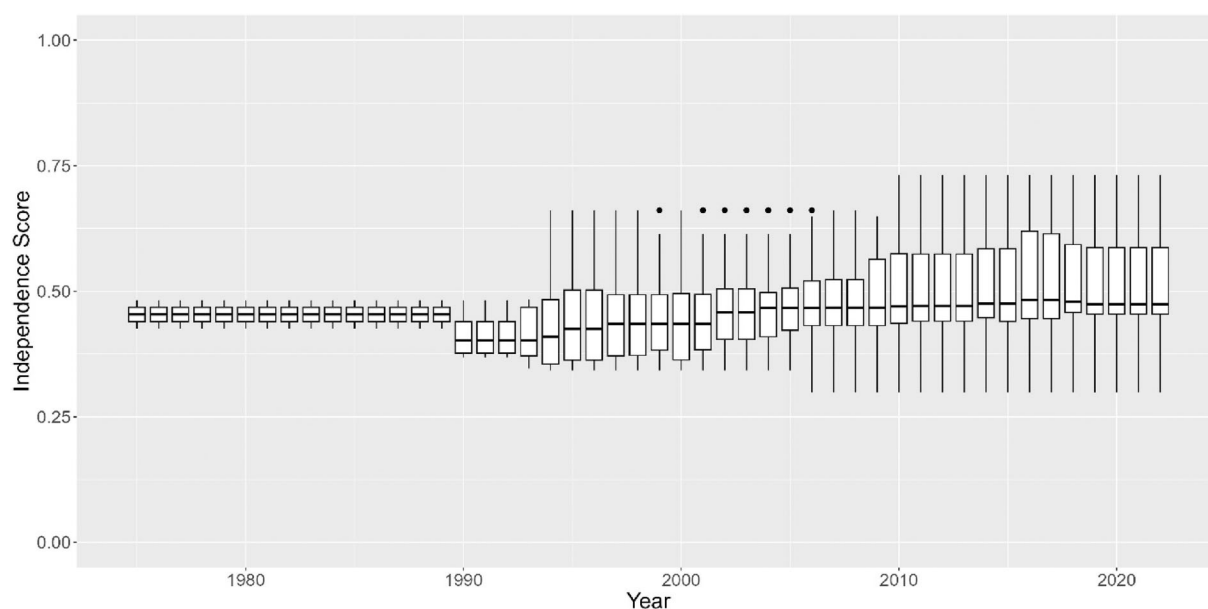
gained most formal independence over time, ERA also lost independence on some items measuring general decision-making independence: the agency is now regularly facing evaluations and the Commission can change its annual working program easier. Lastly, Europol is the agency whose formal independence decreased the most. These changes occurred in the revisions of its founding regulation in 2009 and in 2016. The 2009 revision moved Europol's legal basis from an intergovernmental convention to an EU regulation. This reduced Europol's managerial decision-making independence, because it is financed now by the general EU budget. Moreover, its general decision-making independence decreased, since it is regularly evaluated and the Commission's influence on Europol's working program has increased. In two additional categories—agency head independence and management board independence—Europol saw increases as well as decreases in its independence on different items. Both cases thus illustrate the gradual nature of these independence changes: even behind larger changes in formal independence, there are simultaneous increases and decreases in formal independence across different items. In other words, instead of uniformly increasing or decreasing ERA's and Europol's independence, principals adapted individual items resulting in an increase in ERA's independence and a decrease in Europol's.

This illustration of changes experienced by these four agencies portrays a permanent fine-tuning of agency independence by the principals resulting in increases and decreases of agencies' independence. This fine-tuning produces gradual change, even for agencies that experienced larger changes on particular items. Our fine-grained data thus allows provides valuable data to enrich case studies about the development of individual EU agencies (cf. Deruelle & Engeli, 2021; Dunn Cavelty & Smeets, 2023). Moreover, it provides data for future longitudinal studies which set out to explain increases and decreases in EU agencies' formal independence.

#### 4.2. The population-centered perspective: EU agencies' independence over time

From existing cross-sectional studies we derived two rivaling expectations regarding the development of EU agencies' independence at large. On the one hand, as the competences of many EU agencies increased, formal independence would decrease over time. On the other hand, as EU agencies became more and more object of majoritarian decision-making, their independence would increase over time.

