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EU Influence in Global AI Governance and its Limits

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Abstract

When the European Union (EU) finalized its AI Act in 2024, hopes in Brussels have been high that EU rules would diffuse globally through a "Brussels Effect". We investigate how justified these hopes have been. AI rules are too young to allow a simple ex post analysis. We therefore combine two inferential strategies: we compare AI as a governance challenge to other cases of successful EU rule export, establishing parallels and differences across policy fields that either promote or obstruct an AI Brussels Effect. And we empirically canvas what national and international rule setting there has been already. Against the optimistic tenor of the literature and Brussels policy discourse, we find three reasons to be skeptical of big EU influence: first, in a kind of pre-emptive concession, EU AI rules had already been watered down in the face of especially US competition in AI. Second, the relative vagueness of EU rules means that de facto harmonization of rules and practices across borders will be shallow at best. And third, rule diffusion in AI is above all meaningful when it reaches countries that themselves are leading AI developers—and it is there especially that we observe no Brussels Effect so far.

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Introduction

When the European Union (EU) adopted the AI Act (AIA) in March 2024, it aspired to shape AI governance beyond European borders, too, and "[to make] the Union a leader in the uptake of trustworthy AI" (Council of the European Union 2024, 12). This ambition reflects the global clout that the EU has gathered over the decades, for example in environmental policy or data privacy (Bretherton and Vogler 2006). Anu Bradford (2012) famously identified a Brussels Effect through which EU rules diffuse around the world, and policymakers and scholars alike have hoped for similar EU influence in AI (Bradford 2023; Dempsey et al. 2022; Krasodomski and Buchser 2024; Meyers 2023; Siegmann and Anderljung 2022; Stix 2022).

AI governance is a distinct policy field, however: the economic stakes are enormous, the technologies in question evolve rapidly, and the companies building them are concentrated in a handful of countries. Given these characteristics, we therefore treat the Brussels Effect in AI as an open question: how likely and impactful should we expect it to be? And in particular, when is such an effect is transformative, meaning that it triggers a genuine reorientation of domestic policies in third countries? Following the Europeanization literature, such a transformative Brussels Effect stands in contrast to mere rule absorption, in which EU policies are transposed without actual implementation or other forms of substantial impact (Börzel and Risse 2003). In short, the more EU rules change foreign practices "on the ground" by travelling there, the more transformative—and thus meaningful—the Brussels Effect is.

AI governance is a young policy field, and the historical track record is limited. We cannot assess the strength of a Brussels Effect based on empirical data alone—a clear handicap for our endeavor. Nevertheless, the question is urgent: if the EU can exert global influence as a legislative front-runner, it can remain open to foreign AI companies, because global rule setting will eventually emulate the European approach. If, on the other hand, a Brussels Effect is systematically less pronounced in AI, the EU may need more hard-nosed policies to advance digital self-determination (Pohle and Thiel 2020)—possibly including forms of digital industrial policy and stronger digital trade restrictions. As the stakes are high, we therefore find it imperative to establish what scholarship can reasonably add to tackling this question.

Our analysis combines two inferential strategies. First, following an analogical mode of reasoning, we determine to which degree the preconditions for a successful Brussels Effect that have been observed in other policy fields are also present in AI. We take these

preconditions from Bradford's own work. We also, however, draw on the wider Europeanization literature (Börzel and Risse 2003; Lavenex and Schimmelfennig 2009; Risse, Cowles, and Caporaso 2001; Schimmelfennig 2010), of which the Brussels Effect is one specific version. With this scholarship we identify characteristics of a policy field that either promote or obstruct a Brussels Effect, and then investigate to what degree we also find them in AI policy. Methodologically, our study resembles a most-similar comparison (Gerring 2007), as core factors meant to drive a Brussels Effect such as the large domestic market and regulatory capacity, feature both for the General Data Protection Regulation (GDPR) and the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as well as for the AI Act.

Second, empirics are limited but not absent. For a subset of our questions, we can already marshal empirical evidence. We assess how independently or not the EU developed its own policy approach, what role independent standardization organizations play in AI governance, and to what degree other major AI powers have so far embraced EU rules. Although the ongoing AIA implementation makes a full ex-post evaluation impossible as of yet, the policy dynamic thus far already allows specific inferences.

The "size" of a Brussels Effect is impossible to measure in the absence of reliable, operationalizable indicators. Whether it is "strong" or "weak" is therefore in the eye of the beholder: to one, the glass is half full; to the other, half empty. Our contribution takes a different approach, positioning our findings relative to the relatively optimistic common sense in this debate. That generates three Brussels Effect-skeptical arguments. First, EU AI rules have been designed in the shadow of a potential competitive threat. Much EU AI governance is geared towards a competitive AI race. Politicians have frequently rejected tighter rules because they would dent the EU's AI competitiveness (Mügge 2024; Paul 2023). In that respect, the global context shaped EU rules, not the other way around.

