EUROPEAN HORIZONS

REVIEW OF EUROPEAN AND TRANSATLANTIC AFFAIRS

VOLUME VIII ISSUE 1
SPRING 2024

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INTRODUCTORY REMARKS

Letter from the Publications Team

Joshua Jones, Lika Gegenava, and Abigail LaBreck

It is our pleasure to introduce the 2024 issue of *The Review of European and Transatlantic Affairs (RETA)*.

European Horizons is a global youth-led policy incubator, with the mission to empower young people to foster a stronger transatlantic bond and a more united Europe. Since 2015, *RETA* has been at the heart of the organization's policy vision, drawing together students and policymakers in a peer-reviewed academic journal. This year, we have aimed to continue its legacy of fostering innovative ideas to address the challenges and possibilities confronting European and transatlantic affairs today. In particular, articles focus on the three policy priorities selected by European Horizons at the start of the academic year: Democratic Technology, Energy & Environment, and Transatlantic Security. Reflecting some of the foremost themes in the current geopolitical landscape, we sincerely hope that the nine articles in this year's issue will both interest readers and help inspire solutions to the most pressing issues facing our world.

The first theme – democratic technology – focuses on the salient link between innovation, digital transformations, and transatlantic relations. The geopolitical dimension of technology is especially crucial in the current context, with technology reshaping how countries cooperate, compete, and interact. Marion Cordebart, Scarlett Dezan, Cleo Gerigny, and Sasha Morosova pick up on this thread, examining the rapid evolution of artificial intelligence technologies and their application in the realm of politics and governance. Following the most recent ministerial meeting of the EU-US Trade and Technology Council, this piece offers recommendations for fostering transatlantic convergence to secure an ethical, accessible, and equitable AI future. Belen Bringas and

Ivie Okome similarly focus on access and inclusion in their article, examining the impact of EU research and development initiatives on closing the gender gap in the technology sector. Employing original quantitative research, the authors suggest that, despite progress made through the Horizon Europe framework, the work must continue toward the full realization of gender parity in the technology sector. Equipped with a similarly forward-thinking perspective, Alexandre Alecse and Elise Torché examine the concepts of futarchy and blockchain, and their potential for increasing citizen participation in political decision-making. With this novel model as a foundation for their inquiry, the authors present a thorough analysis of how technology can be a key tool for empowering citizens and promoting democratic resilience.

Over the past twelve months, states around the world have faced both immediate and existential threats regarding energy and environment, the second of our policy priorities. As the European and transatlantic spheres continue to experience energy crises and disputes induced by war in Ukraine and climate change, Giulia De Nardin and Hanna Klar examine the EU's external energy policy through the lens of grid synchronization with Ukraine and Moldova. Shifting focus towards the matter of sustainability in the context of the European Green Deal, Pietro Attadio and Sofia Torri question whether a new measurement of growth needs to be adopted that moves beyond GDP and towards factors such as wellbeing. Taking a further step back, Rachele Moscardo tests for the age covariate of long-term environmental policymaking, analyzing how it shapes governments' responses to climate change in European democracies.

The central challenges in transatlantic security in 2023 can be characterized by increasing tensions and violence, notably in the context of the transatlantic alliance's collective response to the ongoing invasion of Ukraine. As the transatlantic alliance attempts to strengthen security on the continent and beyond, the discourse around the most effective ways to achieve this persists. Samuel Dempsey examines whether Ukraine's NATO accession would benefit or destabilize European security, by evaluating whether Russia would perceive it as an escalatory development. In a similar vein, the ongoing military confrontation has caused increased alarm among the allies on the potential use of nuclear weapons by Russia. Agata Bidas examines NATO's nuclear deterrence strategies in response to global trends by considering the nuclear capabilities of the alliance in the context of evolving nuclear threats. As the challenges with the ongoing invasion persist, they have prompted certain shifts in European security and EU politics. Ian Cameron examines the moving influence from the traditional Franco-German alliance to a more united bloc of

Central and Eastern European states, led by Poland. The article evaluates whether Europe's center of gravity is indeed shifting eastward and analyzes the implications for the EU's internal balance of power and its transatlantic relationship, particularly regarding the concept of European Strategic Autonomy.

On behalf of the organization I especially wish to extend our sincere thanks to the peer-reviewers: Prof. Bobby Duffy (King's College London); Dr Francesca Batzella (University of Hertfordshire); Dr Andrew Scott (UCL); Mathilde Flamant (SciencesPo Paris), Nicholas St Saveur; Srushti Jayawant; Prof. Julie George (Columbia University); Dr Simone Paci (Columbia University); and Goda Skiotyte (Charles University). Your generous contributions provided invaluable expertise for which we are all extremely grateful. Furthermore, we wish to thank the wider European Horizons Executive Board, in particular the Executive Directors and Communications Team for their continued support without which *RETA* would not be possible. Last, but not least, we thank our writers for their insights and dedication over the past six months.

The Silent Majority: Healing Democracy with Futarchy

Alexandre Alecse and Elise Torché

"And so tonight, to you, the great silent majority of my fellow Americans - I ask for your support. Let us be united for peace."[1]

– Richard M. Nixon,
37th President of the United States

1. Gambling for Change

As world democracies largely continue evolving into the digital age, modern technology has only seemed to further enhance public engagement. Via online platforms, consultations, and petitions, citizens are "reinforcing participatory democracy" like never before.[2] Electronic ballot boxes are now an alternative to physical ballot boxes, and remote voting is developing.

These new technologies can make democracy vulnerable, as highlighted during the 2016 American presidential election, where Russian leaders "tried swinging the election" to favor

[1] Gerhard Peters and John T. Woolley, "Address to the Nation on the War in Vietnam", *The American Presidency Project*, *University of California - Santa Barbara*, November 2019, https://www.presidency.ucsb.edu/documents/address-the-nation-the-war-vietnam.
[2] Council of Europe, "Study on the Impact of Digital Transformation", *European Committee on Democracy and Governance*, 26 July 2021, 27, https://rm.coe.int/study-on-the-impact-of-digital-transformation-on-democracy-and-good-go/1680a3b9f9

Donald Trump.[3] Nonetheless, these technologies did not successfully solve the increasing democratic deficit. Indeed, only 16% of voters in the United States trusted their government to do what was right "always [or] most of the time" last year.[4] European countries are unfortunately not far removed from trends of democratic backsliding either, with 36% of polled citizens supporting their respective leaders in 2023.[5] These attitudes are leading to democratic backsliding, as was experienced in the US, Poland, and Hungary.

The gap between the population's will and democratic political leaders is increasing. The social media's development showed the increased claim of political contestation and revendication against established power. However, these platforms do not seem to map out suffrage incentives as successfully as other tools. Market predictions, for example, have better indicated election outcomes in the United States than public opinion polls.[6] There is extensive empirical literature that market consensus probabilities are as accurate, if not more so, than opinion polls.[7] New technologies, like blockchain, can create a system of direct consultation with the population based on the functioning of betting markets.

This reality may call for a new system to revive an otherwise faulting global democracy: the futarchy model. This paper will examine how the futarchy model can increase the citizens' direct participation in decision-making and agenda-setting. The paper will first explain futarchy and how blockchain can be integrated into the model (2). Then, it will provide some

[3] Glenn Kessler, "The Truth about Russia, Trump and the 2016 Election", *The Washington Post*, 17 May 2023, https://www.washingtonpost.com/politics/2023/05/17/truth-about-russia-trump-2016-election/
[4] Pew Research Center, "Public Trust in Government 1958-2023", 19 September 2023, *Pew Research Center - U.S. Politics & Policy,* https://www.pewresearch.org/politics/2023/09/19/public-trust-in-government-1958-2023/#:~:text=Currently%2C%20fewer%20than%20two%2Din,nearly%20seven%20decades%20of%20polling
[5] European Commission, "Standard Eurobarometer 87 - Spring 2017", August 2017, https://europa.eu/eurobarometer/surveys/detail/2142
[6] Robert Forsythe, Forrest Nelson, George R. Neumann, and Jack Wright, "Anatomy of an Experimental Political Stock Market", *The American Economic Reviewm* 82:5 (1992), 1148, https://www.jstor.org/stable/2117471
[7] Joyce E. Berg, Forrest D. Nelson, and Thomas A. Rietz, "Prediction Market Accuracy in the Long Run", *International Journal of Forecasting,* 24:2 (2008), 286, https://doi.org/10.1016/j.ijforecast.2008.03.007

potential developments for public implementation based on what private companies have already done (3). Before concluding (5), the paper will exhibit the main biases and risks of the model as well as the existing barriers to integrating futarchy as a tool of direct participation in democracies (4).

2. The Futarchy Model

I. The Model as Initially Proposed by Robin D. Hanson

The economist Robin D. Hanson[8] proposed the futarchy model in 2000. The model argues that prediction markets, regulated by governments and invested into by voters, could better grasp public policy opinions than a traditional democratic system.[9]

The futarchy model, explored in this paper, has not been implemented but provides fertile ground for policy recommendations to raise the interest of citizens in elections and policy agenda. According to the model, individuals would vote on a metric, such as the GDP or the unemployment rate, to determine how their country is addressing a specific policy area. Then the prediction market would be used to determine the policy that would improve the country's performance in this specific policy area.[10] Prediction markets are a mechanism to identify the true and sincere beliefs of individuals by including an economic incentive and "put their money where their mouth is".[11] Individuals place their bets on the probability of a future event and its effect. Once the vote is closed, the individuals need to wait for possible future positive results to receive or not their payoff.

[8] Robin D. Hanson is an associate professor of economics at George Mason University and a former research associate at the Future of Humanity Institute of Oxford University.
[9] Robin D. Hanson, "Shall We Vote on Values, But Bet on Beliefs?," *Center for Study of Public Choice*, September 2000, 1, https://doi.org/10.1111/jopp.12008
[10] Vitalik Buterin, "An Introduction to Futarchy", *Ethereum Foundation Blog*, 21 August 2014, https://blog.ethereum.org/2014/08/21/introduction-futarchy
[11] Thibault Schrepel, "How to Regulate Blockchain", *Network Law Review*, 17 March 2022, https://www.networklawreview.org/video-regulate-blockchain/

For Hanson, the use of betting/prediction market tends to be "relatively 'efficient' in the sense that it is hard to find information that has not been incorporated into market prices"[12] except the long-term aggregate price movements in real asset markets.[13] Citizens' preferences are better understood through the futarchy model whose implementation opens a window for wider direct participation of citizens in decision-making.

II. Increasing Incentives for Citizens' Participation in the Futarchy Model

The main asset of the futarchy model is the introduction of an economic incentive for individuals to participate in the elaboration of public policy, differentiating it from opinion polls.

Hanson highlights that opinion polls are based on the population's approval of an offer from the political side. By adding an economic asset to increase participation, the futarchy model anticipates more predictably the future policy. He uses the study of Forsythe, Nelson, Neumann, & Wright, to demonstrate that betting markets beat opinion polls at predicting U.S. election results. Even though there is a human bias, "market markers" are found to be unbiased in general as it is traders making offers accepted by others and not the other way around.[14] Michael Edney, a partner at Hunton Andrews Kurth in Washington, DC, considers that a prediction market can "strip away some of the pathologies that human beings have."[15]

[12] Donald B Hausch, Victor Sy Lo, and William T Ziemba, *Efficiency of Racetrack Betting Markets, Vol. 2* (World Scientific, 2008), https://ssrn.com/abstract=1469950
[13] Robin D. Hanson, "Shall We Vote on Values, But Bet on Beliefs?".
[14] Robert Forsythe, Forrest Nelson, George R. Neumann, and Jack Wright, "Anatomy of an Experimental Political Stock Market".
[15] Oliver Roeder, "Prediction Markets Can Tell the Future. Why Is the US so Afraid of Them?," *Financial Times*, 10 November 2023, https://www.ft.com/content/9108f393-6a45-41a3-bd76-20581b19288e

The futarchy model was developed in the early 2000s, and the technological tools were not available to accompany its development. The theoretical innovation was not followed by a technological revolution. Nonetheless, the interest regarding the futarchy model is back in front of the scene, especially following the explosion in popularity of Bitcoin, and the increasing skepticism against settled governing powers. The futarchy model can increase incentives for citizens to participate in direct democracy. Opportunities offered by the model can be leveraged by blending in blockchain in the initial proposal of Robin D. Hanson.

III. The Reinforcement of the Futarchy Model Through the Introduction of Blockchain in the Model

With modern blockchain technology encouraging citizen investment, thus creating more tangible evidence of social change for politicians, any future challenges elected leaders have with agenda-setting is minimal over prior methods. Blending these forces into a more "open government" philosophy, thereby emphasizing "transparent and inclusive" leader-electorate relations, holds great opportunity, pending evidence.[16]

The concept of blockchain was introduced at the same time as Bitcoin by Satoshi Nakamoto.[17] The aim was to "free" the individuals from the control of centralized power. Bitcoin has become an alternative to the traditional banking system and is an advanced example of a Decentralized Autonomous Organization (DAO). DAO is an internet entity existing autonomously, but that relies on individuals to perform specific tasks unable to be automated.[18] Bitcoin relies on blockchain technology.

[16] Organisation for Economic Co-Operation and Development (OECD), "Innovative Citizen Participation and New Democratic Institutions - Catching the Deliberative Wave", June 2020, 1, https://doi.org/10.1787/339306da-en
[17] Satoshi Nakamoto, "Bitcoin: A Peer-to-Peer Electronic Cash System", 2008, https://bitcoin.org/bitcoin.pdf
[18] Vitalik Buterin, "DAOs, DACs, DAs and More: An Incomplete Terminology Guide", *Ethereum Foundation Blog*, 6 May 2014, https://blog.ethereum.org/2014/05/06/daos-dacs-das-and-more-an-incomplete-terminology-guide

Blockchain is a shared database, run by the core software that all blockchain users are using. Those databases have two main characteristics. First, it relies on encryption when using blockchain. For example, when one person sends an entity to another, the identity of the sender will not appear, nor the receiver. Only a public key appears, corresponding to the private key used to sign the transaction. All the transactions are automatically encrypted by the blockchain core software, increasing anonymity but also validated by the blockchain thanks to the hash value. It is then increasingly possible to link a transaction with the completion of a specific demand.

Second, blockchain is immutable. The blockchain is both decentralized, as not a single user can control it, and distributed, as the data are shared across different computers through the network. The more users there are, the better the system.[19] Users can condition transactions to future events, which is called smart contracts. Smart contracts are digital contracts stored in the blockchain and automatically executed when the terms and conditions of the contract are met.[20] Smart contracts can improve the futarchy model as it aims to automatically execute a predetermined condition if the public policy you bet for is adopted.

The combination of the futarchy model and blockchain technology is a great advancement in the possible future of this model. It gives the possibility to realize Hanson's idea with the new developments in the technological field. It is possible to include futarchy in the core

[19] Thibault Schrepel, *Blockchain + Antitrust: The Decentralization Formula* (Edward Elgar Publishing, 2021), https://doi.org/10.4337/9781800885530

[20] IBM, "What Are Smart Contracts on Blockchain?", https://www.ibm.com/topics/smart-contracts#:~:text=Smart%20contracts%20are%20typically%20used,intermediary's%20involvement%20or%20time%20loss (Accessed 5 March 2024).

blockchain code and build a protocol with the blockchain[21] to increase individuals' confidence in the model and reduce external influences in realizing the futarchy.

3. Potential Application of the Model in Transatlantic Democracies

Citizens are increasingly requesting to have a direct say in politics and public policies. This evolution highlights the transformation of representative democracy toward an Open Government method. An Open Government is "a culture of governance that promotes the principles of transparency, integrity, accountability and stakeholder participation in support of democracy and inclusive growth."[22] Blending futarchy and blockchain can help develop an Open Government that inclusively and creatively promotes citizens' direct participation.This proposal would also allow for a better alignment of demand for public policy emanating from citizens and supply of these policies by governments.

I. Attempts to Implement Futarchy: Gnosis DAO and Meta DAO

Some experiments have already tried to frame and apply futarchy. Birthed in 2015, GnosisDAO, an entity working to improve what "decentralized infrastructure" surrounds ethereum blockchain systems, is what some may consider a similarly *soft version* of the futarchy model.[23] An initial amount of money is discharged into a market where users vote on governance and development of the platform. The users indicate a desire to buy or not to buy the token materializing the proposal in case of adoption. The decentralized governance authority would be launched with three proposals: one to increase the proposals made, one creating a token of governance and one that rewards the first participants. An important feature is that the market is pondered according to the amount of tokens possessed by the user. Thus, the more active on the market a user is, the higher the weight of his decision on

[21] Vitalik Buterin, "An Introduction to Futarchy".
[22] OECD, "Innovative Citizen Participation and New Democratic Institutions: Catching the Deliberative Wave".
[23] Gnosis Chain, "About GnosisDAO", November 2022, https://www.gnosis.io/about

the final decision-making result. However, in this version users can still ignore the market and just vote however they want to.

Another preliminary application is Meta DAO, founded in 2015. Meta was "the first known instantiation" to utilize Hanson's model and make governing decisions for Solana blockchain systems.[24] Although Meta allows for user investments to guide its governing decisions like futarcracies, being a Decentralised Autonomous Organization (DAO), MetaDAO can only influence the blockchain systems under its purview, while futarchy itself has a stronger reach and more centralized power. Its Non-Fongible Tokens (NFTs) were used by Coachella in 2022 for VIP access and other privileges. Any user with a META wallet can propose and vote on those policies. This betting system requires isolating tokens, which has a direct consequence for the user as it reduces the number of tokens available until the outcome of the prediction is clear. This is built as such to incentivize informed decisions and alignment with long-term value of the policies.[25]

II. A Proposal to Integrate Futarchy in Law-making Processes

The model has been applied to the governance of small companies but expanding it to public governance is also feasible. Based on the findings above, governing bodies making policy law in the United States and the European Union already have much in common with a DAO, indicating what futarchy may contribute to new governing philosophies.

For instance, in the legislative procedure, such a betting-based system could be used in the Parliament as an additional decision component. The Yes/No regarding a proposal could be integrated in the computation of majority-based decision-making. In some sense, the

[24] MetaDAO, "Overview", May 2024, https://docs.themetadao.org/futarchy/overview
[25] Zen, "Meta-DAO: Redefining Governance Through Futarchy," *Medium*, 22 February 2024, https://medium.com/@Zengiverse/meta-dao-redefining-governance-through-futarchy-0b0685affdc3

protocols of futarchy might even be a replacement of Congress. The evaluation and adoption of bills by Congress seem to fit the presently available mechanisms of a prediction market and a decentralized autonomous organization quite well.[26] Also, if all market players can propose a policy, it would create an easier way for more direct participation of citizens.

III. The Social and Democratic Benefits of Futarchy in Law-making Processes

A primary benefit of the futarchy model in democracies is that it shields decision-making from the opportunism and short-term bias usually suffered by politicians who act according to their interests in upcoming elections. This could be a form of e-participation to ease the process and reduce transaction costs. The automation of these markets allows for low costs and minimum human oversight during the betting process, even more if it is encapsulated in a blockchain mechanism. However, leaving the door open for proposals from anyone may lead to anarchy and the adoption of contradictory policies. Hence, a screening by the government should be maintained just as what is done with citizens' right of initiative. The prediction market on one precise policy must be opened by a regulator who also sets the conditions such as the metric chosen to evaluate the success, the duration of the market and the type of positive feedback for accurate gamblers. In short, the regulator should set the rules of the predictive market in terms of participation, timing, and reward for participants.

In financial markets, according to neoclassical models, the price is an aggregated information of the value of the good attached to it. The equilibrium on the market leads to a perfect equilibrium where demand and supply meet. The market price reflects the aggregate wisdom of market traders, all of whom are incentivized to reveal privately held information

[26] Ralph Merkle, "DAOs, Democracy and Governance", *Cryonics Magazine*, 37:4, (July-August 2016), 28-40 https://alcor.org/cryonics/Cryonics2016-4.pdf#page=28

in the process of executing their bets.[27] This assumption emphasizes the second benefit of futarchy if applied to public policies: ensuring an adequate supply of public policy to meet the demand of citizens, reflecting the collective interest. The outcome of reinforcing the role of markets in public-decision making is to reach better-informed collective decisions.

IV. Enhancing Voter Turnout With Futarchy

Another potential use of the model which would be highly interesting on EU and US level is to transpose it to promote political engagement in elections. Candidates for specific elections promise they will do a certain policy during their mandate; the population votes for this person based on its proposal, and then the elected candidate is expected to set up the promised policy. If he does not manage, he will not be reelected at the end of the mandate. In short, the population is "betting" on an individual, and the results will be that he is not reelected the next term.

In 2015, Berg and Chambers led an experiment in their classes where each group received $40 to invest in a predictive presidential election market.[28] The decision could be taken collectively out of a simple majority. The final balance would be invested in students' welfare for the final exam. The students' political engagement throughout the semester seemed to have increased as the groups identified more candidates, underlining a growing knowledge of them. The experiment was repeated with control groups, and the takeaway was that using predictive markets contributed to the development of engaged citizens equipped to critically analyze political information. Thus, to enhance political interest and participation in the upcoming 2024 elections on both sides of the Atlantic, implementing a betting system on

[27] Justin Wolfers and Eric Zitzewitz, "Prediction Markets", *Journal of Economic Perspectives,* 18:2 (2004), 107–26, https://doi.org/10.1257/0895330041371321.
[28] Lukas Berg and John Chambers, "Bet Out the Vote: Prediction Markets as a Tool to Promote Undergraduate Political Engagement", *Journal of Political Science Education,* 15:1 (2019), 2-16, https://doi.org/10.1080/15512169.2018.1446342

candidates with a rewarding scheme attached to the result would most likely have a positive effect on participation.