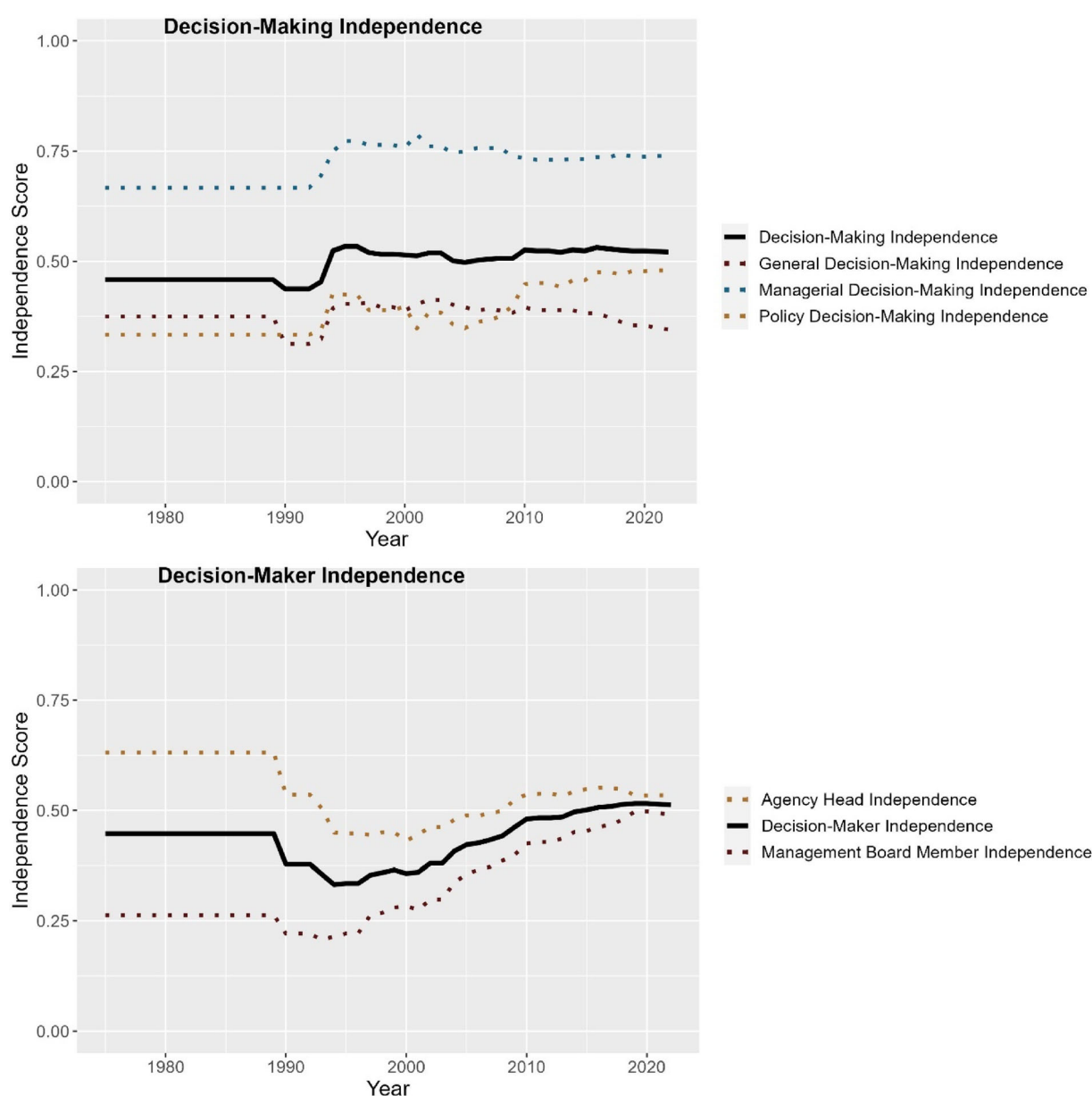
Figure 4 plots the formal independence of EU agencies for each year since 1975. First, we see a stable median. Throughout the 1970s and 1980s only two EU agencies existed (CEDEFOP and EUROFOUND). During the first wave of EU agency creation in the 1990s, agencies' median independence began to decline. Throughout the 1990s the median rose again and has remained relatively stable for the last two decades.



**Figure 4** Boxplots of EU agencies' independence score from 1975 until 2022.

Second, the upper and lower limits of the population—as can be seen from the boxplots—have likewise remained relatively stable. Following the first wave of agency creation, the translation center CdT was the EU agency with the lowest independence score (0.34). This has changed in 2006 when the founding regulation of the drug agency EMCCDA was amended and its formal independence score decreased (from 0.35 to 0.3). Zooming in on the evolution of the maximum independence score, the intellectual property office EUIPO was the most independent EU agency (0.66) for a considerable time but was joined by the ESAs (the European supervisory agencies) with an independence score of 0.73 in 2010, which were established to remedy regulatory deficits exposed by the financial crisis.<sup>3</sup>

Third, we see that that interquartile range and the length of whiskers increases over time, showing that agencies become more diverse. This insight is, however, only part of the story: the range and thereby the variance of the third quartile of formal independence is much larger than the second quartile. In cases where EU-level principals wish to curtail the independence level of an EU agency below the median, they stay in most cases in a small



**Figure 5** Mean independence scores of EU agencies across categories.

corridor that they consider functionally necessary. When they wish to endow an agency with formal independence above the median, they opt for much more diversity. This is a further indication that EU-level principals customize EU agencies' institutional design to their preferences.