Second, what EU rule diffusion we see is superficial: general guiding principles—such as ethical frameworks or a risk-based approach—are easy to agree on and copy, given that what matters is the actual operationalization, implementation and enforcement of concrete rules. Also in the EU itself, many specific provisions are yet to be decided and will often draw on templates from outside the EU, a dynamic we call "shallow harmonization".

Third, with cutting-edge AI concentrated in the USA and China, the real litmus test for the EU's global influence is its rules' impact in those two jurisdictions. We remain skeptical—on both empirical and theoretical grounds—that the EU can or will have a significant independent impact where it would matter most, even if rule diffusion is more likely elsewhere.

Our analysis concentrates on the time between the European Commission's first legislative proposal in 2021 and early 2025. We develop these arguments in three steps. First, we review the mostly sanguine assessments of a potential Brussels Effect in AI. We then delve into the preconditions for such a dynamic more systematically and add to those additional insights borrowed from adjacent literatures. The third step applies these arguments to AI and reasons them through, both conceptually and, where data is available, empirically.

EU influence in global AI governance – the prevailing optimism

The EU has earned a reputation as a regulatory superpower (Bradford 2012; Bremmer 2016), and many Brussels policymakers have been optimistic that it will be one in AI governance, as well—especially with its emphasis on "trustworthy AI" meant to set it apart from the USA and China (Ulnicane 2022a). The Commission, for example, argued that "[the] main ingredients are there for the EU to become a leader in the AI revolution" (European Commission 2018a, 19). Three years later it dedicated an entire chapter to "Creating EU global leadership […]" in the field (European Commission 2021, 7). Commission president Ursula von der Leyen dubbed the AIA a global "blueprint" (European Commission 2023b), as did Member of the European Parliament (MEP) and AIA co-rapporteur Brando Benifei (Reuters 2023). The official EP statement celebrated the "world's first comprehensive AI law" (European Parliament 2023), which, argued the European Parliamentary Research Service, may "influence global practices of AI developers" (European Parliamentary Research Service 2024, 5).

Scholars seemed to concur. Already in 2022 Gstrein surmised that "probably the most relevant achievement of the AIA to date might be its pioneering role [..]. This in itself has an impact on many areas of society, also beyond the borders of the EU" (Gstrein 2022, 19). Veale *et al.* noted that "the European Union and its member states have quickly emerged as a key player in the global regulation of AI […]" (Veale, Matus, and Gorwa 2023, 13). Bradford, too, underlined EU potential in global AI governance in her *Digital Empires*, concluding that "AI will be the next frontier of the Brussels Effect" (Bradford 2023, 348)—even while she also appreciated that empirically, the jury was still out.

Leading European policy think tanks have been similarly optimistic, with Meyers from the Centre for European Reform noting that "the EU [..] will continue to enjoy the most influence

on global technology regulations" (Meyers 2023).[1] And Krasodomski and Buchser from Chatham House have attested the AIA a capacity to "help to lead global change" by raising "the profile" for AI governance globally and by establishing the EU's new AI Office, even when they wondered whether the AIA would equal the GDPR in its global effect (Krasodomski and Buchser 2024).

Despite the EU's weakness in global AI-related markets (Straus 2021), the key to its power was seen in its market size and regulatory prowess (Brattberg, Csernatoni, and Rugova 2020; Ringhof and Torreblanca 2022). Siegmann and Anderljung (2022, 29) estimated the EU to be "no lower than 15% of the global [AI] market" (in a similar direction, Dempsey et al. 2022). Bradford has marshalled the "nearly 450 million relatively wealthy [EU] consumers" (Bradford 2023, 326) as a boost to an AI Brussels Effect. And with the EU forging ahead with hard AI law, third countries might thankfully copy its rules to avoid reinventing the wheel, especially for high-risk AI systems (Engler 2023). "[By] virtue of spearheading 'trustworthy AI', the EU has occupied a position where it has been able to shape the discourse on global AI governance discourse early on" (Stix 2022, 938).

This idea of a Normative Power Europe in AI, to borrow Manners' (2002) phrase, can go hand in hand with economic influence. Technology adoption often requires consumer trust, corroborating "the EU's mantra that its ethical approach to AI can be a competitive advantage" (Smuha 2021, 73). Brattberg et al. (2020) concurred, suspecting that strict rules might give the EU a leg up in global AI markets because consumers demand well-regulated "trustworthy AI", precisely because AI is such a complex regulatory challenge (Brattberg, Csernatoni, and Rugova 2020). Bradford argued that an increasing number of democratic governments "are coalescing around a view that the European regulatory model best enhances public interest, checks corporate power and preserves democratic structures of society, and are increasingly emulating that model as a result" (Bradford 2023, 369).

Taken together, the prevailing consensus has been that a combination of EU market size, regulatory clout and ambition, a first mover advantage, and consumer appetite for meaningful Big Tech regulation might boost the global diffusion of EU AI rules, even without a large homegrown AI sector. Many commentators—especially from academia and think tanks—have acknowledged that it is still too early for definitive conclusions about a Brussels Effect in AI.