The importance of the reward scheme included in the futarchy model development can be analyzed from a behavioral perspective. Rewards are non-confrontational, so they do not generate hostility like penalties do. It is much more engaging to promise market actors that they might be rewarded at the end of the process than to threaten them to be penalized if they make a false bet. Penalties trigger negative emotions and lead to stress, which reduces cognitive abilities of decision-making and may end in irrational evaluations of a situation. Rewards produce a more neutral setting where the outcome is perceived as generating mutual benefits[29]. Also considering the general context of distrust between citizens and the politicians/politics, rewarding is interesting as it invites future cooperation and produces a de-escalatory behavior in which the notion of "a winner" is less salient. The model has to integrate a rewarding scheme.

V. The Legal Issues Impeding Potential Applications of Futarchy in Transatlantic Democracies

A major obstacle to implementation is the legal framework in which futarchy can be achieved. Gambling and usury remain widely illegal even for major financial institutions.[30] Hanson in his original paper emphasizes the existence of a regulatory block on financial innovation. However, he also demonstrates optimism for a potential future legalization of markets "whose main function is to aggregate information on questions that matter."[31]

[29] Anne Van Aaken and Betül Simsek, "Rewarding in International Law", *American Journal of International Law*, 115:2 (2021), 232. https://doi.org/10.1017/ajil.2021.2
[30] Robin D. Hanson, "Shall We Vote on Values, But Bet on Beliefs?".
[31] *Ibid*.

The emergence of blockchain technology and the growing interest from the population for decentralized organization encourages regulatory innovations. In the context of the regulation of blockchain and cryptocurrencies, governments can easily take the opportunity to grant an authorization for markets that aim to increase citizen participation in decision-making, under the condition that they are regulated and overseen by independent regulators and not private-profit-making firms. Implementing futarchy via a blockchain system moves it away from a gambling market, alleviating the regulatory barrier.

Implementing betting markets for social policies combines direct participation, citizen involvement, and empowerment while making the most out of the digital tools we have at our disposal, in an effort to reinvigorate interest in public affairs. While regulatory barriers risk preventing the implementation of futarchy, they are not the only issues the model faces.

4. A Watchful Eye on Futarchy: The Risks of the Model

No paper advocating for the adoption of Hanson's model would be complete without unpacking the inherent democratic risks it could pose. For one, although this system brings forward an interesting approach to e-participation, the risk of giving hackers market access may lead to contradictory policy development or worse. Governing bodies must, therefore, ensure that the futarchy market is actively regulated by independent entities over private non-profits with more selfish motivations. Whether professional lobbyists or separate crypto currency incentive multipliers could also pull investors away from the altruistic vision of this project is another obstacle worth further investigation.

A major risk of futarchy is market manipulation. Markets are volatile, and there is no reason to which predictive markets would escape this assumption. The volatility risk is linked to the crowding-in effect, where people buy because they follow a global movement, not because of the information they possess. The risk is that it results in the adoption of undesirable

policies. Another element of futarchy's market design risks leading to inefficiencies. The market must be able to settle, meaning that the outcome must be revealed at a point in time. If the market cannot settle for several years, then the payoff loses interest as the trader does not know if he will still be operating on the market. Hanson recommends a form of welfare measurement over 20 years to settle the outcome, but this is a long time frame for a trader to consider. Again, this is also even more true for individuals and would lead to a professionalization of the actors operating in the market, contrary to the objective of increasing direct citizens' participation. One strategic choice is at the center of the prediction market: the metric chosen to define success and the maturity date. This is in the hands of the initial decision-maker, but it influences the entire process. Hanson suggests choosing one global metric to estimate the effect of a single policy. The metric's choice determines the result's accuracy when settling the market. However, agreeing on such a variable is not that straightforward. The risk is to observe a lack of correlation between the result of the policy in the real world and the results predicted on the market.

Finally, the proposal to implement futarchy along with a decentralized autonomous organization (DAO) appears very extreme and ignores the principles of checks and balances. Are we ready to adopt a governing model without a human head at the top of the hierarchy? Implementing a DAO means a total absence of a centralized decision-making body. An easy risk is a deficient capacity to react to external crises. Indeed, how fast would a predictive market have reacted in facing the COVID-19 pandemic or the war in Ukraine? Gnosis is now exploring the potential to train AI agents to trade on the prediction market, but without a doubt, there would be absolutely no consent from the EU or the US to implement such a proposal. Democracy is human-centered and wishes to remain as such. Thus, implementing a complete and comprehensive futarchy scheme is impossible; it can be a good framework to imagine new solutions to citizens' participation but certainly not to reformulate democratic systems.

5. Discussion and Conclusion

This preliminary paper explores the extension of futarchy allowed by technological progress, specifically blockchain. Proposals to implement futarchy reflected on opportunities but highlighted some flaws and risks associated with the model.

When designing the implementation of futarchy, three significant elements should be discussed. First, there must be a clear incentive for citizens to participate in the market; the implementation of a reward scheme achieves this. Second, the regulator must precisely define the rules to ensure that the metric chosen to measure the result is adequate and in a reasonable timeframe. Finally, a key condition is that the regulator is independent from politics. Its role is to operate a legal check before opening a market for a proposal and decide the protocol to evaluate the result of the policy.

The need for a reward in the framing of the model is clear, the main practical question remains how to implement it and under which form. When betting on public policies, it is hardly conceivable to have direct monetary compensation; thus, alternative types of rewards should be explored. There is a direct reward for an accurate bet. As the policy will be implemented and a rational actor bets on a policy that benefits him, it will benefit from the policy when adopted. The design question lies in the potential for market participants to have a secondary benefit from their accurate bets. Two main potential types of reward are fiscal exemptions and increased market influence by acquiring more tokens.

The easiest option would be for correct betters to receive the number of tokens they have bet multiplied by a certain factor. Then, for their next bet, the users can bet a higher number of tokens, thus increasingly influencing the price and the potential adoption of the policy. A first limit is that market actors might underestimate this influence and thus need to be incentivized to participate and make informed decisions. A second limit would be to observe

the emergence of professional lobbyists on the market, creating biases in the decision-making and potential deviation from the initial objective of collective decision-making that enhances collective welfare.

Another perspective would be to allow the exchange of tokens used on the betting market for fiscal exemption or credit. There would be a fixed exchange rate to transform betting tokens into fiscal deductions. This would require normative changes of national tax laws and a careful design to avoid creating or reinforcing inequalities. This second option is more challenging in the design especially in the context of the US or the EU as it would need to be implemented at national level or state level to align with competencies of States and Federal level. However, it is an interesting option to explore as it creates a strong incentive for market actors to make well-informed decision making and bet on policies that are likely to be adopted. The sense of reward that fosters compliance is certainly stronger if such a scheme is implemented.

In conclusion, Hanson's futarchy model has shown increasing potential as the alternative system of governance many democracies across the world have seemed to pray for in the last quarter-century. Initially, futarchy was a non-technical proposal with the idea of direct autonomous democracy; it exhibited a reduced impact when published in the 2000s. Nonetheless, with the recent technological revolution, there is a new technological possibility to give birth to a practical institutionalized futarchy model. It would benefit the common goods and decrease the democratic deficit. The current example of the futarchy model is increasing the interest around this subject as it is a more credible option for the future. This paper could not be a stronger advocate in futarchy's role to make sure civilisation does also. From its ability to incentivise voter participation, to how it could improve quality of life, this system could at last allow the silent majority to speak and be heard like never before.

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Bridging the Divide: Ethical AI and Transatlantic Cooperation

Marion Cordebart, Scarlett Dezan, Cleo Gerigny, and Sasha Morosova

Introduction

"The pace of progress in artificial intelligence is incredibly fast. The risk of something seriously dangerous happening is in the five-year time frame. Ten years at most."[1] Invading all areas of our lives, from transforming industries to reshaping geopolitical dynamics, AI is revolutionising our world at an exponential speed. This is well illustrated by this quote from Elon Musk, also raising questions about its dangers. Indeed, AI could have catastrophic consequences on the future of work, ethics, and international law.

As countries strive to find their places within this new technological global order, the United States and the European Union have emerged as prominent actors. Consequently, the use of AI has profound implications for the transatlantic relationship. Hence, a coordinated transatlantic approach is essential to harness benefits while mitigating the risks of AI use.

AI systems can be defined as "software (and possibly also hardware) systems designed by humans that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or

[1] James Cook, "Elon Musk: You Have No Idea How Close We Are to Killer Robots", *Business Insider*, 17 November 2014, https://www.businessinsider.com/elon-musk-killer-robots-will-be-here-within-five-years-2014-11 (Accessed 29 May 2024).

unstructured data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve the given goal."[2]

For the purpose of this paper, we are taking a hybrid approach, analysing both symbolic artificial intelligence and connectionist AI. We are thus considering a definition of AI which is more focused on Generative AI. Particularly, this encompasses expert systems deducing behavioural pathways from data, but also the systems of machine learning and deep learning, a more sophisticated form of machine learning.[3]

The first part of this article is a comparative analysis of the use of Artificial Intelligence in the social, political, economic and legal fields. Driven by an extensive literature review, this section will outline the current use of AI on both sides of the Atlantic, including its impact on the transatlantic relationship, its advantages, and the unique opportunities it carries for transatlantic cooperation. Potential challenges and debates will also be discussed.

The second part of this article will be dedicated to policy recommendations for an increase in the ethical use and cooperation of AI in the transatlantic relationship. The aim is to bring the subjects explored in the first part of the paper together to inform concrete policy, ensuring secure and ethical cooperation in the fields of politics and economics to strengthen the transatlantic relationship.

1. Social Implications and Ethical Considerations

[2] High-Level Expert Group on Artificial Intelligence, "Definition of AI: Main Capabilities and Scientific Disciplines", *Independent High-Level Expert Group on Artificial Intelligence Set Up by the European Commission*, 8 April 2019, 6, https://ec.europa.eu/futurium/en/system/files/ged/ai_hleg_definition_of_ai_18_december_1.pdf

[3] Corneliu Bjola, "Diplomacy in the Age of Artificial Intelligence", *Emirates Diplomatic Academy*, January 2020, 6-8.

As we will explore further in this paper, AI can have an impact on various fields, yet the implications of AI technology largely depend on social and ethical usage. Currently, there are a few primary concerns about the impact and dangers of AI based technologies, such as political polarization, marginalization of certain social groups, and disinformation.

Views on AI and trust in such technologies differ from one side of the Atlantic to the other and it is important to assess such disparities to implement effective policies and foster cohesion in society. Research shows that, on average, Europeans have lower trust in AI technology than their American counterparts.[4] They are thus more cautious about its implementation. By contrast, Americans are slightly more optimistic concerning this technology.[5] Moreover, as the level of trust in AI is closely related to trust in government and official institutions more broadly, we encounter a primary danger of such technology in society, namely political instability.[6] AI can create more political divides as it polarizes the political spectrum. While political groups closer to the middle of the spectrum tend to trust AI more, the more right-leaning people are, the more likely their trust in AI is to diminish.[7] This leads to political unrest as it creates risks of national power shifts, volatility, strategic instability, and diminished trust in government.[8]

[4] Nicole Gillespie et al., *Trust in Artificial Intelligence: A Global Study* (The University of Queensland and KPMG Australia, 2023), 14-20.
[5] *Ibid*.
[6] Yi-Ning Katherine Chen and Chia-Ho Ryan Wen, "Impacts of Attitudes Toward Government and Corporations on Public Trust in Artificial Intelligence", *Communication Studies*, 72:1 (2020), 115–31; Shiyu Yang et al., "In AI We Trust: The Interplay of Media Use, Political Ideology, and Trust in Shaping Emerging AI Attitudes", *Journalism & Mass Communication Quarterly*, (2023), 202.
[7] Chen and Wen, "Impacts of Attitudes Toward Government and Corporations on Public Trust in Artificial Intelligence", 5.
[8] Leighton Andrews, "Public Administration, Public Leadership and the Construction of Public Value in the Age of the Algorithm and 'Big Data'", *Public Administration*, 97:2, (2018), 296–310; Karen Yeung, Andrew Howes, and Ganna Pogrebna, "*AI Governance by Human Rights–Centered Design, Deliberation, and Oversight"* in *The Oxford Handbook of Ethics of AI*, ed. Markus D. Dubber, Frank Pasquale, Sunit Das (Oxford University Press, 2020), 75–106; Anneke Zuiderwijk, Yu-Che Chen, and Fadi Salem, "Implications of the Use of Artificial Intelligence in Public Governance: A Systematic Literature Review and a Research Agenda", *Government Information Quarterly*, 38:3 (2021), 16.

Moreover AI is not free of biases and the quality of the algorithm will largely depend on the quality and processing of the data at hand.[9] As such, these technologies can perpetuate racial and gender biases.[10] And, compounding such biases, their accessibility is often limited to the most educated individuals.[11] This disrupts social cohesion and it must be noted that AI-driven technologies have a pattern of entrenching social divides and exacerbating social inequalities, particularly among historically marginalized groups.[12] Certain consequences like the perpetuation of racism, discrimination, and inequality might also stem from the manipulation of these systems by decision-makers.[13]

AI can further divide society by politicizing the information we have access to and promoting the dissemination of misinformation. As such, it is evident that digital technologies can perpetuate dynamics undermining democracy. This can be observed by the AI-enabled polarisation in social networks.[14] Algorithms tend to expose us to information we agree with, hence deepening our views without being exposed to counter arguments and a plurality of information.[15] AI also ushers in the possibility for deep-fake content to be created, further facilitating the spread of fake-news.[16]

[9] Susan Leavy et al., "Data, Power and Bias in Artificial Intelligence", *arXivLabs*, 28 July 2020, 1.
[10] *Ibid*.
[11] Theo Araujo et al., "Humans Vs. AI: The Role of Trust, Political Attitudes, and Individual Characteristics on Perceptions About Automated Decision Making Across Europe", *International Journal of Communication*, 17 (2023), 20.
[12] *Ibid*, 6.
[13] David Valle-Cruz, Rigoberto García-Contreras, and J. Ramón Gil-García, "Exploring the Negative Impacts of Artificial Intelligence in Government: The Dark Side of Intelligent Algorithms and Cognitive Machines", *International Review of Administrative Sciences*, 90:2 (2023).
[14] Ulrike Esther Franke, "*Artificial Intelligence Diplomacy: Artificial Intelligence Governance as a New European Union External Policy Tool*", *European Parliament, Policy Department for Economic, Scientific and Quality of Life Policies*, 2021, 27-28.
[15] *Ibid*.
[16] Valle-Cruz, García-Contreras, and Gil-García, "Exploring the Negative Impacts of Artificial Intelligence in Government".

Ethical concerns also affect trust in AI.[17] It is therefore crucial to regulate these new technologies within a thorough ethical framework to solve the problems of polarisation, marginalisation, and diminished trust. Ethical AI is the key to reaping the benefits of this technology while mitigating its negative consequences.

2. State Usage of AI: Political Dimensions and Considerations

Artificial intelligence is an ever-advancing technology which can increasingly be used by states in the areas of security, diplomacy, and humanitarian support. For military technology, AI can help advance both hardware and software.[18] In terms of border control, both the EU and US have initiatives for the deployment of AI. For example, in the US, AI is used to screen cargo ports of entry, validate identities in TSA, and send real-time alerts when an anomaly is detected.[19] The EU Smart Borders initiatives also include facial recognition, doubling as a potential tool for emotion detection to identify deception.[20] However, these deployments have faced ethical concerns, with the European Data Protection supervisor calling for increased caution and a protection of personal data.[21] Regarding humanitarian aid, AI can encourage preparedness by analysing data to reveal a crisis before it unfolds, facilitating rapid responses to situations by analysing and mapping satellite images, and aiding in post-crisis recovery through facial tools to provide services to those impacted.[22] However, there is a growing consensus that adopting these AI systems may impact the global

[17] Nessrine Omrani et al., "To Trust or Not to Trust? An Assessment of Trust in AI-based Systems: Concerns, Ethics and Contexts", *Technological Forecasting & Social Change*, 181 (2022), 8.
[18] Benjamin M. Jensen, Christopher Whyte, Scott Cuomo, "Algorithms at War: The Promise, Peril, and Limits of Artificial Intelligence", *International Studies Review*, 22 (2020), 526–550.
[19] U.S. Department of Homeland Security, "Using AI to Secure the Homeland", 29 February 2024, https://www.dhs.gov/ai/using-ai-to-secure-the-homeland (Accessed 30 May 2024).
[20] Costica Dumbrava, "Artificial intelligence at EU borders: Overview of applications and key issues", *European Parliament*, July 2021, https://www.europarl.europa.eu/RegData/etudes/IDAN/2021/690706/EPRS_IDA(2021)690706_EN.pdf.
[21] European Data Protection Supervisor, "Formal comments of the EDPS on the European Commission Public Consultation on smart borders", 3 November 2015, https://www.edps.europa.eu/sites/default/files/publication/15-11-03_comments_smart_borders_en.pdf (Accessed 30 May 2024).
[22] Ana Beduschi, "Harnessing the Potential of Artificial Intelligence for Humanitarian Action: Opportunities and Risks", *International Review of the Red Cross*, 104:919 (2022), 1149–69.

balance of power and have geopolitical consequences as some states may obtain an economic, technological, or military advantage if these developing technologies are only accessible to certain states.[23] Ultimately, this could impact transatlantic relations.

Importantly, AI can also be used in diplomacy from everyday structured tasks such as those of a diplomat to more advanced tasks.[24] For example, "AI can help improve communication between governments and foreign publics by lowering language barriers between countries, enhance the security of diplomatic missions via image recognition and information sorting technologies, and support international humanitarian operations by monitoring elections, assisting in peacekeeping operations, and ensuring that financial aid disbursements are not misused through anomaly detection."[25] Many of these processes fostered by AI could thus strengthen the transatlantic relationship between the EU and the US by strengthening direct relationships and communication. However, for more routine operations, AI may eventually replace the officer worker, automating some consular services.[26] Also, Crisis management and public diplomacy are thus more challenging domains due to the "higher expectations they set for the human-machine relationship."[27] However, regardless of the level of function of AI, a larger concern is the potential negative impact as AI phases out human contact in political situations where interpersonal relations are essential.[28] As in-person exchanges may deteriorate under the increasing use of AI, this poses a threat to functional, cooperative transatlantic relations.

Feijóo at al. advances the concept of "new technology diplomacy" referring to sustained

[23] Ulrike Esther Franke, "Artificial Divide: How Europe and America Could Clash Over AI", *European Council on Foreign Relations*, January 2021, https://ecfr.eu/wp-content/uploads/Artificial-divide-How-Europe-and-America-could-clash-over-AI.pdf.
[24] Bjola, "Diplomacy in the Age".
[25] *Ibid*, 23.
[26] *Ibid*.
[27] *Ibid*, 30.
[28] *Ibid*, 20.

international dialogue about human rights and the ethical, legal, economic, and social considerations of AI.[29] Whilst AI has a lot of benefits, concerns over ethics, data quality, and a misuse of AI in many functions remain. Thus, considering the power of AI, regulation is necessary. This pressing need for dialogue between states regarding AI has been driving transatlantic discussions. However, aside from the general need to discuss AI, the European Council on Foreign Relations outlines two main reasons for augmented EU-US cooperation.[30] The first concern is that AI is increasingly seen as a competition for geopolitical power and dominance. Those who can develop the fastest, can claim a large place in the geopolitical realm. Comparisons can be drawn to the space race with the Soviet Union and Sputnik.[31] The second, values-based reason is that there has also been an emerging framing as US-China competition representing a larger division between AI-enabled authoritarianism and liberal democracies.[32] Here, there are comparisons to the competition between communism and liberal democracy during the Cold war.[33] For example, the way China uses AI to surveille its population is not in line with democratic values. Thus, in addition to the existing transatlantic ties between the US and EU, the motivation surrounding China and the protection of democratic values serves as an additional motivation to foster joint discussions surrounding AI.

However, there are some challenges to the potential of transatlantic cooperation in AI.[34] One concern has been the overall declining alliance between the EU and US, especially after President Trump's administration from 2016-2022 and burgeoning fears that the US no longer holds an interest in the EU as a geopolitically key player. Another concern is the fear of more isolationist tendencies of the US whilst the EU is simultaneously becoming increasingly focused on its own autonomy and sovereignty. In addition, many fear that the

[29] Claudio Feijóo et al., "Harnessing artificial intelligence (AI) to increase wellbeing for all: The case for a new technology diplomacy", *Telecommunications Policy,* 44:6 (2020).
[30] Franke, "Artificial Divide", 4.
[31] Franke, "Artificial Intelligence Diplomacy", 13.
[32] Franke, "Artificial Divide", 4.
[33] Franke, "Artificial Intelligence Diplomacy", 17-18.
[34] Franke, "Artificial Divide", 8-10.

US does not share the same regulatory and interventionist approach regarding ethical AI as the EU. As discussed in legal regulation frameworks, the US and EU have divergent approaches to AI regulation. We believe this could hinder attempts of joint regulation or lead to cooperative regulation that is merely surface-level. A third reason has to do with differing transatlantic views on China.[35] Although there is a mutual trepidation over the capabilities of China in relation to AI, the broader approaches of the US and EU vis-à-vis China are quite different. While the US has hegemonic and geopolitical competition with China, the EU does not feel as urgent about competition with China. Moreover, the EU "does not want to engage in the power politics increasingly associated with AI."[36] These key divergences pose challenges to cooperation on AI as they represent an overall incongruency in the values and interests of the US and EU which could cause clashes over how to regulate AI. We fear this could result in either a poor outcome of minimal cooperation that does not strengthen the transatlantic relationship, or an outcome that meets the bare minimum to keep both the EU and US satisfied but leaves deliberations and the relationship fairly weak.