Zooming closer into our index, we now analyze changes and differences in the independence scores of the five categories that constitute our index. Figure 5 shows mean independence scores for our two dimensions and each category within it. Since the expansion of EU agencies in the 1990s decision-making independence displayed higher values than decision-maker independence. This has changed in the last decade and the mean scores of the two dimensions are now nearly identical. Within the dimension of decision-making independence, managerial decision-making independence has always had the highest mean value. While the mean independence values of policy decision-making has increased during the last decade, general decision-making independence, instead, decreased. Within decision-maker independence, the mean value of agency head independence was relatively high for the first two EU agencies CEDEFOP and EUROFOUND. With the creation of further agencies in the 1990s, its mean value decreased strongly but has slowly increased since 2000. Management board member independence, historically, was significantly lower than that of agency heads. It has, however, increased stronger and is today only slightly lower than the mean independence score of agency heads. The findings suggest that the EU-level principals were least concerned about managerial decision-making independence and agency head independence. At the same time, they were hesitant to grant a high level of independence to management boards. This changed considerably over time, with management boards gaining more and more independence from EU institutions. Moreover, in the beginning, they preferred granting higher general decision-making independence than specific policy decision-making independence. This relationship flipped, however, and we now find more leeway with regard to detailed policy-decisions, but more control of general decision-making, for example, via working programs and reports. In other words: Steering of decision-making moved from the micro-level of single decisions to the meso-level of work programs, evaluations and the like.

What do we learn from this descriptive perspective on the agency population's formal independence over time? Theoretically, we do not find evidence for either of the expectations outlined above. EU agencies' competences have increased over time while their independence has not decreased significantly. For instance, the energy agency ACER and the ESAs, created in the third wave of "agencification," shifted the upper boundary of EU agencies' independence (to 0.73). Qualitative research on these agencies reveals that they also received considerable decision-making competences (Busuioc, 2013; Ruffing, 2022). The ESAs have even seen a number of competence increases over time which led the Commission to suggest a change in their governance setup. This was, however, blocked by member states (Blunck, 2017). Another example that competence increases and formal independence do not necessarily correlate are ERA and EMA. Both obtained significant new competences in the authorization of railway carriages and pharmacovigilance. While ERA's formal independence thereby increased, EMA lost some independence. A final example are the border protection agency FRONTEX and EUROPOL whose competences increased over time (Scipioni, 2018). However, while FRONTEX's independence increased, that of EUROPOL decreased when its legal basis was moved in the realm of majoritarian EU politics. Hence, even though EU agencies might receive more competences nowadays, that does not automatically mean they obtain more formal independence in the process.

At the same time, even though all EU agencies are now subject to (super-)majoritarian decision-making, we do not find a significant increase in their independence. Certainly, the aforementioned European supervisory authorities (EBA, EIOPA, and ESMA) as well as ACER and the Single Resolution Board all received a high level of formal independence at their creation and operate within the former "supranational" first pillar, which includes internal market policies. However, the EU still creates agencies in this policy field with comparatively low levels of independence such as ELA in 2021 (0.35). Subjecting justice and home affair agencies to (super-)majoritarian policy-making likewise did not increase their independence, in the case of Europol and of the law enforcement training agency CEPOL it even decreased. Moreover, new security agencies such as EU-Lisa (0.45) and ECCC (0.47) are not setup with above average formal independence levels.

Even though this descriptive presentation of our dataset does not produce conclusive evidence for these two expectations, we identify a striking variance behind a stable median of formal independence. Principals seem to have a blueprint of low formal independence that they regularly employ to EU agencies, while they do not have such a model for EU agencies above the median. Moreover, their preferences for different forms of formal

independence have changed over the years: Today, EU-level principals are more willing to establish higher management board and policy decision-making independence than in the 1990s. At the same time, they are less willing to grant general decision-making independence. The longitudinal data on the developments of EU agencies' formal independence make an interesting case for explanatory studies to account for increases- and/or decreases of the formal independence of EU agencies cross-sectionally and longitudinally.