[1] Both the Centre for European Reform and Chatham House were listed among the top 100 think tanks worldwide according to the 2020 Global Go To Think Tanks Index published by the Lauder Institute of the University of Pennsylvania (McGann 2021).

But their general prognosis has been positive, and this optimistic tenor is the baseline we examine.

To be sure, beyond potential rule externalization via a Brussels Effect, the EU is also active in bilateral and multilateral AI governance initiatives, such as the Council of Europe (CoE) and the transatlantic Trade and Technology Council (TTC, Schmitt 2022). The CoE has already crafted an agreement, even if in a major setback the EU failed to make the CoE rules mandatory for companies, as well (Bertuzzi 2024). Many of the other initiatives hope to craft international AI soft law. EU presence in these governance forums is an alternative, and potentially important, channel for EU influence. However, as this paper concentrates on rule externalization via a Brussels Effect, we ignore this alternative influence channel here.

The Brussels Effect, rule externalization and their limits

The Brussels Effect is a specific form of EU rule externalization (Bendiek and Stuerzer 2023; Christen et al. 2022; Scott 2019). We therefore first return to Bradford's landmark work and then integrate additional elements from adjacent literatures that to our mind are essential to understand incentives and disincentives for the EU and third countries to develop and copy rules as they do.

By traditional metrics, the EU is not a superpower. It lacks centralized military force, and the European Commission as a supranational executive depends on powers delegated to it by member states (Meunier and Vachudova 2018). No Brussels institution can match the White House, the Kremlin, or the Chinese presidency in their autonomy and ability to act (Moravcsik 2010). EU scholars have therefore been (mostly positively) surprised that the Union has been globally influential by leveraging access to its markets and its regulatory capacity.

The most famous articulation of this EU power is what Anu Bradford has called the Brussels Effect, of which both the GDPR (cf. Farrell and Newman 2019) and, to a slightly lesser degree, the REACH have become archetypal examples. Bradford describes the Brussels Effect as the EU's ability "to promulgate regulations that shape the global business environment, leading to a notable 'Europeanization' of many important aspects of global commerce" (Bradford 2019, 15). Central to her argument: the EU need not push its rules proactively. Instead, foreign

companies and governments promote and diffuse them to access the EU market while avoiding compliance with divergent rule sets.

In the *de facto* Brussels Effect, multinational firms comply with particularly stringent rules across all their markets, because that is less costly than producing to different specifications. In a second step (the *de jure* effect), the multinationals then "lobby their domestic governments to adopt these same standards in an effort to level the playing field against their domestic, non-export-oriented competitors" (Bradford 2012, 16). This dynamic works particularly well when regulatory disparities are different levels of regulatory stringency along a single axis—say, higher or lower hormone levels in beef—and when domestic authorities can actually enforce their rules inside their market.

Moreover, companies' production processes matter. Once they have created products to European specifications, do they have incentives to supply these same products also to customers in other countries, simply to avoid producing to different specifications? Such non-divisibility, as Bradford calls it, is necessary for EU rules to travel beyond European borders (Bradford 2019).

Bradford's account concentrates on successful rule externalization. The broader literature, in contrast, has had more eye for factors that may hamper such externalization, too (Büthe and Mattli 2011; Lavenex and Schimmelfennig 2009; Moravcsik 1998). And it has looked beyond extra-European rule changes on paper to ask when rule externalization is particularly consequential, and when not. Three such limiting dynamics identified in that literature seem particularly relevant to AI: pre-emptive adaption in EU rules to accommodate global pressures, rule diffusion that is broad but shallow, and a Brussels Effect in countries where it matters the least.

First, the Brussels Effect presumes that rules have been formed domestically and then diffused—that the regulatory product to be exported is genuinely homegrown. In debates about the GDPR as the paradigmatic Brussels Effect example, it has been assumed that its rules reflected an EU-internal preference for strict regulation, not an attempt pre-emptively to accommodate third countries by crafting easy-to-transpose rules (Bradford 2023). The more EU rules have themselves been shaped by the external constraints, the less we see a genuine transfer of domestic preferences to the rest of the world, even when EU rules do travel (cf. Howell 2004).

Regulations' impact on countries' perceived ability to compete bears heavily on the rules that are, or are not, introduced (Esty and Geradin 2001; Genschel and Plumper 1997). The EU may thus choose to water down domestic regulations to avoid a competitive disadvantage. When those diluted rules become global standards, they reflect relative EU impotence rather than its power (cf. Geradin and McCahery 2004). Especially in digital tech, powerful multinational companies can shape policy and thereby weaken a genuine Brussels Effect (Ylönen 2025).

It remains challenging to peek behind the façade of articulated preferences and thus to establish regulatory concessions. We can, however, assess to what degree central interlocutors, for example, list competitive concerns or fear of regulatory impotence as reasons to pursue other—especially less stringent—regulatory goals than those they would ideally embrace. In such a scenario, EU rule diffusion would be little more than a pyrrhic victory that reflects others' substantive preferences.