In terms of this cooperation, there have still been bodies formed between many states in order to work collectively on AI, but the Trade and Technology Council (TTC) is most tangibly underpinning direct US-EU cooperation.[37] The TTC is a forum for promoting transatlantic bonds in relation to technology standards, trustworthy AI, and encouraging innovation and other economic benefits.[3839] The TTC, which is based on democratic principles, a commitment to universal human rights, and the upholding of a rules-based order, has issued a "Joint Roadmap on Evaluation and Measurement Tools for Trustworthy AI and Risk Management."[40] In response to arguments suggesting the weakening of relations between

[35] Franke, "Artificial Divide", 10.
[36] Franke, "Artificial Intelligence Diplomacy", 7.
[37] European Commission, "EU-US Joint Statement of the Trade and Technology Council", 5 December 2022, https://ec.europa.eu/commission/presscorner/detail/en/statement_22_7516 (Accessed 30 May 2024).
[38] European Commission, "Digital in the EU-US Trade and Technology Council", 7 May 2024, https://digital-strategy.ec.europa.eu/en/policies/trade-and-technology-council (Accessed 30 May 2024).
[39] European Commission, "EU-US Joint Statement".
[40] *Ibid*.

the US and EU, the TTC claims it remains "a strong symbol of a renewed EU-US partnership."[41] The TTC also acknowledges that, while the US and EU may have some differing views on regulatory approaches, their joint risk-based approach demonstrates that their shared values can still guide the advancement of emerging technologies.[42] Therefore, we do see an overall potential to strengthen the transatlantic bond and create meaningful regulations. Some roadmap suggestions outlined to assist this relationship were 1.) the creation of shared terminologies to help developing standards, 2.) a mutual commitment to leadership on international technical standards incorporating democratic and human rights values as well as joint work on AI tools and risk management through a shared hub of methodologies and analysis of tools and 3.) monitoring and measuring AI risks.[43] During the most recent meeting in 2024, "the EU and the US welcomed the International Guiding Principles on Artificial Intelligence (AI) and the voluntary Code of Conduct for AI developers adopted in the G7 and agreed to continue cooperating on international AI governance."[44]

However, there are some persistent challenges hindering the TTC and some may question its effectiveness and overall impact on the transatlantic relationship. For example, Microsoft's Vice President critiqued that "We should learn some lessons from the privacy experience, which began in 1980 when both the US and the EU had adopted principles that were harmonised, but then went down different paths."[45] Thus, there exists skepticism as to whether or not these initial talks and regulation proposals will take root in the long term. According to a review of the recent 2024 meeting, there were complaints that the TTC

[41] European Commission, "Technology outcomes of the TTC of December 2022", 5 December 2022, https://digital-strategy.ec.europa.eu/en/library/technology-outcomes-ttc-december-2022 (Accessed 30 May 2024).
[42] European Commission, "TTC Joint Roadmap for Trustworthy AI and Risk Management", 2 December 2022, https://digital-strategy.ec.europa.eu/en/library/ttc-joint-roadmap-trustworthy-ai-and-risk-management (Accessed 30 May 2024).
[43] *Ibid*.
[44] European Commission, "EU and US take stock of trade and technology cooperation", 30 January 2024, https://ec.europa.eu/commission/presscorner/detail/en/IP_24_575 (Accessed 30 May 2024).
[45] Martin Greenacre, EU/US divergence in data protection holds lessons for global regulation of artificial intelligence, experts say", *Science Business,* 28 September 2023, https://sciencebusiness.net/news/ai/euus-divergence-data-protection-holds-lessons-global-regulation-artificial-intelligence (Accessed 29 May 2024).

focuses on long-term planning, but is short on short-term, tangible results.[46] One of the reasons for this lack of results is meetings are held merely twice a year, which makes it difficult to ensure consistent, well-developed coordination. Ultimately, if the TTC proves to be unsuccessful, lacking real teeth to create cooperation and joining regulations, this could pose a threat to the transatlantic bond, in opposition with the overarching goals of the TTC. Ultimately, the relationship between AI and politics is not clear-cut and the use of AI will have implications for the transatlantic relationship. However, if these implications of AI will strengthen or weaken the transatlantic relationship remains to be seen.

3. Economic Considerations

AI is a technological breakthrough that has revolutionized the way we work and how we interact. It also continuously impacts how the world economy is structured and grows. By 2030, we can expect the GDP to contribute $15.7tr to the global economy.[47] The increasing use and potential of this technology forces us to rethink assumptions and theories about the world economy. The McKinsey Global Institute expects around 70 % of companies to adopt at least one type of AI technology by 2030, and less than half of large companies to deploy the full range.[48]Assessing the potential challenges such technological change brings is essential for the transatlantic relationship, especially as this economic cooperation is one of the most important examples of innovation-focused, global cooperation at present.[49]

[46] Claude Barfield, Barfield, Claude. "The Trade and Technology Council: RIP?", *AEI,* 13 February 2024, https://www.aei.org/technology-and-innovation/the-trade-and-technology-council-rip/ (Accessed 29 May 2024).
[47] PwC, "PWC's Global Artificial Intelligence Study: Sizing the Prize", https://www.pwc.com/gx/en/issues/data-and-analytics/publications/artificial-intelligence-study.html (Accessed 9 May 2024).
[48] Marcin Szczepański, "Economic Impacts of Artificial Intelligence (AI)", *European Parliament*, July 2019.
[49] Joshua P. Meltzer, Cameron F. Kerry, and Alex Engler, "The Importance and Opportunities of Transatlantic Cooperation on AI", *Brookings*, 9 March 2022, https://www.brookings.edu/articles/the-importance-and-opportunities-of-transatlantic-cooperation-on-ai/ (Accessed 29 May 2024).

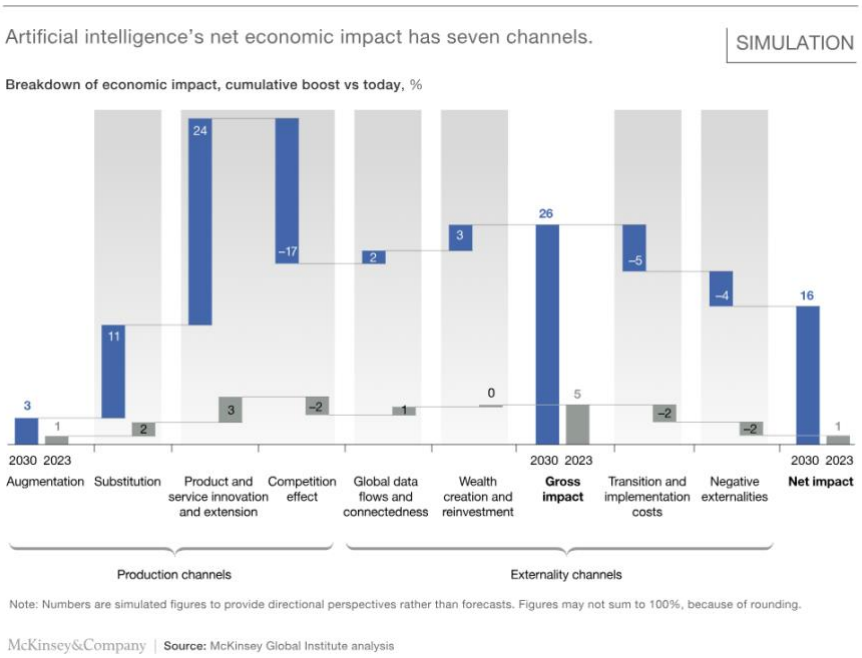

Figure 1*: Artificial Intelligence's net economic impact* (McKinsey Institute)

Within an increasingly fragmented international system, understanding how AI impacts strategic autonomy in trade and technology is paramount to framing our understanding of EU-US cooperation. Taking into account this shift, the aforementioned TTC aims to strengthen technological and industrial leadership, while upholding shared democratic values and bilateral economic relations.[50] The implementation of AI technologies will be accompanied by a productivity boom and this newly acquired production capacity will determine tomorrow's economic leaders.[51] By increasing efficiency through the automation of repetitive and time-consuming tasks, AI particularly revolutionizes the analysis process of large amounts of data, enabling an easier decision-making process as well as accelerating the creation process, boosting consumer demand and generating additional

[50] IAI Istituto Affari Internazionali, "EU-US Cooperation on the Governance of Artificial Intelligence and the Role of the Trade and Technology Council", 11 April 2024, https://www.iai.it/en/eventi/eu-us-cooperation-governance-artificial-intelligence-and-role-trade-and-technology-council (Accessed 20 May 2024).
[51] Capital Economics, "AI, Economies and Markets: How AI will impact the global economy", https://www.capitaleconomics.com/ai-impact-economy?utm_source=google&utm_medium=cpc&utm_name=spotlight_leadgen_prospect_glbec_global_aug2023_economic_impacts_ai&utm_term=europe_economic_impact_ai&utm_content=responsive&salesforce_campaign_id=7014H0000007Q5sQAE&gad_source=1&gclid=CjwKCAiAuNGuBhAkEiwAGId4aqSfmlVMjm0ScuToALbd33BICsWBaP65ejGSC5qxtZqCKbMcxmQxpxoC8sIQAvD_BwE (Accessed 20 April 2024).

revenues.[52] This push toward greater efficiency could lead to a doubling of annual global economic growth rates. Additional production opportunities have the potential to address major global challenges such as supply shortages.[53]

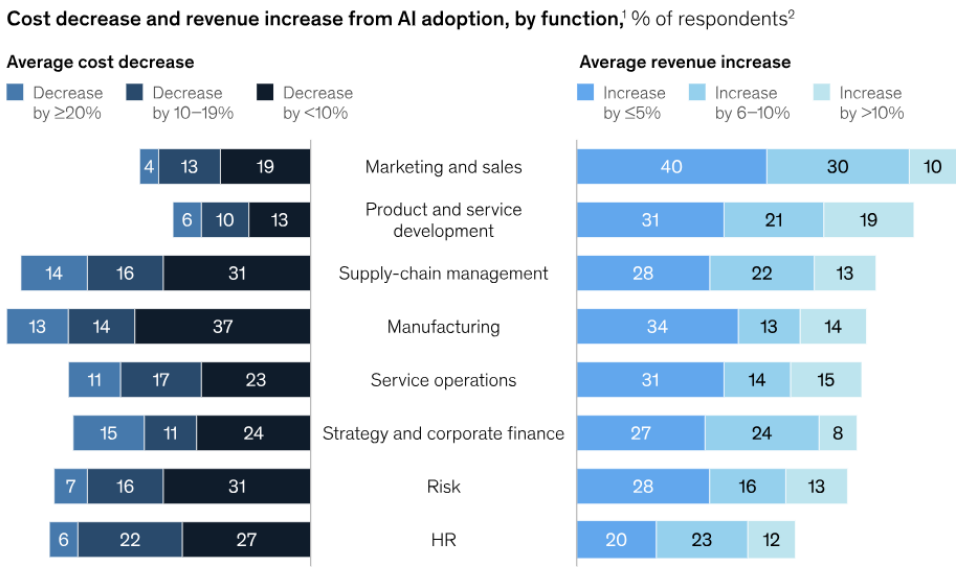

Figure 2*: Cost decrease and revenue increase from AI adoption* (McKinsey Institute)

This efficiency breakthrough, according to PricewaterhouseCoopers (PwC), will generate a 14% increase in global GDP by 2030.[54] But AI has also adverse outcomes: McKinsey highlights that AI will lead to a rise of large-scale enterprises and empower smaller ones to engage in project-based work leading to job polarization. As AI and automation redefine job roles and skill requirements, they simultaneously create new opportunities while displacing others, leading to a stratification of the labour market to high-paid with non-AI-replaceable skills and low-paid jobs where automation is impossible. It is essential to assess these

[52] Marcin Szczepański, "Economic Impacts of Artificial Intelligence (AI)".
[53] *Ibid.*
[54] PwC, "PWC's Global Artificial Intelligence Study: Sizing the Prize".

changes in the current and developing transatlantic relationship as well as the potential outcomes it could bring.[55]

The technological transatlantic partnership is natural as the EU and US have a robust history of collaboration across various domains, especially regarding economics, security, and innovation.

AI would enhance this partnership, permitting a greater collaboration between companies and researchers on both sides of the Atlantic. Both regions would benefit from the shared platforms, data exchange, and joint projects AI fosters. This increased partnership would allow for the transatlantic alliance to be solid competitors in the tech sector and position themselves as economic and tech leaders. Indeed, through cooperation, the two regions could leverage their respective markets, technologies, skilled workers and researchers to better engage in AI. Moreover, taking stock of the transformative power of AI is essential to ensure competitive economic growth. If the EU catches up with the US on AI, a total of €3.6 trillion could be added to the collective GDP by 2030 enhancing their competitiveness in the world economy.[56] From new technologies stem new redistributions of economic gains, and the transatlantic partnership needs to take advantage of this opportunity to preserve their place as global powers.[57]

[55] Marcin Szczepański, "Economic Impacts of Artificial Intelligence (AI)".
[56] Jacques Bughin et al., "Tackling Europe's Gap in Digital and AI", *McKinsey & Company*, 7 February 2019, https://www.mckinsey.com/featured-insights/artificial-intelligence/tackling-europes-gap-in-digital-and-ai (Accessed 30 May 2024).
[57] Meltzer, Kerry, and Engler, "The Importance and Opportunities of Transatlantic Cooperation on AI".

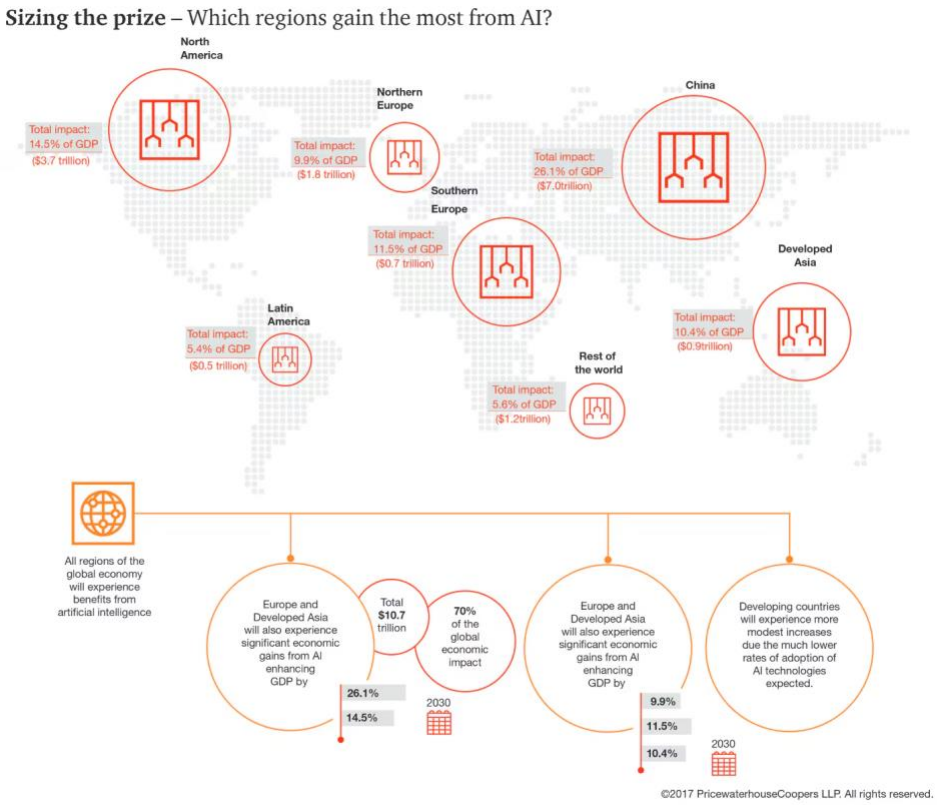

Figure 3*: Which regions gain the most from AI* (PwC)

While the EU may lag behind in digital adoption and diffusion when compared to the US, it possesses a strong foundation for AI innovation and application. Successful transatlantic cooperation would further boost this foundation by leveraging each side's comparative advantages and fostering the development of AI that is secure, non-discriminatory, and aligned with common values and democratic norms.[58] Nurturing a hub of skilled individual and research capacities would allow for EU and US companies to be increasingly competitive in the global market.

At present, there is a demonstrated mutual desire to increase bilateral trade and investment, cooperate on economic security and emerging technologies, and advance joint interests in

[58] Meltzer, Kerry, and Engler, "The Importance and Opportunities of Transatlantic Cooperation on AI".

the digital sphere. The aforementioned EU-US TTC is one of the main forums for close cooperation on transatlantic trade and technology issues, ensuring a commitment toward sustainable development and ethical use of new technologies including the development of AI.[59] It is, therefore, of utmost importance to enhance the transatlantic partnership on AI to ensure competitiveness in an increasingly transformative economy.

However, the use of AI is not without its challenges, nor is it an easy technology to integrate within the transatlantic framework. AI might improve efficiency, growth, and make firms a hub for wealth and knowledge but these super-firms could have a detrimental effect on the wider economy and increase inequality. The use of AI would widen the gap between developed and developing countries as well as between workers. Workers with certain skills, vulnerable to automation, may lose their jobs, widening the gap between high and low-income earners, leading to a polarization of the labour market and increasing inequality, pushing down wages and shrinking the tax base.[60] In developed economies, almost 40% of global employment is threatened by AI. The effect on labor largely depends on the extent to which AI will complement higher-income workers as it may lead to a disproportionate increase in their labor income. Many elements lead to this conclusion and the gains in productivity will likely boost capital returns favouring stock owners and consequently favoring high earners.

Moreover, in emerging markets, countries face less immediate, albeit critical, disruption from AI emergence. The lack of infrastructure and skilled workforce could slow down the AI adoption process raising the risk that over time the technology could exacerbate inequality.[61] Thus, the transatlantic cooperation on AI must take into account the myriad adverse,

[59] European Commission, "EU and US Take Stock".
[60] Marcin Szczepański, "Economic Impacts of Artificial Intelligence (AI)".
[61] Kristalina Georgieva, "AI Will Transform the Global Economy. Let's Make Sure It Benefits Humanity", I*nternational Monetary Fund*, 14 January 2024, https://www.imf.org/en/Blogs/Articles/2024/01/14/ai-will-transform-the-global-economy-lets-make-sure-it-benefits-humanity (Accessed 30 May 2024).

potential consequences of its adoption. As expressed earlier, the productivity boost and growth will not be shared equally, some economies benefiting from such change, while others not benefiting in equal measure.

Importantly, the China dimension and diverging US-EU approaches on relations with China, further complicate potential cooperation.[62] Moreover, due to isolationist tendencies in the US, the EU has 'lost trust' to an extent, and discourse around European strategic autonomy or sovereignty is increasing, threatening a possible collaboration.[63] Additionally, bureaucratic hurdles and administrative challenges may impede the effective integration and regulation of AI technologies, further complicating their economic impact.

Thus, while AI holds promise for transformative economic benefits, addressing these potential negative consequences is essential to ensure that its benefits are equitably distributed and that it aligns with broader societal goals.

4. Legal Framework and Regulations: A Comparison

I. Existing Legislation

Despite the relative novelty of AI technologies, within the past year, more than 37 countries have proposed legal frameworks aimed at regulating AI.[64] Beyond national jurisdictions, the United Nations has put forward its own measures and international agreements have been signed, aiming to harmonise global implementation of AI. This section will first review the recently-proposed legislation in the EU, UK, US, and international sources surrounding the

[62] European Commission, "TTC Joint Roadmap".
[63] Franke, "Artificial Divide".
[64] Ken D. Kumayama et al., "AI in 2024: Monitoring New Regulation and Staying in Compliance with Existing Laws", *Skadden*, 3 December 2023, https://www.skadden.com/-/media/files/publications/2023/12/2024-insights/ai_in_2024_monitoring_new_regulation_and_staying_in_compliance_with_existing_laws.pdf?rev=8368e8d9a00c46808ba74ee52c697aa5 (Accessed 30 May 2024).

regulation of AI. Subsequently, an analysis of the proposed legal frameworks will reveal the key sectors that remain beyond the scope of immediate attention by policymakers, but must be given high priority due to their ethical implications. This section will conclude with a reflection on the implications of AI regulation on the transatlantic relationship and the future of AI.

Out of the jurisdictions to be discussed, the EU has mapped the most extensive set of AI regulations. The world's first legislation aimed specifically at regulating AI technologies and mitigating their risks was the EU Artificial Intelligence Act, proposed by the European Commission.[65]

This Act aims to increase transparency in AI operations by adopting a risk-based approach, classifying AI systems according to their "risk levels" in terms of health, safety, and human rights.[66] Any systems deemed to be a risk to data security, such as biometric identification, predictive policing, or emotion recognition systems, are deemed to pose an unacceptable risk and will be banned.[67] However, the scope of this law is limited to general purpose AI models, and will not apply to AI systems used by Member States in the sectors of national security, law enforcement, and migration, which are provided transparency exceptions

[65] European Commission, "Proposal for a Regulation of the European Parliament and of the Council: Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Legislative Act", 21 April 2024, https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52021PC0206#:~:text=This%20proposal%20lays%20down%20obligation,related%20services%20and%20products%20emerge (Accessed 30 May 2024).
[66] European Parliament, "Artificial Intelligence Act: deal on comprehensive rules for trustworthy AI", *European Parliament News*, 9 December 2023, https://www.europarl.europa.eu/news/en/press-room/20231206IPR15699/artificial-intelligence-act-deal-on-comprehensive-rules-for-trustworthy-ai (Accessed 30 May 2024).
[67] EU Artificial Intelligence Act, "High-level summary of the AI Act", 27 February 2024, https://artificialintelligenceact.eu/high-level-summary/ (Accessed 30 May 2024).

under the Act.[68] Having been approved by the Council of the European Union and the European Parliament, the EU AI Act will apply two years after its entry into force.

Additionally, the EU has issued the Artificial Intelligence Liability Directive (AILD). This directive focuses more on legal liability, and provides a means for recourse to EU citizens by causally linking AI providers as directly responsible for any harm caused by the output of their AI systems.[69] Legislation such as the aforementioned EU AI Act and the AILD showcases that the EU approach to AI regulation focuses on the preservation of their citizens' key rights, such as data privacy stipulated in Article 8 of the EU Charter, and right to an effective remedy before a tribunal under Article 47 of the EU Charter for violation of the guaranteed freedoms and rights.

Meanwhile, as of early 2024, there is no existing comprehensive AI law in the United States. In October 2023, the Biden administration did issue the AI Executive Order calling for a set deadline for agencies and regulators to evaluate the safety of AI technology.[70] Setting the same obligation on companies was also proposed. Although this is not nearly as extensive as the EU measures, the American approach indicates an increased desire for regulation of AI systems, signifying a solid foundation for future case law.