## 5. Conclusion

In defiance of the permanent crisis mode in the last decade, new EU agencies have been created, existing agencies have been reformed, and agencies' institutional design has been frequently adjusted to respond to new socio-economic and political circumstances. Against this backdrop our knowledge of EU agencies' independence has remained fragmented. This is due to the absence of longitudinal data on agency independence and an appropriate measurement instrument. Our article addresses these shortcomings by revising existing indices to measure agency independence over time and to overcome conceptual deficits of existing measurement approaches. Doing so, it applies a lexicometrics approach, covering formal rules by coding legal texts. With the help of this index, we compiled a novel dataset, capturing for the first time information on the independence of the EU's entire agency population over time. Both, the index and the dataset, are important contributions, which the research community can draw on to empirically enrich the "rules as data"-debate and to explore different facets of the EU's evolving administrative system.

Our descriptive analysis of EU agencies independence over time highlighted two important findings: At the *case level*, we demonstrated that individual agencies are subject to considerable changes in independence. Despite the required supermajorities to amend agencies' regulations, we see a permanent fine-tuning and incremental change in agency independence. Moreover, an illustrative look at these changes shows that reforms tend to both curb and expand independence within the different independence-categories. This finding informs the academic discussion on the development of individual EU agencies in the European administrative space and delegation to agencies beyond the nation state (Egeberg & Trondal, 2017): Our findings show that EU agencies, in addition to an often-discussed gradual increase in competences (Scipioni, 2018), can also see gradual change in their formal independence. On the basis of our measurement, future research can systematically elucidate the drivers of independence increases and decreases.

At the *population level*, our data show that there is no clear trend towards more or less independent agencies. Our study produced no evidence that the explanatory approaches provided by cross-sectional studies can also be applied to longitudinal research. Despite the increase in EU agencies' competences, the overall population did not see a decline in formal independence. And even though all EU agency regulations are subject to (super-)majoritarian decision-making, the overall population did not gain formal independence. As our analysis shows, a minimal amount of independence seems to be functionally necessary, as the agencies below the median of the population have quite similar independence scores. For agencies above the median, principals opt for much more variety. In other words: A very small degree of independence seems to be more problematic for the principals than a very high degree.

Moreover, we find a remarkable degree of change across the categories that constitute our index. Our findings indicate that the EU agencies' principals have changed their preferred steering mode. Legislators consistently grant high levels of formal managerial decision-making competence, and did so even before managerial independence became "fashionable" in the 1990s as typical motive for agencification (Kleizen & Verhoest, 2020; Verschuere & Bach, 2012). Instead, they exerted stricter control with regard to individual policy decisions. Over the years, the principals moved away from controlling individual decisions of EU agencies and focus instead on general steering tools such as annual reports and evaluations. These insights demonstrate that the differentiation between different categories of independence in our index is particularly fruitful. Future research could explore the reasons for such changes in steering modes. We contend that approaches that problematize the trade-off between agency control and granting the agency more independence to effectively address regulatory or operational problems could be a particularly fruitful endeavor (Abbott et al., 2020).

Finally, management board members' mean independence has nearly caught up with agency heads' independence. This indicates that EU-level principals are increasingly willing to send more independent representatives

into agency boards even at the risk of losing one venue of agency control. This contributes to debates about dual delegation processes in which member states first delegate tasks to independent domestic agencies and then endow them with influence in independent EU agencies (Egeberg & Trondal, 2018).

All in all, we demonstrated that there is striking variance on the cross-sectional as well as on the longitudinal dimension of EU agency independence. This mapping of the EU agency world lays the ground for future research exploring the reasons for this variance and elucidating its consequences for policies and politics in the EU's political system—research that can both enrich case studies and enable systematic population analyses.

## Acknowledgments

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## Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

## Endnotes

- <sup>1</sup> Table A7 in Appendix S1 lists the reference numbers for all legal texts in our dataset.
- <sup>2</sup> Interestingly, all 33 re-cast regulations led to changes in formal independence but only 20 of the 129 amendments led to such changes even though the decision-making procedure is the same for both. EU-level legislative principals seem to reserve formal independence changes to regulatory overhaul but amend an agency's scope with amendments (see Figure A4 in Appendix S1 for a boxplot on this distribution).
- <sup>3</sup> Table A6 presents the results of five different *t* tests. In short, we found no significant differences between EU agencies created in the former “supranational” first pillar (market policy) compared to the former “intergovernmental” second and third pillars (external and internal security). We also found no significant difference between agencies created before and after the Lisbon treaty and between agencies created in the first wave (1990–1997) and the second wave (1999–2007). We found, however, significant differences between agencies created in the first and third waves (2009–2022) as well as between the second and third waves. We argue that this finding is driven by the unusually high independence of the European supervisory agencies—EBA, EIOPA, and ESMA—and the SRB created after the financial crisis (Curtin & Dehousse, 2012).

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## Supporting information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

**Appendix S1** Supplementary Information.