Second, a Brussels Effect can look impressive but in fact be superficial—a paper tiger. Are similarities between a country's formal rules and European ones enough? Or does a Brussels Effect only exist once EU-like legislation has produced *effects* like those inside the EU? The Europeanization initially focused on member states and "the domestic impact of, and adaptation to, European governance" in them (Schimmelfennig 2010, 319). From there it ventured outward and investigated domestic change in non-EU countries due to the EU's external governance (Risse, Cowles, and Caporaso 2001). Börzel and Risse (2003) for example distinguished between rule absorption, when EU policies are incorporated into domestic ones without substantive policy modification; accommodation, where formal policies do change, but not their essence or rationales; and finally, transformation, so a genuine reorientation of domestic policies. Absorption without accommodation or transformation translates into a shallow Brussels Effect—especially when EU rules are rather superficial and can be implemented by third countries without significant adoption costs or efforts (Jørgensen, Oberthür, and Shahin 2011).

The gap between on paper rules and their effective implementation exists for purely EU-internal rules already. GDPR implementation and enforcement has been patchy, for example (European Commission 2020a; Massé 2018). REACH, the comprehensive EU chemical safety regulation, has also been held up as a prime example for the Brussels Effect (Bradford 2019; Christen et al. 2022)—and it, too, has faced severe implementation challenges (Centre for Strategy & Evaluation Services 2012, 80; European Commission 2015, 60).

International rule harmonization exacerbates this implementation gap, generating a variant of mock compliance (Aragão and Linsi 2022; DeRock and Mügge 2023). Jurisdictions may deviate from the on-paper rules in different directions, increasing the de facto difference between national regimes. Moreover, when the rules in question have competitive implications, jurisdictions in a formally harmonized regulatory space have incentives to support domestic champions through lax operationalization and enforcement (Falkner et al. 2005). *Ceteris paribus*, rule harmonization becomes less meaningful as the rules in question become less specific; catch-all commitments to, say, human rights or sustainability remain open to divergent implementations (B. Mittelstadt 2019).

Finally, the relevance of a Brussels Effect varies with the countries in which we observe it. Rules are easy (and inconsequential) to adopt when they have few domestic implications because there are few targets to which to apply them. It matters whether rules target products traded across borders or offer direct protections for citizens. If citizen protections are the issue, every additional country embracing, say, privacy protection rules, counts as a win. If, in contrast, rules target the production of goods and services, they may only matter in the limited number of countries where such production takes place.

Assessing the Brussels Effect for AI

As outlined above, we use a two-pronged inferential strategy, given that AI policy is still evolving: we marshal empirical evidence where available, and we reason by analogy to establish whether the preconditions for a transformative Brussels Effect in AI are present. First, we consider the factors highlighted by Bradford herself and then move to the additional ones gleaned from externalization literature.

Traditional drivers

The EU's market size favors a Brussels Effect in AI, and political actors across the Brussels institutions and political spectrum have been eager to create a legal framework for AI. The EU's regulatory capacity, on the other hand, has been less self-evident. As elsewhere, EU policymakers have inevitably been at an informational disadvantage vis-à-vis AI companies (Schuett 2023). It remains unclear how big specific AI risks are, and what effective measures are to tackle them (Nordström 2022). Especially regarding systemic risks arising from general-purpose AI models, it is difficult to determine what appropriate metrics even to assess risks

would be (Moës and Ryan 2023). In the end, legislators agreed to parameters like model size as proxies for their systemic relevance (Article 51(2) of the AIA). But they effectively outsourced risk assessment and the filling in of legislative details to either companies themselves or standard setting bodies formally outside the EU. Annex XIII of the AIA lists criteria that the Commission could heed in future determinations, but at present, the EU legal framework is thin on details and adaptable, essentially relying on "learning by doing". For instance, due to insufficient negotiation progress the European Commission has withdrawn the proposed AI Liability Directive, meant to introduce harmonized procedures for victims of AI harm and to complement the Product Liability Directive (Duffourc 2025; Kroet 2025). As the difficulty of crafting tractable rules has become clearer and implantation deadlines became untenable, the Commission had to delay actual enforcement of AIA provisions to August 2026, more than two years after the regulation's adoption.

At the same time, the AIA foresees only modest regulatory measures concerning AI systems not classified as high-risk, predominantly limited to transparency requirements (Almada and Radu 2024). Here, other jurisdictions might desire stricter regulations than those of the AIA—as for example in the Californian legislative proposal in the summer of 2024 (Wold 2024). Despite its good intentions, there have been clear limits to the EU's capacity to craft definitive and effective AI rules.