On an international level, the United Nations has put forward its own measures, starting with the creation of an AI advisory board to draft global agreements synthesising the governance

[68] EDRi and AI coalition partners, "*EU's AI Act Fails to Set Gold Standard for Human Rights*", 3 April 2024, https://edri.org/wp-content/uploads/2024/04/EUs-AI-Act-fails-to-set-gold-standard-for-human-rights.pdf
[69] Kumayama et al., "AI in 2024: Monitoring New Regulation and Staying in Compliance with Existing Law".
[70] Kumayama, Ken D., Stuart D. Levi, William E. Ridgway, David E. Schwartz, David A. Simon, Pramode Chiruvolu, Jordan Cannon, Guodong Fu, Priya R. Matadar, MacKinzie M. Neal, Connor A. Riser, Lisa V. Zivkovic. "Biden Administration Passes Sweeping Executive Order on Artificial Intelligence", *Skadden,* 3 November 2023, https://www.skadden.com/insights/publications/2023/11/biden-administration-passes-sweeping-executive-order-on-artificial-intelligence (Accessed 30 May 2024).

of AI systems internationally.[71] By mid-2024, the advisory board plans to release their recommendations, which may impact the regulatory legislation in all of the aforementioned national jurisdictions. Additionally, in late 2023, twenty-nine countries including the EU, US, and the UK signed the Bletchley Declaration, aiming to internationally recognize the potential dangers of AI models and underscoring the need for increased cooperation.[72] This agreement signifies an increased receptiveness to additional international means aimed at synchronizing regulatory measures as they develop.

II. Gaps in the Current Policies

As demonstrated by the national approaches, most initial legislation regulating AI is focused on setting general guidelines for large sectors or businesses, with little protection of the individual outside of the EU. Even within the EU, regulations mostly focus on tackling cybersecurity challenges and privacy risks by guaranteeing data protection and legal remedy for resulting breaches. Although this is indeed a key concern, it is simply not sufficient in protecting the individual in all aspects of private life, with AI posing increasing risks.

It is critical to consider other key sectors that policymakers have not yet addressed in their initial batch of legal frameworks, such as the employment sector. With machines being able to perform routine tasks involving data with greater efficiency than humans, large corporations are laying off their human workforce for the cheaper and faster alternative.

[71] United Nations AI Advisory Body, "Interim Report: Governing AI for Humanity", December 2023, https://www.un.org/sites/un2.un.org/files/un_ai_advisory_body_governing_ai_for_humanity_interim_report.pdf (Accessed 30 May 2024).
[72] AI Safety Summit, "The Bletchley Declaration by Countries Attending the AI Safety Summit, 1-2 November 2023", 1 November 2023, https://www.gov.uk/government/publications/ai-safety-summit-2023-the-bletchley-declaration/the-bletchley-declaration-by-countries-attending-the-ai-safety-summit-1-2-november-2023 (Accessed 30 May 2024).

Although AI has created jobs in technology and machine learning, it has also reduced the need for human employment in administrative, coding, analyst, customer service, engineering, paralegal, and teaching positions, to name a few. Furthermore, the creative fields such as animation and art have also seen a massive decrease in employment. The first substantial effects of the recent AI boom can be seen in job security. In May 2023, around 4,000 job losses in the United States were directly attributed to AI, and this number is only projected to keep growing.[73] According to a report published by Goldman Sachs in 2023, AI could replace up to 300 million full-time jobs worldwide in the near future.[74] Additionally, the use of AI in hiring and awarding promotions has become widespread. When employers utilize AI in such a way, the importance of complying with laws that prohibit racial, ethnic, gender, or age discrimination cannot be overstated.

In the European Union, the AI Act's transparency obligations widely address the above issues, setting global standards in pioneering an extensive framework to regulate AI while upholding the basic rights of its citizens. However, despite expressing a desire for one, the United States lacks a sufficient regulatory framework compared to European and international standards. Therefore, increased collaboration between the US and EU in the realm of AI regulatory standards is possible and will depend on the extent to which the US is willing to welcome key ideals of the AI Act.

III. Implications for the Transatlantic Relationship

Each aforementioned jurisdiction's initial approach to regulation reveals their ideological stance in the debate on finding the right balance between regulation and freedom. While too

[73] Elizabeth Napolitano, "AI eliminated nearly 4,000 jobs in May, report says", *CBS News*, 2 June 2023, https://www.cbsnews.com/news/ai-job-losses-artificial-intelligence-challenger-report/ (Accessed 30 May 2024).
[74] Josie Cox, "AI Anxiety: The workers who fear losing jobs to artificial intelligence", *BBC Work: In Progress*, 18 April 2023, https://www.bbc.com/worklife/article/20230418-ai-anxiety-artificial-intelligence-replace-jobs (Accessed 30 May 2024).

little regulation may infringe on the individual's employment opportunities as well as fundamental rights to non-discrimination and privacy, overregulation may squander the potential of AI, as well as infringe on economic freedoms of data-tech companies. Finding this balance is indeed difficult, and national differences in approaching this question may hinder the transatlantic relationship.

One method to regulate AI would be the creation of a universal International Organization (IO) based on an international treaty, which would impose rights and obligations on nations.[75] Thus, on the basis of the above analysis, this paper recommends the establishment of a framework with common core principles between the EU and North America.

The extent of success we achieve in facilitating the integration of AI into our political, economic, and personal spheres largely depends on its regulation through the legal sector. Although AI has incredible potential to alleviate the workload of companies and boost productivity, without comprehensive regulations it may be used as a way to violate existing privacy, labour, and discrimination laws, to name a few.

6. Policy Recommendation

It is evident that AI has the potential to strengthen the transatlantic relationship if used correctly. Our proposal is thus to create a joint legal framework, focusing on the ethical use of AI systems in the political and economic fields. This joint legal framework builds upon the EU's AI Act by proposing new legislative measures, especially in terms of the economic impact of Artificial Intelligence and the use of this technology in the field of military and

[75] M. R. Carrillo, "Artificial intelligence: From ethics to law", *Telecommunications Policy,* 44:6 (2020), 101937.

defence. Furthermore, the scope of the new framework extends to the United States, allowing better cooperation within the transatlantic relationship.

This joint framework would be best addressed under the purview of the TTC. We think it is the most relevant organisation to incorporate such recommendations, as the TTC already deals with new technologies and transatlantic cooperation. The goal would be to deepen the scope of the TTC implementing a binding legal framework around AI usage. To be as effective and realistic as possible, and taking into consideration the diverging views of each country towards AI systems, we want these directives to contain guiding principles which could be applied differently in each jurisdiction, as long as they align the overarching goal of the framework. The goal is to create a guiding framework that is realistic for both the EU and US. Understanding the approach of the EU being more regulation-focused and the US having a less of an emphasis on regulation requires more of an umbrella framework rather than strict, and thus unrealistic, guidelines. This more guiding approach allows the TTC to meet its cooperative goals and strengthen the transatlantic relationship, without creating too much tension that may hinder the possibility of meaningful cooperation altogether. However, we still want to ensure that this framework is detailed enough and does not simply provide weak and general regulations that do not make a meaningful difference in the field of AI and AI regulation.

This would be guided by general ethical values such as fairness and non-discrimination, by prohibiting the development and deployment of AI systems that perpetuate or amplify societal biases based on factors like race, gender, ethnicity, age, or religion. A risk-based approach would be taken, aligning with the framework's goals and accommodating the diverse regulatory environments of the EU and US. It allows for the regulation of high-risk AI applications, particularly in areas like military, security, humanitarian aid, and border control, ensuring that the most potentially harmful uses of AI are subject to the strictest ethical standards and oversight. Additionally, a risk-based approach is dynamic and

responsive, allowing the framework to adapt to emerging risks and technological advancements, which is crucial in the rapidly evolving field of AI. Lastly, by focusing on the risks associated with different AI applications, the framework ensures that broad and fundamental ethical principles are upheld consistently across various sectors. Fairness and non-discrimination have already been mentioned, but our proposal also focuses on transparency. For example citizens could be given power to request and receive explanations for decisions made by AI systems that impact them directly. Then, accountability, by establishing clear lines of responsibility for the development, deployment, and use of AI systems, ensures individuals or organisations can be held accountable for unintended consequences. And lastly, the legal framework should focus on data protection, requiring clear consent before collecting data, but also the anonymization of collected data.

More precisely, in the field of economics, it is imperative to tackle the potential adverse effects of AI. Initiatives should be established to make sure that the adoption of AI does not enhance economic inequality between countries. This requires the transatlantic partners to go beyond its usual scope to construct a more general framework on knowledge-sharing cooperation. The issue of rising inequality within countries and the labor market also needs to be addressed. It is essential to promote occupational retraining and other programs to mitigate the wage loss felt by certain segments of the population.

Moreover, the efficiency benefits should not be made against the green push in developing economies but as a technology driving this sustainable drive. Finally, to adopt AI technologies effectively, a simplification of regulatory processes would be needed, and especially by providing support to startups and small businesses to navigate the regulations.

In the field of politics, we would aim to outline the use of AI in military, security, humanitarian aid and diplomacy. At its most general level, the framework would focus on ensuring

cooperation and safe AI development that takes into account human rights concerns, cognizant of the current divergence of regulation between the EU and US. It is important to ensure that these extremely impactful and even harmful branches of state-usage do not impede human decision-making and interpersonal relations. More specifically, in the field of humanitarian rights, it is important to ensure proper data quality, work on algorithmic bias issues, and data privacy issues that could potentially violate the "do no harm" principle, especially for those in already-vulnerable situations such as natural disasters or conflict.[76] In terms of military usage, especially considering the sheer size of the US military presence, there must be regulations to ensure that autonomous, non-human weapons and other forms of AI that pose detrimental threats to humanity are carefully considered and classified as extremely high-risk. In terms of border control, the framework must aim to prevent a furthering of marginalisation of minority or discriminated groups, data privacy, and trauma-exacerbation for those trying to enter a country.[77] There must be a framework outlining the uses of AI for border control and the extent to which dangerous and often flawed technologies such as lie detection can or even should be used. Lastly, in terms of diplomacy, we should encourage cooperation with the use of AI between the EU and US while trying to minimize the impact of AI on human interaction for diplomatic operations and discussions. Such cooperation will strengthen the transatlantic relationship by creating and reinforcing shared values – nurturing sustainable, mutually beneficial progress.

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[76] Ana Beduschi, "Harnessing the Potential of Artificial Intelligence for Humanitarian Action: Opportunities and Risks".
[77] Lucy Hall and William Clapton, "Programming the machine: gender, race, sexuality, AI, and the construction of credibility and deceit at the border", *Internet Policy Review,* 10:4 (2021).

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New Horizon: Observing the Medium-Term Impacts of EU R&D on the Gender Gap in the Technology Sector

Belen Bringas and Ivie Okome

Introduction

Establishing equal pay for equal work in the Treaty of Rome (1957),[1] the European Union has been committed to addressing the material inequalities between men and women in several contexts: human rights, the workplace, and the labour market. As such, the EU has grown to become a paragon for the promotion of gender equality. Simultaneously, the EU has long engaged in strategic investments in R&D to maintain its security dominance, global competitive parity, and technological sovereignty. In line with this institutional history, the European Union launched Horizon 2020 (H2020), an EU programme for research and innovation spanning from 2014 to 2020. The project had a budget of 75.6 billion euros. H2020 had a number of stated goals: to create new jobs through human capital development, to maintain its competitive edge in the global markets, and to promote economic growth through "excellent science."[2] The programme had extensive reach with over one million applicants from 177 countries in the span of seven years. It funded nearly 35,000 projects.[3] H2020 was also the first programme with a framework institutionally concerning gender equality in research and innovation. While gender equality did improve during the duration of the program, there were still roadblocks towards equality, such as the number of female

[1] European Economic Community, "Treaty Establishing the European Economic Community" (Treaty of Rome), 25 March 1957, art. 119, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:11957E/TXT
[2] European Commission, "Horizon Europe", https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en (Accessed 30 May 2024).
[3] *Ibid*.

researchers in advisory scientific panels in funded projects. This number was below the targeted 50%.[4] As a result, during the interim evaluation of Horizon 2020, new measures were introduced to promote the integration of women through the inclusion of social science and humanities into the research programmes and to cut down on administrative burden.[5] The final evaluation of Horizon 2020 concluded [6] that gender parity in research, innovation, and entrepreneurship remains a challenge; thus there is still a necessity for more robust initiatives to integrate and increase women in research.

This paper aims to establish a causal relationship between H2020 and the gender gap in the high technology sector using a fixed effect, difference-in-differences identification strategy. The gender gap between men and women will be measured using two key metrics: (1) employment levels of men and women and (2) the gender pay gap in the high technology and financial services sector. The null hypothesis is that H2020 has no effect on the gender gap. Our paper finds two key results that somewhat disputes this hull hypothesis. Firstly, we find that H2020 narrows the gender pay gap and, secondly, we find an asymmetry between employment levels and the gender pay gap. When the high technology sector received H2020, female employment levels decreased. This effect was not true for male employment. Interestingly, we find that the gender pay gap in the tech sector narrowed in association with H2020. Our paper complements the existing literature, though with a less expansive and limited dataset, by providing a useful case study of 37 regions and a basis for further research on the impacts of R&D on workers of different groups within sectors. At the crux of this paper is an interrogation of the medium- to long-term impacts of technology development on gender inequality within sectors.[7] As such, H2020 acts as a proxy for technological development and innovation. This theme is of significance as gender

[4] *Ibid*.
[5] *Ibid*.
[6] European Commission, "Ex Post Evaluation of Horizon 2020, the EU Framework Programme for Research and Innovation". 29 January 2024, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=SWD:2024:29:FIN
[7] To prevent the implications of reverse causality we ran a series of robustness checks, including but not limited to the parallel trend assumption.

inequality within sectors causes inefficient human capital accumulation and hampers long-run growth.

1. Methodology

I. Data Description

This paper engages in secondary data analysis. Gender disaggregated data from the World Bank and Eurostat database were used for the outcome variables and to determine the employment levels of men and women in the technology sector and the financial services sector.[8] The unit for this variable is a thousand persons. For the gender pay gap variable, this data was also obtained from Eurostat [9]. This is measured by the average difference in earnings between men and women by sector. The unit for this variable is the percentage difference between the earnings of men and women. For the sector specific controls, data from the Eurostat and the International Labour Organisation was used. This data was used for the average monthly earnings variable.[10] These units for this variable are in dollars, adjusted for 2017 prices using the purchasing power parity method.

The data on the yearly funding amount each country received was obtained from the Horizon 2020 website.[11] This website displayed each of the 44 countries and associated territories' net EU contributions on a monthly basis from the year 2014-2020. These four datasets were merged to construct a well-balanced panel dataset. Between regions, there is a rural-to-

[8] Eurostat, "Employment in high- and medium-high technology manufacturing sectors and knowledge-intensive service sectors", *Eurostat Data Browser*, https://ec.europa.eu/eurostat/databrowser/view/htec_emp_nat2$dv_1870/default/table?lang=en&category=eq.eq_labour_earn.eq_semp (Accessed 25 March 2024).
[9] Eurostat, "Gender pay gap in unadjusted form by NACE Rev. 2 activity - structure of earnings survey methodology", *Eurostat Data Browser*, https://ec.europa.eu/eurostat/databrowser/view/earn_gr_gpgr2/default/table?lang=en&category=eq.eq_labour_earn.eq_gpgr (Accessed 25 March 2024).
[10] International Labour Organisation, "Average monthly earnings of employees by sex and economic activity | Annual", *ILOSTAT*, https://rshiny.ilo.org/dataexplorer33/?lang=en&id=EAR_4MTH_SEX_ECO_CUR_NB_A (Accessed 25 March 2024).
[11] European Commission, "Horizon 2020 country profiles", https://research-and-innovation.ec.europa.eu/statistics/framework-programme-facts-and-figures/horizon-2020-country-profiles_en (Accessed 5 March 2024).

urban divide, with city-based regions receiving more funding than rural regions. Furthermore, participating countries with higher populations received more funding. Across all 44 EU states and associated territories, the median net EU contribution was 44,958,866.06 EUR. The average net EU contribution is 237,798, 602.71 EUR. Hence, the distribution is positively skewed. The lowest net EU contribution was 10,000 received by Tunisia at the beginning of the funding programme in 2014. The highest net EU contribution was 7,838,486,578.14 EUR received by the United Kingdom also in 2014.

The control variables were as follows. The Global Gender Gap Index (GGGI) was sourced from the World Economic Forum.[12] The base year of this indicator is 2006. To ensure robustness, we included year to year changes from 2008 to 2023. This is the length of our quasi experiment. The GGGI is measured from 0 to 1. The closer to 1 the lower the gender gap. The data collected on the Gross Domestic Product (GDP) was sourced from the World Bank database[13]. This indicator is measured in dollars at current purchasing prices. Data on the population, employment levels, strength of legal rights and fertility levels were also obtained from the World Bank database.[14] The population is measured by the number of people. The overall employment level is measured in percentages. The fertility level is measured in thousands of persons. The strength of legal rights is an index used to measure the strength of property rights within a given county. Fertility levels are measured in birth per woman.

II. Identification Strategy

[12] The Generations & Gender Contextual Database, "Global Gender Gap Index", *Netherlands Interdisciplinary Demographic Institute (distributor)*, https://px.web.ined.fr/GGP/pxweb/en/3%20Gender/-/3.3_GGGI.px/?rxid=cb0470ed-1a79-4a11-946f-2d13b6306994 (Accessed 29 March 2024).
[13] The World Bank, "World Bank national accounts data, and OECD National Accounts data files",, https://data.worldbank.org/indicator/NY.GDP.PCAP.CD (Accessed 29 March 2024).
[14] The World Bank, "Indicators", https://data.worldbank.org/indicato (Accessed 29 March 2024).

In this quasi experiment, we use a fixed effects difference-in-differences identification strategy to establish the causal effects of Horizon 2020 on the gender gap from 2008-2022. H2020 was introduced in 2014, hence the pre-intervention period of the policy is 2008-2014 and the post-intervention is 2014-2020. We apply a two-sector model. The high technology sector will act as a treated group, whilst non-technology sectors such as the financial services sector will act as the control group. We define the high technology sector according to the definition provided by Eurostat. Using a sectoral approach, Eurostat defines this sector as a "particular aggregation of the manufacturing industries according to the level of their technological intensity (R&D expenditure/value added), using the Statistical Classification of Economic Activities in the European Community (NACE Rev.2)"[15] Eurostat categorises the technology sector into three tiers "high tech", "medium tech", and "low tech". We chose to study the impacts on the high-tech sector. We used the following model:

1) $Y_{ist} = \alpha + Y_s + \lambda_t + \delta D_{st} + \varepsilon_{ist}$

Let Y_{it} be the outcome variable in the country *i,* in *t* time. For example, female employment in Ireland in the financial sector in 2010. α represents the intercept. The intercept is of economic significance in the case of paper. It tells us what the employment levels and gender pay gap are in the non-treated sector, the financial sector. *Ys* is the time invariant fixed effects, λt is the year effects. D_{st} is the dummy variable, indication 1 if in the high technology sector 0 otherwise. ε_{it} is the error term, capturing the unobserved heterogeneity.

[15] Eurostat, "Glossary:High-Tech - Statistics Explained", 3 February 2020, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:High-tech#:~:text='Statistics%20on%20high%2Dtech%20industry,on%20the%20basis%20of%20their (Accessed 30 May 2024).

III. Limitations of the Model

A key limitation of this paper is the lack of gender specific data at the sectoral level. This impacts the construction of the dataset, leading to the exclusion of a number of countries from the model. These excluded countries were primarily from the Eastern and Central European region.[16] The sample is not representative. As such, the model is susceptible to sample bias. The data limitations impede the ability to input "good controls" to the model, reducing its explanatory power. Overall, the model fails two key assumptions: (1) heteroscedastic and (2) the parallel trends assumption, leading to biased estimates. Therefore, it is more difficult to make broad conclusions about other populations based on the results of our paper.

2. Results

A. Female Employment in the Technology Sector

	(1)	(2)	(3)	(4)	(5)
	Baseline Model	**Main Effects**	**Interactions**	**Controls**	**Quadratic**
Tech	-11.73***	-9.891***	-12.16***	-18.76***	-9.890***
	(1.432)	(1.326)	(2.755)	(2.786)	(1.325)
Fertility		6.611			

[16] This bias and exclusion of Eastern and Central European regions coincides with the 'WEIRD' phenomena, in which there is a systemic bias in the social sciences in favour Western, Educated, Industrialised, Rich, and Democratic states. See, J. Henrich, S. J. Heine, and A. Norenzayan, "The weirdest people in the world?", *The Behavioral and Brain Sciences*, 33:2, (2010), 61–135, https://doi.org/10.1017/S0140525X0999152X.