The EU's leverage over foreign companies shrinks once the latter decide that, rather than complying with local rules, they simply do not offer products on EU markets. Meta, for example, has withheld its latest AI model ("Meta AI") in the EU because of legal uncertainties (Weatherbed 2024). The de jure Brussels Effect, in which companies are forced to produce to European specifications, and then push for those same rules elsewhere, thus highly depends on the AI product in question. Large language models (LLMs) can easily be modified, for example by disallowing them to process particular prompts or by checking whether the output generated violates local rules (Engler 2023). Companies may appreciate a single rule set across jurisdictions. But the ease of customization lowers incentives to follow EU rules everywhere. European hate speech restrictions for example directly contravene the free speech missives of Donald Trump. And companies appreciate regulatory havens, in which they can develop and test new technologies unencumbered. Taken together, when we consider the common preconditions for a successful Brussels Effect, the picture is mixed at best.

Pre-emptive concessions

What happens once we add the additional considerations introduced in the previous section? The Brussels Effect presupposes, often implicitly, that it allows the EU to transmit domestically formed regulatory preferences to the rest of the world, generating regulatory outcomes abroad that differ substantially from what would have transpired without the EU's influence. So to what degree does the EU's AI regime reflect domestic preferences, rather than a pre-emptive adjustment to external constraints?

AI technologies (AITs) are widely held up as decisive for future economic prosperity (Ulnicane 2022b). The Commission has repeatedly highlighted the need of not falling (further) behind other major AI powers (European Commission 2018a; Seidl and Schmitz 2024). This dynamic is intensified by oligopolistic tendencies, in which a few winners get most of the spoils (Staab 2019). Generative AI models are expensive to develop but easy to scale. ChatGPT was rolled out to more than 100 million monthly active users within two months after its launch (Hu 2023). Governments are thus anxious to 'miss the boat', spurring AI development where possible. And the enormous resources necessary to develop cutting-edge AI hamper late entry and encourage joining forces with established players. French AI company Mistral followed that route in February 2024 through its cooperation with Microsoft (Murgia 2024); the Finnish AI start-up Silo had itself be taken over by American chip-maker AMD in the summer of 2024 to boost available resources (Cherney 2024). As we argue below, these characteristics of AITs shape the regulatory politics they generate, and thereby the scope for a Brussels Effect.

Two competing impulses have characterized Commission thinking from the beginning. On the one hand, a well-crafted regulatory regime could itself be a key selling point of "AI made in Europe" (European Commission 2018b, 1). The 2020 Commission *White Paper on Artificial Intelligence* echoed that sentiment: "Europe is well positioned to exercise global leadership in building alliances around shared values and promoting the ethical use of AI" (European Commission 2020b, 8). At the same time, EU AI strategy did and does acknowledge that Europe lags the USA and China in AI development and that any regulatory framework should therefore be "innovation-friendly" and avoid undue obstacles for AI businesses (Paul 2024; Ulnicane 2022a). AI development and deployment needed to be boosted through sundry Commission initiatives, with the AIA only providing the guardrails for this push (Mügge 2024).

EU AIA debates already reflected foreign competition as negotiators tried to balance restrictions and permissiveness vis-à-vis AITs, most visibly in the 2023 trilogue negotiations

between the EP, the Commission, and national governments. Several member states backpedaled on restrictions for general-purpose AI models—the most capable systems at the time—once credible EU challenger firms to US tech dominance emerged (Bertuzzi 2023; Volpicelli 2023). That fall, executives from Germany's Aleph Alpha and France's Mistral AI had publicly opposed the regulation of LLMs (Henshall 2023). In October 2023, French, German, and Italian business and economic ministers met to coordinate their stance on AI regulation, agreeing on their "commitment for an innovation-friendly and risk-based approach, reducing unnecessary administrative burdens on companies that would hinder Europe's ability to innovate" (Ministry of Enterprises and Made in Italy 2023). In November, with AIA negotiations all but finished, Germany, France and Italy published a so-called non-paper (effectively a discussion or position paper) in which they pressed only for codes of conduct for LLMs, rather than prescriptive regulation, as the draft AIA had foreseen.

The EP remained steadfast in its opposition to rule dilution; the eleventh-hour compromise applied only light touch regulation to the LLMs currently developed in Europe. EU AIA rules had, in other words, been themselves been watered down in the face of US competition. This pre-emptive adjustment blunted the EU's regulatory ambition, and thus the export of genuinely European regulatory preferences.

General rules, shallow harmonization

AI has specific features that stand in the way of detailed rules with real teeth, limiting a Brussels Effect in this field. Because AITs evolve quickly, they require a legal framework that is adaptable over time—for example in the thresholds for systemically risky general-purpose AI (Moës and Ryan 2023). For that reason, jurisdictions hesitate to adopt rigid regulation—a dynamic that in turn limits wholesale rule export or import. Moreover, it is hard to anticipate which AI capabilities will emerge next (Nordström 2022). Widely anticipated applications such as self-driving cars on regular streets have materialized slowly, generative AI, in contrast, has outstripped expectations. The original 2021 AIA draft, for example, had no provisions specifically about generative AI. Those had to be added half-way through the co-decision process as ChatGPT's appearance in late 2022 jolted policymakers into action. Since then, AITs have made further strides (Maslej et al. 2024).