		(7.932)				
Fertility x Edu			0.406			
			(0.924)			
GGGI			-28.13			
			(108.5)			
Collective Bar x M Earnings				0.0000706**		
				(0.0000248)		
Quadratic Fertility						2.133
					(2.405)	
cons	103.3***	82.05***	89.06**	137.7		87.07***
	(1.012)	(12.60)	(34.22)	(79.11)		(6.216)
N	1014	848	258	304	848	
R-sq	0.976	0.981	0.978	0.981	0.981	
adj. R-sq	0.975	0.980	0.974	0.978	0.980	

Standard Errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

B. Male Employment in the Technology Sector

(1)	(2)	(3)	(4)	(5)	(6)
Baseline Model	Main Effects	Interactions	2nd Interactions		Controls Quadratic

Tech	91.83***	82.38***	93.86***	73.11***	106.3***	82.38***
	(4.261)	(4.388)	(8.911)	(4.262)	(7.889)	(4.388)
Fertility		21.48		17.91		
		(26.28)				(24.8)
Fertility x Edu			1.391			
			(2.999)			
FirmPart x Pop				9.50e-10***		
				(9.81e-11)		
GGGI					86.82	
					(307.3)	
Collective Bar x M Earnings					-0.0000733	
					(0.0000701)	
Quadratic Fertility						6.320
						(7.955)
cons	98.72***	48.35	39.96	54.04	66.23	66.22**
	(3.017)	(41.77)	(111.0)	(39.54)	(224.0)	(20.60)
N	1010	844	257	844	304	844
R-sq	0.917	0.910	0.904	0.920	0.927	0.910
adj. R-sq	0.912	0.904	0.886	0.914	0.917	0.904

Standard Errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

C. Gender Pay Gap

	(1)	(2)	(3)	(4)	(5)	
	Baseline Model	Main Effects	Interactions	Controls	Quadratic	
Tech	-5.261***	-4.314***	-4.805***	-3.066***	-4.741***	
	(0.403)	(0.444)	(0.470)	(0.458)		(0.605)
Fertility		5.178*				
		(2.483)				
Fertility x M earnings			0.000361**			
			(0.000124)			
Fertility x Labour costs				0.0719		
				(0.0537)		
Quadratic Fertility						1.614
					(0.979)	
Collective Bar						-0.0147
					(0.0313)	
LabourCosts						0.0602
					(0.154)	
cons	28.34***	19.97***	25.88***	27.48***	25.60***	
	(0.274)	(3.965)	(0.879)	(0.370)		(3.214)

N	841	706	590	626	279
R-sq	0.639	0.639	0.666	0.636	0.724
adj. R-sq	0.614	0.612	0.636	0.608	0.683

Standard errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

3. Analysis

I. Empirical Discussion and Implications

The results indicate a negative relationship between the sectors treated with H2020 and female employment. Furthermore, the same is not true for male employment, which showcases a significant increase in association with H2020. Broadly, the gender wage gap decreases in sectors treated with H2020, indicating that female workers who *are* employed experience greater gender parity in wages. For the technology sector, female employment, on average, experienced a decrease of 11,730 women. Furthermore, an increase in the fertility rate by one child is associated with a 6,611 increase in the number of women employed in the high technology sector.

This was a surprising result that goes against the mechanism outlined by Galor and Weil (1996), and which formed the underlying basis of our paper. According to Galor and Weil, an increase in capital per worker was associated with an increase in the number of women employed and a decrease in the fertility rate.[17] Instead, we find that sectors treated with H2020 are associated with a significant decrease in female employment. When the fertility variable was added to the model (*Table 1: Model 2*), the magnitude of the decrease was

[17] Oded Galor and David N. Weil, "The Gender Gap, Fertility, and Growth", *The American Economic Review*, 86:3 (1996), 374-387, https://www.jstor.org/stable/2118202

reduced *ceteris paribus*. One explanation for this decrease is that R&D investments lead to innovations, whereby firms found new ways of doing things and as such a process of rationalisation occurs. In such instances, women in "sex typical"[18] jobs were found to be more likely to move between jobs.[19] There was a difference in the occupational variability coefficient between men and women as a result of the restructuring process. For male workers, the occupational variability coefficient was 0.06 compared to 0.25 for female workers.[20]

There was a limited data set due to a lack of gender disaggregated data on a sectoral and country level. There were also missing pieces of data. As such we had to exclude a number of countries, particularly from the Eastern European regions. Therefore, the model is not representative and broad inferences onto other populations not included in the model should be cautioned. The lack of quantitative data also made it difficult to add "good controls" into the model. This led to the addition of variables that may have also been treated or impacted other variables with the model. To mitigate this we exclude endogenous variables as means of avoiding unobserved heterogeneity between countries and sectors. Nevertheless, more timely qualitative data may adequately corroborate or disprove our central argument. Further research is needed, using other identification methods and regions, including post-Soviet regions. Moreover, a revised comparison between the impacts of H2020 on the gender gap and its successor - Horizon Europe[21] - may be necessary to fully grasp the effectiveness of R&D funding in narrowing the gender gap. Our research

[18] Here "sex typing'' or "sex typical" refers to occupations that are categorised as masculine or feminine based on social norms and conventions. For example, an engineer role or economist may be perceived as more masculine, while a secretarial or cleaning role as feminine.
[19] Marta Tienda, Shelley A. Smith, Vilma Ortiz, "Industrial Restructuring, Gender Segregation, and Sex Differences in Earnings", *American Sociological Review*, 52:2 (1987), 195-210, https://doi.org/10.2307/2095448; Sylvia Walby, "Gender, Work, and Post-Fordism: The EC Context", *International Journal of Sociology*, 24:4 (1994), 67-82, https://www.jstor.org/stable/20628428?seq=9
[20] Marta Tienda, Shelley A. Smith, Vilma Ortiz, *"Industrial Restructuring",* 199.
[21] Horizon Europe (2021-2027) is one of the largest EU funding ventures to date contributing approximately 95.5 billion EUR.

documents and lays the foundation for further examinations of the impacts of Horizon 2020 on female workers in the technology sector.

II. Theoretical and Institutional Implications

Gender equality was one of the main priorities of H2020 under the theme "Societal Challenges".[22] To ensure gender equality, the programme took human resources and content as the main ranking factors to evaluate the participants and provide grants. In the aspect of human resources, applicants for the funding were specifically encouraged to have a balanced 50/50 participation between women and men in their teams, as the evaluators would prioritise teams that achieved the indicated ratio.[23] The inclusion of sex and gender into research proposals was also encouraged by the evaluators, who asked researchers to "describe how gender analysis is taken into account in the project's content."[24] The importance of including gender dimensions in research was emphasised by H2020. Researchers were encouraged to explore how gender dimensions are relevant to their research and how gender analysis is being included in the contents of the project.[25] Yet, these measures appeared to have failed judging by the results at the end of the programme, in which H2020 failed to achieve its goal of having over 50% female representation in advisory scientific panels for funded projects.[26] The final evaluation of Horizon 2020, conducted in 2024, was vague on its failings in gender balance, concluding that gender equality continues to be a challenge in research, innovation, and entrepreneurship.[27] To

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[22] Suzanne de Cheveigné, Bente Knoll, Maria Bustelo, Eivind Engebretsen, Ulf Sandström, "Interim Evaluation: Gender equality as a crosscutting issue in Horizon 2020: Report of the Expert Group", European Commission, October 2017, 71, https://www.researchgate.net/publication/320853037_Interim_Evaluation_Gender_equality_as_a_crosscutting_issue_in_Horizon_2020_Report_of_the_Expert_Group_on_the_Interim_Evaluation_of_Gender_Equality_as_a_crosscutting_issue_in_Horizon_2020 (Accessed 30 May 2024).

[23] European Commission, "Gender H2020 Online Manual", *Europa.eu*, 2020, https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/gender_en.htm (Accessed 30 May 2024).

[24] *Ibid*.

[25] *Ibid*.

[26] European Commission, "Horizon Europe".

[27] European Commission, "Ex Post Evaluation of Horizon 2020, the EU Framework Programme for Research and Innovation".

examine the challenges faced by Horizon 2020 in promoting gender equality, it is therefore necessary to analyse their gender mainstreaming policy first and identify the potential issues that affected the results of gender equality in the programme.

Gender mainstreaming (GM) is a strategy that aims to integrate gender into all aspects of policy planning and implementation. The Council of Europe offers a concise definition: "Gender mainstreaming is the (re)organisation, improvement, development and evaluation of policy processes so that a gender equality perspective is incorporated in all policies at all levels and at all stages, by the actors normally involved in policy making."[28] To simplify, GM emphasises gender balance issues in all domains of policymaking and asks governments to take gender equality into policymaking as a cross-cutting objective. One of the main obstacles that comes with the implementation of GM into policy is translating ideals into workable actions. Indeed, it is crucial to translate the verbal promises of gender equality into clearly defined actions at every step of policy building, so that GM won't just be a "rhetorical commitment" but will materialise into a set of practices that all can collectively follow.[29]

Another constraint to the application of gender mainstreaming into policy is the issue of both individual and institutional resistance when it comes to accepting or practising GM strategies. This is particularly concerning since GM can only work if everyone shares the obligation of applying GM into policy, as previously mentioned, especially when EU research policies are often "male-dominated, gender-neutral, and often gender-biased."[30] Previous studies on programmes by the European Commission, such as the Sixth Framework Programme and Seventh Framework Programme that precede Horizon 2020, have revealed evidence of both explicit and implicit institutional and individual resistance to the inclusion

[28] Rosalind Cavaghan, "Bridging Rhetoric and Practice: New Perspectives on Barriers to Gendered Change", *Journal of Women, Politics and Policy*, 38:1 (2017), 42-63, https://doi.org/10.1080/1554477X.2016.1198209
[29] *Ibid.*
[30] Bianka Vida, "Policy framing and resistance: Gender mainstreaming in Horizon 2020"*, European Journal of Women's Studies,* 28:1 (2021), 29, https://doi.org/10.1177/1350506820935495

of GM strategies in the programme. Explicit institutional resistance refers to direct opposition to gender equality and challenging the inclusion of gender perspectives into the policymaking process.[31] Institutional opposition is often intertwined with individual resistance and is generally caused by a lack of interest and knowledge in gender equality which made the GM process difficult, proven by the attitudes expressed by some Commission officials during the Seventh Framework Programme, who claimed that including GM into policy was burdensome and overall "too much gender for the research community."[32] As can be observed through the work of other scholars, such as Brouwers in "Revisiting Gender Mainstreaming in International Development. Goodbye to an Illusionary Strategy", Daly in "Gender Mainstreaming in Theory and Practice" and Woodward in "European Gender Mainstreaming: Promises and Pitfalls of Transformative Policy". The main constraints of gender mainstreaming in policy are the difficulty of moving past the theory of GM and transforming it into actions and also resistance met from both institutional and individual actors. [33] This analysis considers these two factors to be the reason for the unsatisfactory results of Horizon 2020 regarding the promotion of gender equality in research and innovation.

4. Recommendations

In order to shift gender mainstreaming from theory into action, there are several recommendations provided by feminist policy scholars such as Cavaghan in "Bridging Rhetoric and Practice: New Perspectives on Barriers to Gendered Change" that can be applied to the context of Horizon 2020. The first is the inclusion of outside expertise, by having gender experts involved in the making of gender equality plans, working in tandem with Commission officials familiar with the internal mechanisms of local policy procedures and priorities. A collaboration between two actors would allow the formulation of a better

[31] Vida, "Policy framing", 29.
[32] Vida, "Policy framing", 29.
[33] Vida, "Policy framing", 29

GM agenda that applies to the local context. In this case, the Commission would aim to enhance gender equality in research and innovation.[34]

Another step that can be taken is the creation of structured moments in the policymaking process, incorporating structured opportunities dedicated to addressing GM through activities. These would help identify gender inequality issues locally and ensure they are taken into consideration in the broader gender equality plans involving GM.[35] For example, reviewing data and research on gender equality in the research field for Horizon 2020 could involve reviewing this information in a European context and identifying which countries need more support in achieving gender equality in research. This activity could have been a helpful method in the making of GM strategies by providing insights into the areas where gender disparities exist and therefore allowing policymakers to make more effective strategies.

Finally, creating networking opportunities within the policymaking process in order to stay up to date with evolving gender issues and to offer different insights regarding gender inequality is critical.[36] For example, introducing a women-only panel where female researchers, innovators, and entrepreneurs can discuss their experiences working in academia could be a great opportunity for Commission officers to gain a more nuanced understanding of the necessity of gender equality in this field.

As for strategies to reduce institutional and individual resistance to gender mainstreaming plans, unconscious bias awareness training (UBT) is a helpful tool that can help promote

[34] Cavaghan, "Bridging Rhetoric", 42-63.
[35] *Ibid*.
[36] *Ibid*.

gender equality and reduce resistance to the topic. Conventional UBT has varying results.[37] In some instances, it has led to more discrimination. However, more effective forms of UBT provide participants with skills to manage their biases and combat stereotyping by providing contrary information. This is known as "prejudice habit breaking".[38] This more comprehensive form of UBT has been shown to reduce implicit bias by week four out of a ten week intervention.[39] A successful example of UBT implementation can be observed in the case of PricewaterhouseCoopers (PwC) in 2016, whereby this UK-based accounting firm trained and evaluated their employees through a mandatory Open Mind e-learning tool. Based on the feedback from the participants, the employees suggested that the training allowed them to be more aware of their biases.[40] PwC also confirmed an increase in diversity in the graduate hires of 2016, reporting a 43% increase in female representation compared to 37% in 2012, in addition to an increase in Black, Asian, and Minority Ethnic representation to 34% from 25% four years prior.[41] In the case of PwC, UBT proved successful in changing the behaviour of the employees which contributed to a more inclusive company culture, fairer promotions, and the eventual designation of two women to the Executive Board.[42]

UBT in the context of Horizon 2020, which aimed at promoting gender equality in research, would have been the ideal training for Commission officers and all decision-makers in the programme. UBT is a "crucial mechanism of unconscious bias", which can be extremely

[37] Patrick Forscher, Calvin Lai, Jordan Axt, Charles Ebersole, Michelle Herman, Patricia Devine, and Brian Nosek, "A Meta-Analysis of Procedures to Change Implicit Measures", *Journal of Personality and Social Psychology*, 117:3, (2019), 522–559, https://doi.org/10.1037//pspa0000160

[38] Patricia Devine, Patrick Forscher, Anthony Austin, and William Cox, "Long-Term Reduction in Implicit Race Bias: A Prejudice Habit-Breaking Intervention", *Journal of Experimental Social Psychology*, 48:6 (2012), 1267–78, https://doi.org/10.1016/j.jesp.2012.06.003

[39] *Ibid*, 1276.

[40] D. Atewologun, T. Cornish, and F. Tresh, "Unconscious Bias: Training. An Assessment of the Evidence for Effectiveness", *Equality and Human Rights Commissio*n, 23 March 2018, 26, https://www.equalityhumanrights.com/our-work/our-research/unconscious-bias-training-assessment-evidence-effectiveness-0#:~:text=This%20report%20looks%20at%20the,that%20we%20are%20unaware%20of (Accessed 30 May 2024).

[41] *Ibid*.

[42] *Ibid*.

useful when evaluating applicants solely based on the quality of their research proposal instead of "implicitly judging their diversity markers such as sex, ethnicity and the like".[43] This specific kind of training would have favoured Horizon 2020's GM strategy through the identification of the unconscious bias toward the "ideal scientist", which is often a "white, disembodied, heterosexual, upper (middle) class, thoroughly dedicated, excellent, male".[44] The application of UBT in the policymaking programme encourages everyone to look beyond their biases and expand their views to be more inclusive, thus promoting gender equality in research while simultaneously reducing individual resistance to gender mainstreaming strategies. UBT is also an excellent method to examine the "various and interacting social and cultural norms embedded in our minds" which are harder to identify than explicit bias.[45] This training must be carefully managed by an expert to tackle these hidden biases and promote an openness to gender sensitization. The academic findings focused on the evaluation of the implementation and effectiveness of Gender Equality Plans (GEPs) in research organisations and higher education institutions, within the context of the European Union's Horizon 2020 program. These results presented by Bencivenga and others point towards the conclusion that unconscious bias awareness training is an effective way to reduce resistance to the application of gender mainstreaming into policy and which could have expanded the gender equality framework of Horizon 2020 and improved the results of the programme.

Combining more comprehensive approaches to UBT and recent advancements in artificial intelligence (AI) and machine learning (ML) has also created new opportunities and risks for gender equality in the labour market. Jafari M. Shahsavar applies neural network approaches, constructing a salary prediction model of the earning potentials of incoming workers based on their demographic information. This decision model predicts the likelihood of an incoming worker being underpaid with 98% accuracy. However, In light of the

[43] R. Bencivenga et al., "Gender in Horizon 2020: The Case of Gender Equality Plans, AG About Gender", *International Journal of Gender Studies*, 6:12, (2017), 346, https://riviste.unige.it/aboutgender/article/view/488
[44] *Ibid*, 349.
[45] *Ibid*, 346.

landmark EU Artificial Intelligence Act (AI Act), implemented on 13 March 2024, this paper recommends that such AI prediction models go through robust bias testing due to the inherent biases in the current data structure. According to the regulatory framework provided in the AI act, AI systems used in the recruitment process and "for making decisions affecting terms of the work-related relationship, promotion and termination of work-related contractual relationships" will be classified as high risk and will be subject to regulation.[46] We conclude that there are a number of strategies and ex-ante policies such as Gender mainstreaming, UBT and neural network approaches that organisations may use to identify and mitigate discrimination in hiring practices, having the potential to positively impact the material realities of male and female workers in the labour market.

Conclusion

Grand gender convergence across societies and sectors has occurred over time[47] as a response to technological advancements in the home and institutional shifts in laws and norms; subsequently transforming into equitable labour market policies for men and women. Horizon 2020 was one such equitable policy. Considering our empirical assumptions, our model shows a negative association between H2020 on the number of women employed in the high technology sector across the 37 countries. Furthermore, we also find that gender pay decreases, indicating that there is *some* gender parity. Further research is required to explain this dynamic using other identification strategies and a more comprehensive dataset. Nevertheless, our research provides a useful account of the methodology used to investigate the impacts of R&D on the gender gap in the high technology sector to date. Despite this, gender inequality remains persistent in a number of

[46] European Parliament, "REGULATION (EU) 2024/… of the EUROPEAN PARLIAMENT and of the COUNCIL of … Laying down Harmonised Rules on Artificial Intelligence and Amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act)", 19 April 2024, 53, 5https://www.europarl.europa.eu/doceo/document/TA-9-2024-0138-FNL-COR01_EN.pdf

[47] Claudia Goldin, "A Grand Gender Convergence: Its Last Chapter", *American Economic Review*, 104:4 (2014), 1091-1119, DOI: 10.1257/aer.104.4.1091

key areas: the gender division of labour in the home, the earnings gap, unequal human capital investments between young boys and girls and precarious employment.[48] Tackling gender inequality and achieving gender parity in the midst of exponential technological advancement should be at the forefront of policy makers' minds. This is to ensure that the long term benefits accrued from R&D are equally distributed, leading to the subsequent proliferation of democratic technologies.

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[48] The European Institute For Gender Equality, "Gender, Skills and Precarious Work in the EU", 2017, https://eige.europa.eu/resources/ti_pubpdf_mh0217250enn_pdfweb_20170503163908.pdf.

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Beyond GDP: Measuring Growth in the European Green Deal

Pietro Attadio and Sofia Torri

Introduction

During the *Beyond Growth Conference 2023*, Paolo Gentiloni (European Commissioner for Economy) participated in an interview on the future of growth within European economic governance.[1] Asked whether the European Union should accept that economic growth is over, Gentiloni responded that "we definitely need growth…beyond growth, there is recession, stagnation, and austerity."[2] He also recognized, however, that "we can't rely only on the traditional definition of growth as measured by GDP."[3] [4] What we need to achieve instead is "quality, sustainable growth beyond GDP".[5]

The question that subsequently arises, and which we aim to examine in this article with regard to the European Green Deal (EGD), is what "quality, sustainable growth" actually means. A useful starting point is the United Nations Statistical Department's definition of wellbeing as the "capacity to satisfy the needs of current generations"[6] and of sustainability "as the capacity to satisfy the needs of future generations".[7] Combining these two concepts, we define sustainable growth as an increase in output that does not prevent current and future generations from being able to satisfy their needs. In other words, expansion in

[1] Jamie Kendrick, Paolo Gentiloni, and Phillipe Lamberts, "Bringing Europe's Economic Governance Down to Earth", *Green European Journal*, https://www.greeneuropeanjournal.eu/bringing-europes-economic-governance-down-to-earth/ (Accessed 19 April 2024).
[2] *Ibid*.
[3] *Ibid*.
[4] GDP stands for Gross Domestic Product.
[5] Kendrick, Gentiloni, and Lamberts, "Bringing Europe's Economic Governance Down to Earth".
[6] United Nations, "Chapter 2: The System of National Accounts" in *System of National Accounts 2025 (Draft Version)* (New York, 2025).
[7] *Ibid*.

economic activity can be qualified as sustainable only when it does not come at the cost of someone else's wellbeing today or in the future.

Within the European Union (EU), the European Green Deal – a set of policy initiatives by the European Commission aimed at making the EU climate neutral by 2050[8] – translates this vision of growth into three somewhat more concrete macroeconomic targets: (1) net zero emissions of greenhouse gasses by 2050; (2) growth decoupled from resource use; (3) no person and no place left behind.[9] Admittedly, it can be argued that carbon neutrality and decoupling are not the only dimensions of sustainable growth. Nonetheless, the more ambiguous third target of social equity leaves scope for a more expansive interpretation of the EGD that better matches the scope of our definition of sustainable growth.

The reason why we need to go "beyond GDP" to quantify sustainable growth is that GDP measures the total market value of all the goods and services produced by an economy but not their contribution to one's ability to satisfy their needs. Thus, seeking the policy objective of growth in terms of GDP does not on its own ensure compliance with the carbon, resource-intensity, and social constraints set by the EGD. However, choosing a new unit of measurement is not a neutral process. Going "beyond GDP" means defining growth as a change over time in a different indicator of interest. This choice will set the boundary between what counts as growth and what does not, thus defining in practice the priorities of the EU's economic governance and its adherence to the pursuit of sustainable growth as defined in the EGD.

Consequently, only choosing an indicator that outputs a positive marginal increase in economic activity exclusively when the sustainability criteria of the EGD are met will secure sustainable growth as the priority of European growth policies. In this context, this paper sets out to provide some guidelines on how this new indicator should be defined. Given the dominance of GDP in the current policy debate, we use it as a point of reference to understand what should be done differently and ask *how should GDP be improved upon to create a new indicator to measure sustainable growth in the New Green Deal?* To answer this question, Section 1 provides a brief overview of the history of national accounting in the

[8] Paolo Tamma, Eline Schaart, and Anca Gurzu, "Europe's Green Deal Plan Unveiled", *Politico*, December 11 2019, https://www.politico.eu/article/the-commissions-green-deal-plan-unveiled/ (Accessed 19 April 2024).
[9] European Commission, "The European Green Deal - European Commission", 14 July 2021, https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en.

Anglosphere, contextualizing GDP in the political milieu in which it was created. Section 2 explores the need to expand the scope of GDP to include measures of externalities and wellbeing. Section 3 offers an overview of the possible alternatives to GDP in its current form.

The article concludes that, as the history of national accounting demonstrates, the characteristics of the indicator used to measure the size of an economy change depending on the specific policy objective this type of information helps pursue. If today the goal is to achieve "quality, sustainable growth" as defined in the EGD, going "beyond GDP" means designing an indicator that is capable of accounting for the externalities generated by individual transactions, especially when it comes to the social costs of pollution and resource depletion. Given the broad definition of sustainability we have adopted, that same measure should also take into consideration the impact that economic activity has on the non-material dimensions of wellbeing. The United Nations' System of Environmental Economic Accounting (SEEA) and the Emission Trading System offer two methodological frameworks for computing environmental externalities. Wellbeing could be measured through a democratically designed index, where citizens at the local, national or EU level vote on how much weight to give to the different categories of interest (e.g., income, leisure, equality, health). Voting on the content of this index could happen periodically, in order to ensure that the voice of each generation is represented.

1. A Brief History of National Accounting in the Anglosphere

Multiple sources trace the first instances of national accounting back to William Petty.[10] In 1665, in an appendix to *The Political Anatomy of Ireland* titled "Verbum Sapienti", he performed what can be considered the "first systematic calculation of national income"[11] by estimating the consumption of England.[12] While the calculations themselves are trivial, Petty's work was innovative in multiple ways. For starters, the equation of income with expenditures, the distinction between flows and stocks, and the breakdown of income into individual components (namely, labor and capital) are all methodological insights that have featured in the successive versions of national accounting.[13] At the same time, Petty introduced the idea of political arithmetic, i.e. of using empirical knowledge to guide the

[10] This section is based on chapters 2, 3, 4, 6 of Philipp Lepenies, *The Power of a Single Number: A Political History of GDP* (Columbia University Press, 2016).
[11] *Ibid*, 14.
[12] Antoine Murphy, "Petty's Background" in *The Genesis of Macroeconomics: New Ideas from Sir William Petty to Henry Thornton* (Oxford University Press, 2009), 21.
[13] Lepenies, *The Power of a Single Number,* 15.

decisions of government.[14] Lastly, for the first time national income was considered a matter of national interest: knowledge on how much the English population was earning would have oriented the taxation efforts of the King to finance the country's peace- and war-time needs.[15] In 1696, the statistician Gregory King conducted a second estimate of English national income in his manuscript *Natural and Political Observations and Conclusions upon the State and Condition of England*.[16] King's work was innovative insofar as it was the first to approach the question of national accounting from the three-sided perspective of income, expenditure, and production.[17] He also constructed a time series for the years 1688-1695, and tried to forecast the income of the successive three.[18]

In the following two hundred years, the notion of national income attracted the interests of many economists, but it was considered merely as a theoretical concept with no practical political significance: Western governments were not concerned with calculating, or in any way affecting, the national account.[19]

Things started to change in the 1930s. In *The National Income, 1924-1931*, published by Colin Clark in 1932, we find a seminal approach to national income estimation that laid the ground for the emergence of GDP.[20] Starting from the definition of national income "as the sum total of the market price of all goods and services, which, taking intermediate consumption into consideration, is available for [private] consumption in a specific period",[21] the author computed a "gross" measure (i.e. he did not account for depreciation of capital) of the income of the United Kingdom.[22] In line with King's work, he also estimated national income as a function of expenditure, income, and production.[23] [24] Lastly, he introduced quarterly measures and considered international comparability as a key outcome to be achieved.[25] It is due to these contributions that Clark is considered the father

[14] *Ibid*, 16.
[15] *Ibid, 17*.
[16] Gregory King, *Two Tracts* (The John Hopkins Press, 1935).
[17] Paul Studenski, *The Income of Nations* (New York University Press, 1958), 33.
[18] Frits Bos, "The History of National Accounting", *SSRN Electronic Journal* (1992), 7, https://doi.org/10.2139/ssrn.1032598.
[19] Lepenies, *The Power of a Single Number,* 30.
[20] Colin Clark. *The National Income 1924-1931* (Macmillan and Co., 1932).
[21] Lepenies, *The Power of a Single Number, 39*.
[22] *Ibid, 39*.
[23] Although income was the only element he had sufficient information about to make the calculations.
[24] *Ibid,* 39.
[25] *Ibid, 41, 43*.

of the modern concept of gross national product (GNP),[26] [27] i.e. "the total [gross] value of all the final products and services turned out in a given period by the means of production owned by a country's residents".[28]

While central in tracing the origin of GDP, Clark's work did not attract the attention of the British government: no effort at the national level was undertaken to calculate national income, nor was this measure used to orientate policy making.[29] As the Second World War broke out, however, John Maynard Keynes highlighted the importance of measuring national income in order to be able to estimate the tax base that could be mobilized to finance the war.[30] Focusing on income that was available for tax purposes, and not on private consumption (as had done Clark), meant that now government expenditure should also be included in the total.[31] Pushed by Austin Robinson, an advisor who had read Keynes' work, the War Cabinet appointed James Meade and Richard Stone to create this national income measure.[32] In 1941 the two presented the white paper "Analysis of the Sources of War Finance and Estimate of the National Income and Expenditure in 1938 and 1940".[33] The document systematized and completed Clark's work, introducing a system of measurement of GNP that moved from simple statistical recording to a double-entry accounting framework based on the work of Keynes and Erwin Rothbart.[34] [35]

In the United States, the first national income measure used at the national level was that of Simon Kuznets, who aimed to estimate the impact of the Wall Street crash of 1929.[36] His

[26] It should be noted, nonetheless, that he never used the term himself. The first person to use the term in print was Clark Warburton in 1934 in his work titled "Value of the Gross National Product and Its Components, 1919–1929". Source: Lepenies, *The Power of a Single Number*, 75.
[27] Lepenies, *The Power of a Single Number*, 39.
[28] The Investopedia Team, "Gross National Product (GNP) Defined with Examples", *Investopedia*, February 21 2024, https://www.investopedia.com/terms/g/gnp.asp (Accessed May 20 2024).
[29] Lepenies, *The Power of a Single Number,* 46.
[30] John Maynard Keynes, *How to Pay for the War* (Macmillan and Co., 1940), 13.
[31] Lepenies, *The Power of a Single Number,* 48.
[32] *Ibid*, 50.
[33] Financial Secretary, "Analysis of the Sources of War Finance and Estimate of the National Income and Expenditure in 1938 and 1940", *Stationery Office* (1941), https://www.amscholar.amdigital.co.uk/Documents/Details/Analysis-of-sources-of-war-finance-and-an-estimate-of-the-national-income-and-expenditure-in-1938/TP_SERIES2_REEL6_VOL9.
[34] *Ibid*.
[35] Clark's work had laid the ground for this but "he lacked a consistent system of accounts that included his individual fields of investigation" (Lepenies,*The Power of a Single Number*). While it is beyond the scope of this piece to explain in detail the system of national accounts developed by Keynes and Rothbarth, we suggest the work of Cuyvers (1983) for a brief introduction to the topic.
[36] Simon Kuznets, *National Income, 1929-1932* (National Bureau of Economic Research, 1934), 1.

approach was radically different from that of the Keynesian school for it relied on net - rather than gross - estimates,[37] it was not made with international comparisons in mind,[38] and it focused on income earned for private consumption instead of production.[39] As GNP provided a more accurate measure of the consequences a war economy would have had on the private consumption of American people, the government started producing quarterly GNP measurements in 1942.[40] GNP gradually started to replace Kuznets' national income measure. In 1944, efforts at coordinating GNP estimation procedures between Canada, the United States, and the United Kingdom led to the convergence towards the British standard; laying the grounds for an international consensus in support of its account system.[41]

During the war, American military strategy was based on the achievement of a level of armament production sufficient to bring opponents to their knees.[42] GNP then gained increasing centrality in the American political debate as a statistical demonstration of this productive might.[43] Once the war ended, the expansion of output remained a domestic policy priority, as it was seen as a way to avoid the uncontrollable mass employment that had characterized the recent Great Depression years.[44] The political commitment to growth was codified in the Employment Act of 1946:

"The Congress hereby declares that it is the continuing policy and responsibility of the Federal Government to use all practicable means, […] to coordinate and utilize all its plans, functions, and resources for the purpose of creating and maintaining […] conditions which […] promote full employment and production, increased real income, [and] balanced growth."[45]

As was the case during wartime, growth was to be measured in terms of GNP.[46]

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[37] Simon Kuznets, *National Income and Capital Formation, 1919–1935* (National Bureau of Economic Research, 1937), 3, 6.
[38] Lepenies, *The Power of a Single Number,* 69.
[39] Kuznets, "National income", 1.
[40] Lepenies, *The Power of a Single Number*, 79.
[41] *Ibid*, 92.
[42] *Ibid, 123.*
[43] *Ibid.*
[44] Lepenies, *The Power of a Single Number*, 124.
[45] US Congress and Senate, "Employment Act" (1946), https://www.govinfo.gov/content/pkg/COMPS-1530/pdf/COMPS-1530.pdf.
[46] Lepenies, *The Power of a Single Number*, 124.

After the war, the Marshall plan encouraged the adoption of one standardized system of GNP calculation across western European countries. Together with providing funding to finance the reconstruction of war-torn western Europe, the plan also encouraged the adoption of GNP as the economic indicator to measure the progress of this process of recovery. This was done through the Organisation for European Economic Cooperation (OEEC), the body tasked with coordinating the distribution of assistance payments and with ensuring the comparability of the national statistical data produced by each of the recipient countries.[47] In 1952, the organization published the Standardized System of National Accounts, which laid the ground for the United Nations' System of National Accounts, i.e. the internationally agreed standard set of recommendations on how to compile measures of economic activity whose successive versions have been used used as a guideline for GDP estimation to this day.[48] The OEEC also provided training to the staff of national statistical authorities to familiarize them with GNP calculations.[49]

Alongside promoting the adoption of GNP, the Marshall Plan also amplified the political relevance of economic growth in participant countries. One of the main slogans of the Plan was "you too can be like us", demonstrating how the US economy was portrayed as a system capable of offering material abundance and thus as a model to be emulated.[50] GNP provided a yardstick for this vision. As a unit to measure a country's national output, it served both as a tool of comparison between states as well as an instrument to quantify targets to be reached.

In the following decades, more countries progressively moved from GNP to GDP as a measure of their national economy.[51] The main difference between the two is that the former "measures the value of all finished goods and services produced by a country's citizens, both domestically and abroad",[52] while the latter "measures the value of the finished

[47] Diane Cole, "The Political Economy of National Statistics", *Economics Discussion Paper Series EDP-1603* (2017), 18, https://ssrn.com/abstract=2850061.
[48] Frits Bos, "The History of National Accounting", 15.
[49] Lepenies, *The Power of a Single Number*, 129.
[50] David Ellwood, "The Marshall Plan and the Politics of Growth" in *Explorations in OEEC History*, ed. Richard Griffiths (Organisation for Economic Co-operation and Development, 1997), 104.
[51] United States Department of Commerce, "August 1991", *Survey of Current Business*, 71:8 (August 1991), 8, https://fraser.stlouisfed.org/title/46/item/9777.
[52] Shobhit Seth, "GDP vs. GNP: What's the Difference?", *Investopedia*, December 15 2023, https://www.investopedia.com/ask/answers/030415/what-functional-difference-between-gdp-and-gnp.asp (Accessed 20 May 2024).

domestic goods and services produced within a nation's borders".[53] Given the highly interconnected nature of the global economy today, GDP offers a more accurate estimate of the production capacity of a country, making this a more suitable measure of economic output.[54]

The history of GDP highlights two important characteristics of national accounting. On the one hand, governments became interested in this measure only once it proved useful to pursue a specific policy objective. Looking at the British Isles, the first attempts to estimate the size of the economy date back to the late 17th century. Nonetheless, it was not until GNP became an instrument to measure the tax base that could be mobilized to finance the Second World War that the British government diverted resources to its estimation. On the other hand, the policy objective that instigates this intertest determines the specific measure of national accounting adopted. In the US, Kuznets' private-earnings-centered measure of national income accurately estimated the impact that the Great Depression had on private consumption but tended to overestimate the negative consequences of a war economy due to its exclusion of government spending. As the more comprehensive nature of GNP addressed this problem, the national government focused on national GNP measures instead. As the EGD sets the new objective of sustainable growth today in Europe, the EU's method of measuring economic activity should be adjusted accordingly. To understand how to do this, we must first look at the limits of this GDP in its current form.

2. Understanding the Limits of GDP in its Current Form

The process described in the first section led to the creation of GDP as we know it today: the measurement of the total market value of the final goods and services produced in an economy over a certain period of time. In practice, the United Nations' System of National Accounts (SNA) describes three ways of computing this indicator:

"Basically, GDP derives from the concept of value added. Gross value added is the difference between output and intermediate consumption. (1) GDP is the sum of gross value added of all resident producer units plus that part (possibly the total) of taxes on products, less subsidies on products, that is not included in the valuation of output. Next, (2) GDP is also equal to the sum of the final uses of goods and services (all uses except intermediate

[53] *Ibid.*
[54] United States Department of Commerce, "August 1991", 8.

consumption) measured at purchasers' prices, less the value of imports of goods and services. Finally, (3) GDP is also equal to the sum of primary incomes distributed by resident producer units."[55]

This definition of GDP leads us to the first important limitation of this measurement. When computing the value added, we consider the individual costs paid by the producer when creating the good/service and the market value of the final good as enjoyed by the consumer. This, however, is a fairly limited view of the total value created by the transaction because economic activity can also generate externalities. Externalities are the benefits and/or costs incurred by anyone who is not one of the transacting parties.[56] For instance, if the government pays a private contractor to build a highway, the government expenditure will be accounted for in the final GDP measure, while the costs of the sound and environmental pollution (negative externality) or the benefits of a shorter commuting time (positive externality) will not.

A new indicator that measures sustainable growth needs to account for externalities. When externalities are generated, the total output of an economy is affected. If policymakers want an accurate measure of growth (i.e. changes in output over time) this larger scale effect is needed in the final calculations. Together with improving the quality of measurement, externalities can also guide policymakers to a better choice of what growth strategy to pursue. A measure of sustainable growth that accounts for the social cost of economic activity will enable policymakers to pursue a growth strategy that maximizes material welfare at the societal level, and not just for the individual. At the same time, as the economist Arthur Pigou suggests, one of the duties of the state is to remove the divergence between the private and the social costs of economic activity.[57] That is because, in some situations "no 'invisible hand' can be relied on to produce a good arrangement of the whole from a combination of separate treatments of the parts".[58] Indeed, this is something national and supranational authorities already do. Within the EU, for instance, programs like the Emission Trading

[55] United Nations et al., *System of National Accounts 2008* (United Nations, 2009), 34.
[56] Benoit Lascols, "Accounting and Reporting for Externalities: Balance of Externalities", *Sustainability and Climate Change,* 14:2 (2021), 115, https://doi.org/10.1089/scc.2020.0051.
[57] Arthur Pigou, *The Economics of Welfare* (Routledge, 2017), 141.
[58] *Ibid*, 144.

System[59] and the Carbon Border Adjustment Mechanism[60] are an example of regulators' efforts to make companies internalize the environmental externalities produced by their activities. Once we acknowledge this regulatory role of the state in the market, a second advantage of accounting for externalities when measuring growth becomes apparent: it becomes easier to design growth policies that do not create the need for compensatory action in the first place.

Now, externalities encompass a broad range of social costs that might be incurred by third parties, and it is unrealistic to assume that every possible consequence of any productive endeavor can be accounted for. Thus, a decision needs to be made on which social benefits to encourage and which social cost to try to avoid. Because the EGD has the objective of creating carbon-neutral growth by 2050 that is "decoupled from resource use",[61] it is clear that externalities deriving from greenhouse gas emissions (e.g. damages caused by increasingly violent climate events)[62] and natural resource depletion (e.g. the higher exposure to infectious diseases that comes with deforestation)[63] associated with growth are a central concern. Consequently, a growth strategy that goes "beyond GDP" needs to measure, and take into account, these social costs as well. This will allow policymakers to identify which investment strategies increase the size of the European economy while minimizing the risk of hidden social costs.

[59] The Emission Trading System is a carbon market based on the cap and trade system, where companies from targeted sectors are given a number of carbon emissions allowances, and can then buy or sell their outstanding demand/supply. Source: European Commission, "EU Emissions Trading System (EU ETS) - European Commission", https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets_en (Accessed 20 April 2024).

[60] The Carbon Border Adjustment Mechanism is a carbon tariff levied on goods imported to the EU. The aim of the policy is to ensure that international producers selling in the EU market face a cost of carbon equivalent to that of EU producers targeted by the Emission Trading System. Source: European Commission, "Carbon Border Adjustment Mechanism - European Commission", https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en (Accessed 20 April 2024).

[61] European Commission, "The European Green Deal - European Commission", 14 July 2021, https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en (Accessed April 20 2024).

[62] National Geographic, "The Influence of Climate Change on Extreme Environmental Events", https://education.nationalgeographic.org/resource/influence-climate-change-extreme-environmental-events (Accessed 20 April 2024).

[63] Andrew J. MacDonald, Ashley E. Larsen, and Andrew J. Plantinga, "Missing the People for the Trees: Identifying Coupled Natural–Human System Feedbacks Driving the Ecology of Lyme Disease", *Journal of Applied Ecology,* 56:2 (2019), 354–64, https://doi.org/10.1111/1365-2664.13289.

According to the definition adopted in this paper, sustainable growth is centered around ensuring the wellbeing of current and future generations. Taking externalities into account plays a central role in achieving this goal, as the two are deeply interrelated. Through the environmental externalities it produces, our current economic system has a negative impact on wellbeing. Take, for instance, greenhouse gas emissions. It has been proven that GDP growth leads to an increase in the carbon footprint of a country.[64] CO2 emissions are an externality in so far as they increase the average temperature of the planet[65] and lead to increasingly extreme meteorological events.[66] These damage the physical capital of the communities they touch, potentially harming their ability to satisfy their current and future material needs. Thus, a growth strategy that does not account for environmental externalities (and for any other externality that has similar effects) is, by definition, not sustainable.

Nonetheless, externalities describe only a part of the impact that economic growth has on human wellbeing, because the latter is not entirely measured in terms of economic output. As Kuznets pointed out, "the welfare of a nation can scarcely be inferred from a measure of national income".[67] This is because there are also non-economic sources of wellbeing. For instance, the Healthways Wellbeing Index, created by the analytics and advisory company Gallup, defines wellbeing as being composed of five dimensions: social life, financial stability, physical health, community and purpose.[68] All of these indicators are only partly affected by one's income.

At the same time, growth in economic output can have a negative impact on those non-material aspects of individual wellbeing. Let us assume, for instance, that wellbeing is measured by the OECD's Better Life Index (BLI).[69] Two components of this index are income

[64] Mihaela Onofrei, Anca Florentina Vatamanu, and Elena Cigu, "The Relationship Between Economic Growth and CO2 Emissions in EU Countries: A Cointegration Analysis", *Frontiers in Environmental Science,* 10 (2022), 934885, https://doi.org/10.3389/fenvs.2022.934885.
[65] Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2021 – The Physical Science Basis: Working Group I Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2023), https://doi.org/10.1017/9781009157896.
[66] *Ibid*.
[67] Alejandro Adler and Martin E. P. Seligman, "Using Wellbeing for Public Policy: Theory, Measurement, and Recommendations," *International Journal of Wellbeing,* 6:1 (2016), 1–35, https://doi.org/10.5502/ijw.v6i1.429.
[68] Gallup Inc, "Updates to the Gallup-Healthways Well-Being Index in 2014", 31 January 2014, https://news.gallup.com/opinion/thrive/170396/updates-gallup-healthways-index-2014.aspx (Accessed 19 April 2024).
[69] Martine Durand, "The OECD better life initiative: How's life? and the measurement of well-being", *Review of Income and Wealth,* 61:1 (2015), 4-17.

and work-life balance.[70] The latter is determined, among other things, by leisure time.[71] If growth is achieved by increasing the number of hours worked per individual, leisure time will inevitably decrease. In this scenario, we are thus faced with a tradeoff: increasing one source of wellbeing will decrease another. Assuming that the two are not perfect substitutes, there must be a point above which increasing individual income - and with that total economic output - by decreasing one's leisure time does not augment the worker's wellbeing. The existence of this tradeoff is supported by empirical evidence. In Korea, for instance, a study on the relationship between working hours and mental health found that working for less than thirty or more than sixty hours a week increases the risk of depression.[72] Thus, growth will generally make individuals happier only if they value their higher income more than whatever they have to sacrifice in return. In addition, the way resources are redistributed throughout a population can determine the impact of increased economic activity on wellbeing. When growth increases the incomes of only a few already wealthy beneficiaries, it does not lead to increases in national happiness.[73] In addition, more unequal societies are also those where mortality and illness levels are higher, governments are less responsive, and opportunities for the future are lower.[74] These factors tend to decrease individual wellbeing. As this brief analysis shows, when designing an indicator capable of discriminating between what is sustainable growth and what is not, it is imperative to move beyond a purely economic indicator and towards a more holistic one that accounts for potential changes in non-material wellbeing caused by increased economic activity.