The speed and unpredictability of AI development necessitate adaptable legal frameworks. Public authorities want to be able to react to new developments—both in AITs' development and in their impact on society—as they emerge. AIT governance inevitably is a permanent

regulatory construction site. The AIA foresees that rules will be continuously monitored, with the AI Office, housed by the European Commission, proposing changes along the way. Rules may become stricter or looser as experience with AITs accumulates. Rule overlap across jurisdictions now thus does not imply congruence in the future. Indeed, jurisdictions hesitate to limit their own room for maneuver by locking themselves into overly tight regulatory agreements; the various international accords about AI, such as the 2024 *Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law* of the CoE, can hardly be enforced. This dynamic is markedly different than translating consolidated scientific knowledge about, for example, the toxicity of specific foodstuffs into phytosanitary standards that can be expected to remain stable for the foreseeable future.

During much of the 2010s, "AI ethics" dominated regulatory debates (Jobin, Ienca, and Vayena 2019; B. D. Mittelstadt et al. 2016). Their thrust has been to identify normatively contentious real-world implications of AI, and then to articulate the principles for AI governance. Numerous AI ethics guidelines have appeared since (e.g. European Commission 2019; OECD.AI 2024; UNESCO 2022), many of which rehearse a common refrain: the need for accountability, explainability, trustworthiness, non-discrimination, transparency, privacy, fairness, and so on (cf. Gasser and Mayer-Schönberger 2024).

Most of these principles are easy to agree on. Cross-border support for them is a far cry from regulatory harmonization, however. They sound appealing in the abstract but lack concreteness (Stamboliev and Christiaens 2024) and remain too broad to offer concrete guidance (Whittlestone et al. 2019).

In a typical example, the AIA mandates in Article 10(2), (f) and (g) that

> 2. Training, validation and testing data sets shall be subject to data governance and management practices *appropriate* for the intended purpose of the high-risk AI system. Those practices shall concern in particular:
>
> > (f); examination in view of *possible* biases that are *likely* to affect the health and safety of persons, have a negative impact on fundamental rights or lead to discrimination prohibited under Union law, especially where data outputs influence inputs for future operations;
> >
> > (g) *appropriate* measures to detect, prevent and mitigate *possible* biases identified according to point (f). (AIA, p57, emphasis added)

The AIA does not specify, however, how the all-important qualifiers “appropriate”, “possible” and “likely” are defined. Depending on how they are operationalized, the passage quoted above could entail both lax and onerous obligations for its addressees. Even if there were consensus on provisions like the one above, it could mask major differences across regimes.

The AIA will become legally tractable only through delegated acts, in which the Commission-based AI Office fills in details, or through technical AI standards, for example from the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). Technical standardization for the AIA would mainly run through the European Committee for Standardization (known by its French acronym CEN) and the European Committee for Electrotechnical Standardization (CENELEC), as well as ISO/IEC.

Since the AIA explicitly requires those technical standards, it is in these implementing measures that the real harmonization would happen—or not (Veale and Borgesius 2021). They determine whether a regulatory ambition gets real teeth or remains a box-ticking exercise. Whether shared principles translate into equivalent regimes is therefore an open question.

In practice, it is often left to developers to interpret what “ethical AI” means, and disagreements may only be settled by the Court of Justice of the European Union (CJEU) as the Union’s highest legal authority (Hoofnagle, Van Der Sloot, and Borgesius 2019, 71). If case law fills the holes in legal frameworks, however, local legal traditions and relevant precedents push similar-sounding principles in different directions. The passage quoted above already makes reference to “discrimination prohibited under Union law”, bringing the EU’s legal acquis to bear on AI regulation. Its interpretation against the background of for example the US Constitution and the history of Supreme Court decisions would suggest very different obligations. Regulatory frameworks without enforcement mechanisms remain toothless and lead to “ethics washing” at worst (Munn 2022).

Generative AI poses particular challenges. Rules for it had been added to the AIA in later stages of the negotiations. The AIA requires providers of general-purpose systems to supply

> information on the data used for training, testing and validation, where applicable, including type and provenance of data and curation methodologies (e.g. cleaning, filtering etc), the number of data points, their scope and main characteristics; how the data was obtained and selected as well as all other measures to detect the

> unsuitability of data sources and methods to detect identifiable biases, where applicable. (Council of the European Union 2024, 269)

That sounds impressive. But in fact, it will be hard to review the enormous amounts of data thus supplied, let alone mitigate all potential risks (Pouget and Zuhdi 2024). That dynamic is aggravated once compliance is off-loaded to downstream users of AI systems, which are even harder to monitor than the relatively small number of companies that develop the technologies themselves.

Taken together, third country copying of general European frameworks, or international agreements that bear a heavy European imprint, does not equate to regulatory alignment. In important areas, the AIA lacks the detailed rules that make it legally tractable, and at least some of them will be crafted outside of the EU proper. In a sign how thorny hashing out the details is, technical standard setters CEN/CENELC have also postponed the expected publication of the standards that are to fill the AIA with life. Even where general principles of AI governance—such as a risk-based approach with different layers—are emulated elsewhere, that does not constitute a wholesale embrace of an EU-crafted regulatory regime.

Limited diffusion

Geopolitics is shaped by overlapping aspirations to political power (Flonk, Jachtenfuchs, and Obendiek 2024). As outlined above, there are different reasons from a European perspective to care about a Brussels Effect. Where collective action problems exist, for example in environmental protection, emulation of stringent EU rules elsewhere is useful because that, too, contributes to solving genuinely global problems. Adoption of EU rules abroad also matters because it may pre-empt regulatory races to the bottom. And diffusion of rules seen to benefit individuals—for example by protecting their personal rights—may be valuable in and of itself, irrespective of any direct or indirect pay-off for Europe.

Applied to AI governance, some of these effects are much more pertinent than others. AI, too, generates thorny global collective action problems. These concern the development of militarily dangerous or undesirable AI applications (Bode and Huelss 2023), the diffusion of dangerous AI-powered tools around the world, and the management of existential risks that the most powerful AI systems may constitute.

If the challenge is to prevent the development and spread of dangerously advanced AI systems, the countries that really matter are those that actually have advanced AI capabilities.

Just as land-locked countries will matter little to ocean overfishing, nations outside the AI vanguard will not be decisive in curtailing harmful "AI races". Inversely, just as countries without a fishing fleet can easily commit to stringent marine conservation rules, countries without an advanced tech sector need not hesitate to sign tough safety rules for frontier models—they do not build any to begin with.

For an AI Brussels Effect as a corrective to collective action problems, the actions of other major AI powers are key, above all USA and China, as well as to countries like the UK, Canada, Russia, or Japan, rather than those of countries that develop little AI themselves. But the intense competition and oligopolistic tendencies in advanced AI mean that both countries and companies developing it face strong incentives against rules that encumber technological advancement. As long as it remains relatively easy to customize digital products to the specificities of different markets there is no reason to expect that leading AI companies would act as transmission belts for EU rules.

Against this background, what is the situation? From a European perspective, the AI landscape is dominated by US companies. EU rules travelling there would have more impact than those diffusing anywhere else. The empirical record so far is not promising. In October 2023, before the EU finalized AIA negotiations, the Biden administration issued an "Executive Order (EO) on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence" (The White House 2023). In abstract terms, the EO echoed many AIA themes (Bassini n.d.), and it commits to "safe, responsible, fair, privacy-protecting, and trustworthy AI systems", because the latter might "exacerbate societal harms such as fraud, discrimination, bias, and disinformation; displace and disempower workers; stifle competition; and pose risks to national security" (The White House 2023).

Despite these commonalities, the EO was a different legal instrument than the AIA. Predominantly laying out principles and standards without actual legislative backup (largely due to political gridlock), the EO's enforceability remained limited (Lewis, Benson, and Frank 2023). The EU had been trying to agree a joint roadmap for trustworthy AI through the TTC (European Commission 2023a). But the EO, adopted before the AIA, already signaled US readiness to diverge from EU rules (cf. Lewis, Benson, and Frank 2023). Even that was not to last, however. President Trump rescinded the EO on his first day in office in January 2025 (Thornhill 2025), promising AI for military purposes and cementing US AI leadership with yet fewer strings attached (Shepardson 2025). Where an AI Brussels Effect would have mattered most—in the USA—it was never likely, and it certainly is not under President Trump.

Other leading AI nations show a similar picture. China has little appetite to copy European provisions, even if we disregard some fundamental disagreements about use of AI for surveillance purposes. China adopted its first AI rules in 2017 already, long before the Commission presented even a draft of its AIA, and the Chinese government has continued to set its own priorities since then (cf. Arcesati 2021). When the Chinese DeepSeek released its LLM in January 2025, both the EU AI Office and several EU countries started investigations and Italy banned it altogether (Caroli 2025). That said, the AI Office itself still had to fine-tune its classification guidelines for a model like DeepSeek's R1 (García-Herrero and Krystyanczuk 2025), not least because it is available open access. If DeepSeek were to sell versions of its models on the European market, it would have to comply with AIA provisions. Even then, it is improbable that it would skirt Chinese rules to attune its whole business model to European ones, given both the political and commercial importance of the Chinese market and political context.