Next to ensuring that economic activity does not negatively impact wellbeing, including a measure of the latter in an indicator for growth offers a tool to design growth policies that actually increase wellbeing. Such a goal should be a central concern of economic governance, as "economics is not solely concerned with income and wealth but also with using those resources as means to significant ends", in the words of Amartya Sen.[75] Moreover, from a Benthamian perspective that emphasizes maximal overall utility in line with Jeremy Bentham's philosophy of utilitarianism, for the government one of these "significant

[70] Ádám Kerényi, "The Better Life Index of the Organisation for Economic Co-Operation and Development." *OECD Studies* (2011), https://unipub.lib.uni-corvinus.hu/9010/1/a_518_538_kerenyia.pdf.
[71] *Ibid.*
[72] Seoyeon Ahn, "Working Hours and Depressive Symptoms over 7 Years: Evidence from a Korean Panel Study", *International Archives of Occupational and Environmental Health*, 91:3 (2018), 273–83, https://doi.org/10.1007/s00420-017-1278-z.
[73] Nicholas R. Buttrick, Samantha J. Heintzelman, and Shigehiro Oishi, "Inequality and Well-Being", *Current Opinion in Psychology,* 18 (2017), 15–20, https://doi.org/10.1016/j.copsyc.2017.07.016.
[74] *Ibid.*
[75] Amartya Sen, "The Economics of Life and Death", *Scientific American,* 268:5 (1993), 40–47, http://www.jstor.org/stable/24941476.

ends" is the pursuit of the wellbeing of its people.[76] Certainly, interpretations of the role of government in the economy vary depending on one's political views. Nonetheless, it should be acknowledged that this approach to growth policy has the advantage of advancing the ultimate objective of societal progress.

What we can conclude from this brief analysis is that, in its current form, GDP is not able to fully measure the benefits and costs of economic activity, and its impact on the wellbeing of current and future generations. This makes it an incomplete tool to measure sustainable growth as we have defined it. As such, a new measure of growth that goes "beyond GDP" needs to account for those externalities, whilst also incorporating some measure of wellbeing. As Commissioner Gentiloni said when interviewed at the *Beyond Growth Conference*, "we can't rely only on the traditional definition of growth as measured by GDP".[77] A more holistic measure needs to be adopted, especially in light of the EGD, which underscores the promotion of economic growth while ensuring environmental protection and social equity. In this final section we offer some possible suggestions to address the limitations we have highlighted thus far.

3. Moving "Beyond GDP"

If there is one thing the history of GDP teaches us, it is that political needs shape the relevance and form of indicators of national income. In this context, the EGD sets out new policy objectives that are incompatible with growth conceived in terms of GDP; necessitating a move "beyond GDP" towards a new way of measuring a carbon neutral, decoupled, and egalitarian type of growth while ensuring that the non-material wellbeing of individuals is not sacrificed on the altar of higher output.[78] In this final section, we aim to provide some insights that can guide this transition towards a new measure of sustainable economic activity.

A first challenge is the quantification of the social and environmental costs of economic activity. When it comes to the depletion of ecosystems, the United Nations' System of Environmental-Economic Accounting (SEEA) offers a methodology for the estimation of the

[76] Kerényi, "The Better Life Index of the Organisation for Economic Co-Operation and Development".
[77] Kendrick, Gentiloni, and Lamberts, "Bringing Europe's Economic Governance Down to Earth".
[78] Tamma, Schaart, and Gurzu, "Europe's Green Deal Plan Unveiled".

stock of natural capital and its changes over time.[79] The scope of the SEEA covers "natural resources, land and ecosystems and includes measurement of the non-market ecosystem services supplied by ecosystems such as global climate regulation, air filtration, water regulation and visual amenity services."[80] Combining this with overshoot data (i.e. the maximum quantity of resources that the earth can regenerate in one year) would set a threshold below which economic activity needs to lay in terms of resource use, to ensure that output today does not come at the cost of depleted natural stocks for future generations.

Regarding the quantification of the magnitude of carbon emission externalities, the incremental nature of the price of greenhouse gas allowances in the European Trading System (ETS) offers some useful methodological insights.[81] The ETS operates as a cap-and-trade scheme, setting a limit on the total amount of greenhouse gas emissions that participating industries can emit, and this cap is gradually reduced over time to enforce emission reductions.[82] As the cap tightens over time, the price of allowances tends to increase. This creates a market where the price of allowances fluctuates based on supply and demand dynamics. Such a methodology would allow a new indicator for sustainable growth to reflect the evolving environmental costs imposed on economic activities, and enable the cost of pollution to increase yearly. This in turn would guide policymakers in aligning economic growth with emissions reduction targets and facilitate the pursuit of a growth strategy that is less carbon intensive over time. A similar approach can be implemented for measuring the cost of resource depletion. This quantification mechanism would ensure that whatever is labeled as "sustainable growth" is actually furthering the emission and resource depletion reduction targets of the EGD.

In terms of accounting, Benoit Lascols offers interesting insights on how to take into account environmental externalities when measuring economic activity.[83] Lascols proposes a new type of financial statement that evaluates the environmental, social, and economic impacts

[79] United Nations et al., *System of Environmental-Economic Accounting 2012: Central Framework* (UN, 2014), https://digitallibrary.un.org/record/767283.
[80] *Ibid*.
[81] Giovanna Bua et al., "EU Emissions Allowance Prices in the Context of the ECB's Climate Change Action Plan", 23 September 2021, https://www.ecb.europa.eu/press/economic-bulletin/focus/2021/html/ecb.ebbox202106_05~ef8ce0bc70.en.html.
[82] *Ibid*.
[83] Benoit Lascols, "Accounting and reporting for externalities: Balance of externalities", *Sustainability and Climate Change*, 14:2 (2021), 115-121.

of a company alongside traditional financial indicators. This approach provides stakeholders with a more comprehensive understanding of a company's performance beyond solely economic indicators, addressing a significant gap in traditional financial reporting. Ultimately, integrating these externalities into accounting practices can lead to more informed decision-making by investors, regulators, and other stakeholders; promoting greater accountability in corporate behavior and better socio-environmental outcomes for society.

Measuring wellbeing is, however, a more complicated task as it is subjective and takes different forms according to individuals' preferences and priorities. Accordingly, the conception and measurement of wellbeing will vary across regions and states. Whilst governments cannot be expected to ask citizens about *everything*, a participative decision-making process with a representative sample of citizens could facilitate a better understanding of how citizens conceive wellbeing and which aspects - varying from economic to environmental and social - governments should value the most when measuring growth. Increasing direct participation might prove taxing from an administrative perspective, and the complexity of quantifying subjective experiences could result in inconsistencies or difficulties in interpreting the data. Nonetheless, Barcelona's 2016-2019 City Action Plan, drafted collaboratively with its citizens, sets a hopeful precedent; proving that such limitations on data analysis can be mitigated and that digital tools, such as Decidim (an open-source digital platform for participatory democracy and citizen engagement), can be leveraged to streamline the process of consultation and reduce its cost.[84] This suggests that participative decision-making processes can be useful to create an improved indicator to measure sustainable growth for the EGD.

Due to the cultural variation between states in Europe, and the diverging national priorities that these entail, the OECD's approach to the Better Life Index (BLI) could be a useful reference point in the design of this new quantification tool. Instead of having fixed aggregate units of measurement, the BLI allows its users to decide what weight to give to each of the parameters of interest.[85] This can be taken one step further. Governments could organize a consultative process aimed at designing an indicator that best measures the wellbeing of their constituents. This indicator could be used to measure both national and European

[84] Xabier E. Barandiaran et al., *Decidim, a Technopolitical Network for Participatory Democracy: Philosophy, Practice and Autonomy of a Collective Platform in the Age of Digital Intelligence*, (Springer Nature Switzerland, 2024), https://doi.org/10.1007/978-3-031-50784-7.
[85] Kerényi, "The Better Life Index of the Organisation for Economic Co-Operation and Development".

growth. To ensure intergenerational representativity, such an index could be subjected to a vote every five years (even in sync with the election cycle to streamline the procedure). Albeit with a certain degree of approximation, this measure would allow each country (and the EU) to pursue policies that lead to growth in the areas their citizens actually care about, not only setting a clear agenda for future work but also a yardstick of accountability for the successive electoral cycle. Creating a participative policy target from below will also contribute to addressing the younger generation's growing disaffection towards politics, by providing them with a direct and effective way to shape the criterias that guide political action.[86]

One concern of such a measure is that locally developed indexes will undermine the international comparability of growth measures. Once we have established that GDP is not a complete measure of welfare, however, this type of comparison becomes decidedly less relevant. If wellbeing is not only a function of economic performance, then cross-country comparisons of GDP - especially related to discourses of convergence - can serve only limited purposes. For instance, Charles Jones and Peter Klenow demonstrate how inequalities between countries are much greater once we account for the differences in welfare caused by heterogeneous living standards.[87] By looking solely at GDP, we overestimate the level of convergence between the Global North and the Global South.[88] At the same time, it can be also argued that, if the final goal of convergence and development is the wellbeing of countries' populations, then it might make more sense to benchmark governments against their ability to provide for the needs expressed by their constituents in the creation of the indicator. Finally, economic output is likely to remain on the radar of statisticians meaning that, when needed, cross-country GDP analysis can still be performed.

To bring about these changes, multiple challenges need to be addressed. For starters, we should identify which institution should charge itself with coordinating this transition beyond GDP. As the focus of our analysis is growth in the EGD, then it seems coherent that EU institutions, such as Eurostat or the Commission, play a central role in the creation and large-scale adoption of this measure. Nonetheless, the limits of GDP - and the climate crisis

[86] Gerardo Berthin, "Why Are Youth Dissatisfied with Democracy?", *Freedom House*, September 14 2023, https://freedomhouse.org/article/why-are-youth-dissatisfied-democracy (Accessed 20 April 2024).
[87] Charles I. Jones and Peter J. Klenow, "Beyond GDP? Welfare across countries and time", *American Economic Review,* 106:9 (2016), 2426-2457.
[88] *Ibid*.

that has made them salient - apply to the world in its entirety. In this setting, a global coordination effort would be more effective. In this case, the UN SNA can be the setting for the creation and diffusion of this new accounting standard, due to its influence on national accounting practices.[89] The new revision of the UN SNA, to be published in 2025, seems to be going in the right direction as it explicitly mentions the importance of measuring welfare and sustainability.[90] Nonetheless, while the final version has not been released yet, for now it seems that the UN SNA will not envisage the option of participative fine-tuning of the measure at the national level.

Conclusion

Starting from Gentiloni's conclusion that we need to go "beyond GDP" to measure the sustainable growth the EGD strives to achieve, we have sought to provide some insights on the potential composition of a new indicator. Growth measured by GDP does not account for the ways in which economic activity generates externalities and affects wellbeing. Incorporating these variables in this new indicator will ensure that policymakers implement growth strategies that meet the targets of the EGD, whilst also promoting their constituents' wellbeing in the process.

This analysis leaves multiple questions unanswered. Firstly, the form of the index is still to be determined. Diane Coyle, for instance, points to the fact that an index might yield a more understandable albeit oversimplified measure of reality, while a dashboard might be more complete but also complex.[91] The question of the replicability of this strategy outside of Europe and within weaker democracies should also be researched further. Similar concerns also apply to countries in a status of democratic backsliding, such as Hungary. Finally, from a broader perspective, the EGD's focus on growth should itself be questioned. It should be better understood whether, especially in western Europe, living standards need to be further improved at the aggregate level or whether a better redistribution of the current levels of welfare is more envisageable in light of the strict resource and carbon constraints imposed by the crisis.

[89] United Nations, "System of National Accounts", https://unstats.un.org/unsd/nationalaccount/sna.asp (Accessed 20 April 2024).
[90] *Ibid*.
[91] Diane Coyle, "The Political Economy of National Statistics", *Economics Discussion Paper Series No. EDP-1603* (The University of Manchester, 2016), https://papers.ssrn.com/abstract=2850061.

The imperative to move "beyond GDP" in measuring sustainable growth is clear nevertheless. While GDP has served as a dominant metric, its limitations in capturing the comprehensive costs and benefits of economic activity and its impact on people's wellbeing render it an incomplete indicator to measure sustainable growth and to guide policies aimed at achieving it. We are at a critical juncture in the climate crisis, and the outcomes of our climate policies can only be as good as our units of measurement. If we are to achieve truly sustainable growth, the first thing that must "grow" is our parameter for growth—it needs to incorporate human wellbeing, environmental sustainability, and equity, not just economics.

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ENERGY & ENVIRONMENT

The Age Covariate on Long-term Environmental Policymaking

Rachele Moscardo

Introduction

Whilst its ecological dangers have been known by scientists for almost a century and a wide selection of policy options exist for its addressal[1], it is widely substantiated that present policy efforts by advanced democracies to halt climate change are insufficient.[2] This is because, beyond science and policy design, climate change engenders unique political challenges.[3] Distinctively, it requires costly action to be taken today whilst its benefits will be slow to arrive, accruing only years or decades ahead. Taxes on fossil fuels, restrictions to deforestation and regulations on products' carbon intensity, by way of example, impose costs on present social actors with no guarantee that they will live to enjoy the benefits that such burdens were set to create in the future – such as cleaner air or lower temperatures.

Scholars of long-term policymaking have advanced that this distinctive intertemporal structure drives stagnation on climate policy through a variety of mechanisms.[4] Among them

[1] For example, W. D. Nordhaus, "Economic growth and climate: The carbon dioxide problem", *The American Economic Review*, 67:1 (1977), 341-346.
[2] H. D. Matthews and S. Wynesm "Current global efforts are insufficient to limit warming to 1.5 C", *Science*, 376:6600 (2022), 1404-1409.
[3] T. Bernauer, "Climate change politics", *Annual Review of Political Science*, 16 (2013), 421-448.
[4] J. Boston and T. Stuart, "Protecting the rights of future generations: are constitutional mechanisms an answer", *Policy Quarterly*, 11:2 (2015); M. K. MacKenzie, "Institutional design and sources of short-termism" in *Institutions for Future Generations*, edited by Iñigo González-Ricoy and Axel Gosseries (Oxford University Press, 2016), 24-48; A. M. Jacobs, "Policy making for the long term in advanced democracies", *Annual Review of Political Science*, 19 (2016), 433-454.

is the opposition of so-called "special interest groups". These are groups of cost bearers with both dominant short-term interests and considerable political influence which mobilise against policies that disadvantage them. Among other groups, such characteristics are held by older people (broadly pensioners) vis-à-vis younger people (young adults). By virtue of their reduced life expectancy, indeed, the old are more likely to favour the short-term over the long-term. Studies show, for instance, that the elderly prefer higher government spending on pensions, of more immediate benefit to them, than on education, which generates societal returns in the long run.[5] Furthermore, the old have more political influence in Western democracies because they generally control more political resources, hold more positions of power, and vote in higher proportions than younger generations.[6] Based on these factors, long-term policymaking scholars predict that the old will oppose policies on challenges, such as climate change, where the main benefits are collected in the long-term. Given their political influence, they will likely be successful in doing so, thus generating policy stagnation.

Despite this theoretical prediction, surprisingly little attention has been given to empirically attesting the existence – and analysing the characterizations – of such age dynamics in the realm of environmental policymaking. Where they exist, studies are based on old data, have regional focuses and generally assess how concern for climate change – rather than policy preferences – varies by age.[7] This study's results contribute to addressing this gap.

[5] L. Lochner and E. Moretti, "The effect of education on crime: Evidence from prison inmates, arrests, and self-reports", *American Economic Review*, 94:1 (2004), 155-189; M. Nores, C. R. Belfield, W. S. Barnett, and L. Schweinhart, "Updating the economic impacts of the High/Scope Perry Preschool program", *Educational Evaluation and Policy* Analysis, 27:3 (2005), 245-261; M. Hess, "Rising preferred retirement age in Europe: Are Europe's future pensioners adapting to pension system reforms?", *Journal of Aging & Social Policy*, 29:3 (2017), 245-261.

[6] M. Tepe and P. Vanhuysse, "Are aging OECD welfare states on the path to gerontocracy?: Evidence from 18 democracies, 1980–2002", *Journal of Public Policy*, 29:1 (2009), 1-28.

[7] J. Hersch and W. K. Viscusi, "The generational divide in support for environmental policies: European evidence", *Climatic Change*, 77:1-2 (2006), 121-136; B. Torgler, M. A. Garcia-Valiñas, and A. Macintyre, "Differences in preferences towards the environment: The impact of a gender, age and parental effect", *FEEM Working Paper*, 18 (2008), 1-37; M. A. Andor, C. M. Schmidt, and S. Sommer, "Climate change, population ageing and public spending: evidence on individual preferences", *Ecological Economics*, 151 (2018), 173-183.

Specifically, by drawing on data on environmental policy preferences from the 2016 wave of the European Social Survey (ESS), I find evidence that the young are, on average, more likely to favour environmental policy stringency than the old across twenty advanced democracies. This I will refer to as a "static" age-group conflict. Secondly, I find that this effect is stronger at higher levels of population ageing, thus also evidencing a "dynamic" conflict. Specifically, this refers to the fact that the "strength" of generations' clashes depends on the degree of influence that their counterpart exerts.[8] These "countervailing" dynamics characterise generations as "special interest groups".

The subsequent analysis builds on four sections. Section 1 sets out the paper's theoretical foundations and situates the present study in the extant literature. Specifically, it conceptualises climate change mitigation as a type of long-term policy investment and identifies the "special interest groups" of young and old people as an empirically unexplored covariate for defining its workings in advanced democracies. Accordingly, Section 2 sets out four hypotheses, two at the individual-level and two at the country-level, to test whether an age-based conflict on environmental policy preferences exists across European countries. Section 3 sets out the data, main variables and methods required to perform such test. Its results are reported and discussed in Section 4, which also comments on the limitations of this study. The paper concludes by indicating the policy relevance of the findings as well as pointing to avenues of further research.

1. The Covariates of Long-term Climate Policy

Following Jacobs (2016) and Finnegan (2022), I conceptualise climate change mitigation as a long-term policy investment. Indeed, climate change is fundamentally a long-term policy problem in that its addressal requires taking costly action in the present for benefits that will

[8] G. S. Becker, "A theory of competition among pressure groups for political influence", *The Quarterly Journal of Economics*, 98:3 (1983), 371-400; D. Austen-Smith and J. R. Wright, "Competitive lobbying for a legislator's vote", *Social Choice and Welfare*, 9:3 (1992), 229-257.

only accrue in the future.[9] Enhancing the effectiveness of energy usage, transitioning to renewables, producing low-carbon goods and preventing deforestation, for instance, impose costs on present social actors. Their main benefits, however, such as enjoying cleaner air and avoiding major temperature shifts, will be experienced only years or decades hence. In this sense climate change mitigation may be thought of as an "investment": a commitment of present resources to achieve later benefits.[10]

To understand what shapes policymaking (or lack thereof) around these types of challenges I turn to the literature on long-term policymaking.[11] This scholarship indicates at least four obstacles to the production of policies for the long-term.

First, the absence of future generations from the political debate. These are frequently referred to as a "silent" majority, in that, despite being the ones most likely to be affected by present policy decisions, they cannot be, for obvious reasons, included in present political discussions[12]. Given this, policies that more closely mirror their interests – presumably, longer term policies – will be scarce with respect to ones that favour the existing "loud majority" – that is, shorter term policies to the advantage of present social actors.

A second channel of inaction on long-term policymaking that scholars have pointed to is the short-sightedness of individual preferences. This refers to positive time preferences – in economic terms – or cognitive biases – in psychological ones – that lead agents to favour the present over the future, thereby halting long-term policy investments. A variety of scholars

[9] Jacobs, "Policy making for the long term in advanced democracies"; J. J. Finnegan, "Institutions, climate change, and the foundations of long-term policymaking", *Comparative Political Studies*, 55:7 (2022), 1198-1235.
[10] D. G. Luenberger, *Investment Science* (Oxford University Press, 1998).
[11] For example, Boston and Stuart, "Protecting the rights of future generations: are constitutional mechanisms an answer"; MacKenzie, "Institutional design and sources of short-termism"; Jacobs, "Policy making for the long term in advanced democracies".
[12] J. C. Tremmel, Handbook of Intergenerational Justice (Edward Elgar Publishing, 2006). K. Ekeli, "Constitutional experiments: representing future generations through submajority rules", Journal of Political Philosophy, 17:4 (2009).

have modelled these types of preferences in relation to environmental policies and shown how they might explain propensity to invest in the short-term rather than the long-term.[13]

Another source of long-term policy stagnation arises from the vote-maximising nature of politicians' preferences. A segment of scholarship indeed argues that, in order to boost chances of re-election, leaders will only adopt policies that will have benefits over a near set of electoral cycles – i.e., politicians will move resources to the short or medium term as opposed to the long term[14]. Accordingly, a number of empirical studies have investigated the electoral politics of climate change, such as the roles of electoral backlash and insulation[15], political competition[16] and accountability[17] on climate policy outcomes. Connected to this line of inquiry are studies on political uncertainty and commitment mechanisms, that are concerned with ensuring that, granted that political leaders make future oriented policy decisions, they do not renege on them later (variously referred to as "compliance" or "time-inconsistency" problem).[18] Lastly, a correlated scholarship has investigated processes of

[13] For example, W. D. Nordhaus, "A review of the Stern review on the economics of climate change", Journal of Economic Literature, 45:3 (2007), 686-702; T. Fujii and L. Karp, "Numerical analysis of non-constant pure rate of time preference: a model of climate policy", Journal of Environmental Economics and Management, 56:1 (2008), 83-101; D. Anthoff, R. S. Tol and G. W. Yohe, "Discounting for climate change", Economics, 3:1 (2009); T. Iverson and L. Karp. "Carbon taxes and climate commitment with non-constant time preference", The Review of Economic Studies, 88:2 (2021), 764-799.

[14] For example, W. F. Shughart, "Katrinanomics: The politics and economics of disaster relief", Public Choice, 127 (2006), 31-53.

[15] L. C. Stokes, "Electoral backlash against climate policy: A natural experiment on retrospective voting and local resistance to public policy", *American Journal of Political Science*, 60:4 (2016), 958-974.

[16] M. Aklin, P. Bayer, S. P. Harish, and J. Urpelainen, "Understanding environmental policy preferences: New evidence from Brazil", *Ecological Economics*, 94 (2013), 28-36.

[17] E. Tvinnereim, "Paths towards large, unilateral climate policies: policy-seeking, attenuated accountability and second-order government assertiveness", *Journal of Energy & Natural Resources Law*, 31:4 (2013), 379-405.