The United Kingdom under Richi Sunak had ruled out a comprehensive regulatory framework for AI in the short term, instead touting voluntary agreements with companies to secure a competitive advantage for them (Gross and Mnyanda 2024). The Labour-led government assuming power in July 2024 announced plans to introduce a binding AI bill; instead of copying EU provisions, however, the intention again is to use rules different to those on the Continent to boost domestic firms' competitiveness (Gross and Mnyanda 2024). Canada published its Pan-Canadian AI Strategy in 2017, again ahead of the EU's draft AIA. In June 2022, the government introduced the Artificial Intelligence and Data Act (AIDA) as part of its Digital Charter Implementation Act, which is under negotiation at the time of writing (Government of Canada 2025) Also there, beyond the EU-Canadian agreement on a risk-based approach, nothing suggests an eagerness to import EU provisions.

The Japanese government published its Social Principles on Human-Centric AI in 2019, mirroring the OECD's AI principles (Habuka 2023). In abstract terms, they rhyme with the EU approach. But Japan has committed to a "sector-specific and soft-law-based approach", rather than binding regulatory frameworks (Habuka 2023, 6).

Finally, Russia has underlined its ambitions in the AI military space; its first major governmental initiative was a 10-point statement by the Ministry of Defense, laying out a military-specific development plan for AI (Petrella, Miller, and Cooper 2021). Although its 2019 National Strategy for AI seems to focus on civilian matters, Russia has often highlighted its interest in upgrading its military equipment, including its opposition to banning the use of

lethal autonomous weapon systems (Markotin and Chernenko 2020; Nocetti 2020). Even when we disregard the current geopolitical tension between Russia and the EU, this suggests a strongly distinct focus of and visions for AITs and offers little room for adoption of EU rules.

We cannot survey a potential AI Brussels Effect across all jurisdictions. A major reason to hope for one in the first place, however, would be that EU rules would spread to countries that play a significant role in AI development and deployment— above all the USA and China. We find some regulatory parallels, especially in a multi-tier risk-based approach. But there is no sign that these were consciously copied from the EU, rather than developed alongside them, or diffused through international forums such as the OECD. It remains conceivable that other countries would copy the AIA in a more wholesale fashion such that compliance with EU rules would automatically entail compliance there, as well—a key mechanism of the Brussels Effect. But given their limited sway in AI, such diffusion would do little to address the collective action problems that would have Brussels policymakers hope for a Brussels Effect in AI in the first place.

Conclusion

In this article, we have outlined why we are skeptical about the scope for a Brussels Effect in AI. Legal frameworks around the world are still evolving. We have therefore gone beyond leveraging the limited empirical base we have so far. Using both the original Brussels Effect literature and adjacent strands, we have highlighted policy field features that promote or obstruct a Brussels Effect in general. In a second step, we have then established to what degree we find those in AI.

There is no absolute yardstick against which we could hold these findings; establishing, let alone quantitatively specifying, what a “likely” or “unlikely” Brussels Effect would be remains elusive. We have therefore taken the dominant view in Brussels and the field as our baseline. Relatively to the sanguine assessment we find there, we see reasons to be skeptical. AI has several specific characteristics that bear heavily on the dynamics of regulatory interdependence and diffusion. These include AITs’ heavy commercial implications and economic stakes, uncertainty about future applications and implications, the speed of its development, the substantial investment that AITs need, and their dual use character.

Our assessment has centered on three arguments: first, EU legislators crafted the AIA with a clear sense that the EU is locked into a competitive AI race of sorts (critically Bryson and

Malikova 2021; Lee 2018). Some rules had explicitly been watered down to give EU AI firms a leg up. This accommodation of external pressure limits the degree to which a Brussels Effect could meaningfully export regulatory preferences from within the EU.

Second, the real-world relevance of any observed Brussels Effect depends on the degree to which it changes the regulatory status quo in the target country. Departing from Bradford's framework, it is easy to mistake third countries' copying of rules from elsewhere for de facto regulatory alignment, when the rules themselves are vague, and when downstream operationalization and implementation may still diverge. Mock-harmonization is the result. By the same token, a Brussels Effect becomes less meaningful as enforcement becomes patchy, creating a chasm between on-paper rules and the alignment of in-practice provisions.

Finally, with cutting-edge AI currently concentrated in a few major jurisdictions, such as the USA and China, the real litmus test for the EU's global influence is its rules' impact in those jurisdictions. Diffusion of European AI rules to countries that have no internationally important AI sector may be beneficial for local populations there from a normative perspective. But potential regulatory races to the bottom to the global detriment can only be prevented if the jurisdictions with the highest global impact follow the EU's lead. There, a Brussels Effect is neither visible nor, we argue, likely.

The generally optimistic tone in Brussels about its rule export is not only an academic matter. Policymakers trust their rules' cross-border influence to internationalize EU preferences in AI. In contrast, if other jurisdictions go their own way in rule setting more than had been anticipated, the consequences for EU AI policy would be significant. It could not longer, for example, trust that AI development elsewhere would follow EU imperatives. Notwithstanding agreement on some general principles, de facto divergence in AI rule setting would strengthen the case for a more robust EU AI policy, including support for a genuinely homegrown AI sector. In that sense, the limits of an AI Brussels Effect we have diagnosed in this article are also a wake-up call for crafting a more robust and independent European AI policy tout court.

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