[18] L. A. Levin, C. L. Wei, D. C. Dunn, D. J. Amon, O. S. Ashford, W. W. Cheung, and M. Yasuhara, "Climate change considerations are fundamental to management of deep-sea resource extraction", *Global Change Biology*, 26:9 (2020), 4664-4678; J. Hovi, D. F. Sprinz, H. Sælen, and A. Underdal, "Climate change mitigation: a role for climate clubs?", *Palgrave Communications*, 2:1 (2016), 1-9.

positive feedback and path dependency of climate policy outcomes and their connections to politicians' strategic designations of environmental policy "winners" and "losers".[19]

A final source of climate policy stagnation theorised by researchers of the politics of long-term policymaking is the resistance of "special interest groups". This refers to groups of cost bearers with both dominant short-term interests and considerable political influence which mobilise against policies that disadvantage them. The literature on climate politics has mainly personified these groups in "green" (low carbon) and "brown" (carbon-intensive) coalitions, such as environmentalists and the heavy industry, and shown how the prevalence of the latter on the former drives governments to adopt less stringent climate policy.[20]

Another pair of groups, however, that exhibits these "special" characteristics is older generations vis-à-vis younger ones.[21] Indeed, if assumed to be rationally self-interested, older generations should have dominant short-term interests because, as opposed to younger ones, they will not live to enjoy the benefits of longer-term investments. Further, older generations tend to have more political influence because, as a group, they control more political resources, hold more political offices and vote in higher proportions than younger generations.[22] Contrary to research on other long-term policy problems, such as

[19] For example, Aklin et al., "Understanding environmental policy preferences: New evidence from Brazil"; Meckling et al., 2015; H. Breetz, M. Mildenberger, and L. Stokes, "The political logics of clean energy transitions", *Business and Politics*, 20:4 (2018), 492-522; M. Pahle et al., "Sequencing to ratchet up climate policy stringency", *Nature Climate Change*, 8:10 (2018), 861-867.
[20] For example, X. Cao, H. V. Milner, A. Prakash, and H. Ward, "Research frontiers in comparative and international environmental politics: an introduction", *Comparative Political Studies*, 47:3 (2014), 291-308; Aklin et al., "Understanding environmental policy preferences: New evidence from Brazil"; L. Hughes, and J. Urpelainen, "Interests, institutions, and climate policy: Explaining the choice of policy instruments for the energy sector", *Environmental Science & Policy*, 54 (2015), 52-63.
[21] MacKenzie, "Institutional design and sources of short-termism".
[22] Tepe and Vanhuysse, "Are aging OECD welfare states on the path to gerontocracy?: Evidence from 18 democracies, 1980–2002".

pension spending[23], investments in childcare[24], health and social security[25], surprisingly little attention has been paid to empirically assessing the existence (and the effects) of such intergenerational dynamics in the realm of climate change politics.

Among the exceptions are Torgler et al. (2008) who, for instance, report a negative correlation between age and environmental preferences based on data from the 1999 European Values Survey (EVS).[26] Similarly, Hersch and Viscusi (2006) use data from a 1999 Eurobarometer survey to test the willingness to pay more for gasoline to protect the environment across age groups.[27] They find that, even when controlling for variances in age-related knowledge of environmental hazards, sources of information, and perceived health risks from climate change, there is a gradual decrease in the willingness of respondents to pay higher gasoline prices to safeguard the environment as they age. Finally, Andor et al. (2018) assessed the generational divide in concern for climate change in Germany and find that the elderly are less likely to support climate-friendly policies, such as the subsidisation of renewables, and overall allocate fewer public resources to environmental policies.[28]

Whilst these studies represent a sound starting point for the investigation of an intergenerational conflict around climate policy, further cross-national research that draws on up-to-date data is required to assess its magnitude and characteristics. This is especially true in virtue of claims that advanced democracies are progressively turning into

[23] Hess, "Rising preferred retirement age in Europe: Are Europe's future pensioners adapting to pension system reforms?".
[24] A. Goerres, and M. Tepe, "Age-based self-interest, intergenerational solidarity and the welfare state: A comparative analysis of older people's attitudes towards public childcare in 12 OECD countries", *European Journal of Political Research*, 49:6 (2010), 818-851.
[25] D. Street and J. S. Cossman, "Greatest generation or greedy geezers? Social spending preferences and the elderly", *Social Problems*, 53:1 (2006), 75-96.
[26] B. Torgler, M. A. Garcia-Valiñas, and A. Macintyre, "Differences in preferences towards the environment: The impact of a gender, age and parental effect", *FEEM Working Paper*, 18 (2008), 1-37.
[27] Hersch and Viscusi, "The generational divide in support for environmental policies: European evidence".
[28] Andor, Schmidt, and Sommer, "Climate change, population ageing and public spending: evidence on individual preferences".

"gerontocracies" - that is political systems run by, and in the interests of, the elderly due to the onset of advanced population ageing.[29] Moreover, building on the concept of climate change as a long-term policy investment and attentive to the consequent peculiar policy dynamics that underlie it, further research is needed to unpack the "special interest group" attributes that shape the interactions of old and young generations on this policy challenge. This paper seeks to make *prima facie* contributions to these aspects. Broadly, it will test whether an intergenerational conflict on environmental policy preferences exists across 20 European advanced democracies. Specifically, it will look for evidence of age-based self-interest vis-à- vis intergenerational solidarity, as well as assessing the effect of population ageing and interest group-like interactions of young and old generations on environmental policy preferences. In this way, the paper aims to add to the understanding of the variety of conditions that shape long-term policymaking on climate change and thus the constraints and opportunities for the design of policy solutions under these conditions.

2. Theoretical Framework and Hypotheses

The literature on age and welfare politics identifies two broad types of individual motivations for supporting social spending by the government: age-based self-interest and values.[30] Age-based self-interest broadly refers to the idea that, as individuals get older, they tend to prefer government spending in the short-term (such as by way of increased pensions or health service provision) rather than longer-term policy investments (such as climate change mitigation), as they will not be able to personally enjoy the benefits of the latter. Political economists, for instance, have for long maintained that voters solely care about their own economic well-being, with no altruism in their political motivation.[31] In this framework,

[29] For example, H. W. Sinn, and S. Uebelmesser, "Pensions and the path to gerontocracy in Germany", *European Journal of Political Economy*, 19:1 (2003), 153-158; A. L. Bovenberg, "Grey new world: Europe on the road to gerontocracy?", *CESifo Economic Studies*, 54:1 (2008), 55-72.
[30] For example, T. Iversen and D. Soskice, "An asset theory of social policy preferences", *American Political Science Review*, 95:4 (2001), 875-893.
[31] G. Tabellini, "A positive theory of social security", *Scandinavian Journal of Economics*, 102:3 (2000), 523-545.

opinions about government expenditure are typically viewed as a product of one's current material situation or their expectations of future risks, or both.[32] Because climate change is, as this paper has stressed, a long-term issue, younger age-groups are in theory more likely to factor it as an anticipated risk and hence tailor their policy preferences to it, whilst older age-groups prioritise more imminent policy problems. Per traditional political science definitions, such a contradiction in views is taken to engender an intergenerational conflict of preferences.[33]

Hypothesis 1 (Age-based Conflict): Being young compared to being old leads to higher support for climate policy investments.

Contra to the primary assumption of political economists, however, several empirical studies have suggested that generations exhibit altruism in their choices on welfare spending.[34] A significant segment of scholarship has argued that this is the result of a value-driven process of preference formation, whereby people support policies that not only benefit themselves but also other people in other stages of the life course.[35] This type of

[32] For example, Iversen and Soskice, "An asset theory of social policy preferences"; H. Kitschelt and P. Rehm, "New social risk and political preferences" in *The Politics of Post-Industrial Welfare States*, edited by H. Kitschelt and P. Rhem (Routledge, 2007), 70-100; P. Rehm, "Risks and redistribution: An individual-level analysis", *Comparative Political Studies*, 42:7 (2009), 855-881.
[33] For example, D. Black, "On the rationale of group decision-making", *Journal of Political Economy*, 56:1 (1948), 23-34; L. A. Rhodebeck, "The politics of greed? Political preferences among the elderly", *The Journal of Politics*, 55:2 (1993), 342-364; D. Street and J. S. Cossman, "Altruism or Self-Interest-Social Spending and the Life Course", *Journal of Sociology & Social Welfare*, 33 (2006), 73; M. A. Cattaneo and S. C. Wolter, "Are the elderly a threat to educational expenditures?", *European Journal of Political Economy*, 25:2 (2009), 225-236; M. R. Busemeyer, A. Goerres, and S. Weschle, "Attitudes towards redistributive spending in an era of demographic ageing: the rival pressures from age and income in 14 OECD countries", *Journal of European Social Policy*, 19:3 (2009), 195-212.
[34] For example, D. Street and J. S. Cossman, "Altruism or Self-Interest-Social Spending and the Life Course", 73; L. Huddy, J. M. Jones, and R. E. Chard, "Compassionate politics: Support for old-age programs among the non elderly", *Political Psychology*, 22:3 (2001), 443-471.
[35] For example, Iversen and Soskice, "An asset theory of social policy preferences".

intergenerational solidarity manifests itself predominantly through family relations.[36] Goerres and Tepe (2010), for instance, find that the effects of age on political preferences for childcare spending – a policy area of little direct personal interest to the elderly – is highly dependent upon micro-level intergenerational relations, such as having children or grandchildren.[37] Studies on altruistic voting by political behaviourists support this by indicating that individuals' utility is a function of others' well- being which increases according to the proximity of mutual relationships.[38] In line with this posit, having a large number of close family members that are young would predict a higher care for issues that are more likely to affect them – that is, longer term problems like climate change – as this would have a direct influence on the individual's personal well-being. Accordingly, I predict a positive correlation between the size of individuals' intergenerational networks and their support for environmental policy stringency.

Hypothesis 2 (Age-based Solidarity): The larger one's intergenerational network, the stronger their support for climate policy investments.

The second set of hypotheses aimed at discerning the age-based dynamics that undergo preference formation on environmental policies build on *Hypothesis 1*. This tests whether being old compared to being young predicts different levels of support for environmental policies – i.e., if an age-based conflict around climate change mitigation exists. If this hypothesis holds true, then we would expect a higher proportion of elderly people in the population to correlate with lower overall support for environmental policy investments. A

[36] L. Whitbeck, D. R. Hoyt, and S. M. Huck, "Early family relationships, intergenerational solidarity, and support provided to parents by their adult children", *Journal of Gerontology*, 49:2 (1994), 85-94; S. O. Daatland and Lowenstein, A, "Intergenerational solidarity and the family–welfare state balance", *European Journal of Ageing*, 2 (2005), 174-182.
[37] Goerres and Tepe, "Age-based self-interest, intergenerational solidarity and the welfare state: A comparative analysis of older people's attitudes towards public childcare in 12 OECD countries".
[38] For example, O. Stark, "Siblings, strangers, and the surge of altruism", *Economics Letters*, 65:2 (1999), 135-142; J. Andreoni, "Privately provided public goods in a large economy: the limits of altruism", *Journal of Public Economics*, 35:1 (1988), 57-73.

long tradition of political science theories has maintained that policy preferences converge around the viewpoint of the median voter.[39] Accordingly, as the median voter grows in age, the average policy preferences of the population will progressively skew towards interests of the old – i.e., a preference for short-term over long-term policies.[40] Emery (2012), for instance, finds a statistically significant and positive relationship between preferences for pro-old welfare spending and EU countries' Old Age Dependency ratio (that is, the proportion of pensioners compared to the working population).[41] Further, countries with older populations have been found to prefer higher levels of spending in areas of the welfare state that disproportionately benefit the elderly compared to the young – such as healthcare spending vis-à-vis investments in education.[42] I assess whether these population-based biases over policy preferences apply to the long-term issue of climate change.

Hypothesis 3 (Population Ageing): The older the population, the lower predicted support for climate policy investments.

Substantiating *Hypothesis 3* together with *Hypothesis 1* would give empirical backing to the theoretical conceptualization of older generations as "special interest groups", as posited by long-term policy making scholars. Specifically, *Hypothesis 1* indicates that older generations have dominant short-term interests whereas *Hypothesis 3* illustrates a channel through which older generations exert higher political influence compared to younger ones. Building on this inference, my fourth hypothesis tests for interest-group-like dynamics

[39] For example, D. Black, "On the rationale of group decision-making"; Anthony Downs, "An Economic Theory of Political Action in a Democracy", *Journal of Political Economy*, 65:2 (1957), 135–150; James M. Buchanan and Robert D. Tollison, *The Theory of Public Choice, Vol. II* (University of Michigan Press, 1984).
[40] Goerres and Tepe, "Age-based self-interest, intergenerational solidarity and the welfare state: A comparative analysis of older people's attitudes towards public childcare in 12 OECD countries".
[41] T. Emery, "Intergenerational conflict: evidence from Europe", *Journal of Population Ageing*, 5 (2012), 7-22.
[42] For example, U. Grob and S. C. Wolter, "Demographic change and public education spending: a conflict between young and old?", *Education Economics*, 15:3 (2007), 277-292; A. Werblow, S. Felder, and P. Zweifel, "Population ageing and health care expenditure: a school of 'red herrings'?", *Health Economics*, 16:10 (2007), 1109-1126.

across the two generations taking inspiration from political economy models of "countervailing lobbying".

These models theorize that interest groups' degree of support for a certain policy depends on the strength of the opponent coalition.[43] Indeed, if the opponent coalition is very weak, supporters have low need to mobilize in favour of the policy, as the opposition against it is limited to begin with. As the opponent coalition grows, however, supporters have strong incentives to lobby for the policy, as its enactment – and connected gains – is less probable. Such a model has been applied by scholars of climate policies to shape the interactions between "green" and "brown" coalitions, showing how the growth of the heavy industry vis-à-vis that of renewables has halted the attainment of higher environmental policy stringency.[44]

I argue that this framework may be extended to a second set of "special interest groups", notably age groups. Specifically, I posit that lower proportions of elderly people in the population – that is, a weak opponent coalition – correlate with a weaker effect of being young vis-à-vis being old on pro-environmental policy preferences – that is, lower opposition by the supporter coalition. As the old-aged share of the population grows, however, young people will more likely exhibit stronger preferences for environmental policy stringency as a result of the "countervailing lobbying" dynamics described above. In other words, I predict that the strength of the intergenerational conflict will increase with population ageing. This outcome is in line with voter mobilization theory, which posits that political parties mobilize voters' policy preferences in groupings. The salience of such groupings, in turn, is dependent upon the share of the population that belong to them. Hence, as the proportion of the

[43] For example, Becker, "A theory of competition among pressure groups for political influence"; N. O. Keohane, R. L. Revesz, and R. N. Stavins, "The choice of regulatory instruments in environmental policy", *Harvard Environmental Law Review*, 22 (1998), 313; Austen-Smith and Wright, "Competitive lobbying for a legislator's vote".
[44] Hughes and Urpelainen, "Interests, institutions, and climate policy: Explaining the choice of policy instruments for the energy sector".

population who are elderly grows, political mobilization will increasingly occur around cohorts or generations. Accordingly, generational identities will become more important in shaping politics, leading to a divergence of policy preferences – that is an intergenerational conflict – which is, precisely, shaped by age.[45]

Hypothesis 4 (Countervailing Effects): The older a population, the stronger the intergenerational conflict on environmental policy preferences.

3. Research Design

I. Data & Main Variables

To answer the question of whether an intergenerational conflict on environmental policy preferences exists as hypothesised in the theoretical predictions above, the analysis will employ data from the 2016 wave of the European Social Survey (ESS)[46] on 20 advanced democracies.[47] This contains responses of 44387 individuals aged fifteen and above, predominantly related to "Welfare attitudes and Attitudes to Climate Change". However, because the ESS does not contain any country-level indicators, it was merged with Eurostat datasets that contain those of relevance to the subsequent analysis.

Hypotheses 1-4 aim to predict support for climate policy investments. To elicit respondents' attitudes towards such investments by their national governments, the ESS 2016 asked the following question:

To what extent are you in favour or against the following policies in [country] to reduce climate change?

[45] L. Kolitkoff and S. Burns, *The Coming Generational Storm* (MIT Press, 2004).
[46] ESS Round 8: European Social Survey Round 8 Data (2016). Data file edition 2.2. Sikt - Norwegian Agency for Shared Services in Education and Research, Norway – Data Archive and distributor of ESS data for ESS ERIC, doi:10.21338/NSD-ESS8-2016.
[47] Austria, Belgium, Czech Republic, Germany, Estonia, Spain, Finland, France, Hungary, Ireland, Iceland, Italy, Lithuania, Netherlands, Poland, Portugal, Sweden, Slovenia, Norway and Switzerland.

Respondents' answers were collected along a five-level Likert Scale, ranging from "Strongly in favour" to "Strongly against", on three environmental policy proposals:

D30: Increasing taxes on fossil fuels, such as oil, gas, and coal.
D31: Using public money to subsidise renewable energy such as wind and solar power.

D32: A law banning the sale of the least energy efficient household appliances.

For each respondent, a binary variable across the three questions was computed which indicates "Support" or "Opposition". "Support" was indicated when the respondent answered in "Favour" or "Strongly in Favour" to at least two questions out of the three. The midway answer "Neither in favour nor against'' was included in the "Opposition" category, in line with empirical evidence pointing to a negative correlation between voter indifference, climate policy outputs, and their respective levels of reform vis-à-vis the status quo.[48]

Utilising this measure as a dependent variable has two main advantages. Firstly, as mentioned above, it records answers on policy preferences rather than testing for a mere concern around climate change, thereby setting this paper apart from previous studies on the effects of age on environmental attitudes.[49] Conducting research on policy preferences, as opposed to general environmental concern, is of special relevance if we consider the long-term aspect of policymaking on climate change, that is the overall trade-off that is present between welfare in the short-term versus the long run. It is precisely this trade- off that engenders an intergenerational conflict, which can, in turn, stall climate policy as predicted by scholars of long-term policymaking. Yet measures of climate change concern

[48] For example, E , Herrnstadt and E. Muehlegger, "Weather, salience of climate change and congressional voting", *Journal of Environmental Economics and Management*, 68:3 (2014), 435-448; R. Bromley-Trujillo and J. Poe, "The importance of salience: public opinion and state policy action on climate change", *Journal of Public Policy*, 40:2 (2020), 280-304.
[49] For example, Torgler, Garcia-Valiñas, and Macintyre, "Differences in preferences towards the environment: The impact of a gender, age and parental effect".

can only partially capture this intertemporal bargain, in that they measure the extent of negative environmental sentiment without making apparent the costs of acting on that sentiment – namely, through policy. As such, they could produce inflated estimates of the general support for climate policy stringency.

The second, correlated, advantage is that the three questions that underlie the dependent variable capture a range of different short-term "costs" of climate policy stringency. For instance, D32 lays out short-term consumer losses whereas the policy proposed at D30 is expected to alarm primarily owners and workers of carbon-intensive sectors. Capturing such a range of costs should help isolate the effects of age on environmental preferences as opposed to other characteristics, such as affiliation with carbon-intensive activities, ultimately indicating that it is precisely membership of a particular generation that affects support for climate policy stringency. In other words, generations are "special interest groups", with their interests being shaped by age (as per the *Hypotheses 3 and 4*).

To test the four hypotheses, I require three main independent variables. First, a measure of membership to a particular generation (*Hypothesis 1*). To compute such measure, I split the age variable into three categories following extant empirical studies on age groups: the young, aged 18 to 34, the middle-aged, aged 35 to 60 and the old, aged 61 and above.[50] I use the old as a reference category. Second, a measure of the size of respondents' intergenerational network is needed to evaluate intergenerational solidarity (*Hypothesis 2*). Unfortunately, the ESS dataset only contains information on whether the respondent has children – that is a son, daughter, stepson, foster or having adopted – but not grandchildren. As such, only the former was included as a measure of intergenerational network. Finally, a measure of the degree of population ageing is required to test *Hypotheses 3 and 4*. I use the

[50] For example, Busemeyer, Goerres, and Weschle, "Attitudes towards redistributive spending in an era of demographic ageing: the rival pressures from age and income in 14 OECD countries"; Hess, "Rising preferred retirement age in Europe: Are Europe's future pensioners adapting to pension system reforms?".

Old Age Dependency ratio – that is, the ratio of pensioners compared to the working age population – following empirical studies on societal ageing.[51] In order to overcome non-linearities in the variable's distribution, this was recoded as binary, with "High" indicating Old Age Dependency ratio levels above the EU mean.

The statistical models also include a number of covariates.[52] At the individual level, I control for gender, levels of education, income, preferences for welfare spending and political engagement. Unfortunately, the dataset does not record whether the respondent votes "green", so this could not be controlled for in the analysis. At the country level, the following factors have been shown to correlate with environmental preferences: GDP per capita, income inequality, unemployment rates, agricultural share of land, levels of emissions, the degree of environmental spending and social protection.

II. Methodology

The analysis builds on a multilevel approach. This is due to, first, the hierarchical structure of the data and second, the need to test effects that play out at both the individual and country levels (per *Hypothesis 4)*.[53] Given the binary nature of the dependent variable, the analysis will estimate multilevel logistical regression models. For simplicity, the models' specifications are presented without controls. These, however, are included in the subsequent empirical analysis. The individual-level models' equations are:

$$Y_{ij} = \beta_{0j} + \beta_1 COHORT_{ij} + R_{ij}$$

[51] For example, T. Emery, "Intergenerational conflict: evidence from Europe"; N. Hu and Y. Yang. "The real old-age dependency ratio and the inadequacy of public pension finance in China", *Journal of Population Ageing*, 5 (2012), 193-209.
[52] *Eurostat (2023)*, https://ec.europa.eu/eurostat.
[53] J. J., Hox, M. Moerbeek, amd R. Van de Schoot, *Multilevel analysis: Techniques and applications* (Routledge, 2017).

$$Y_{ij} = \beta_{0j} + \beta_1 CHILDREN_{ij} + R_{ij}$$

(Level 1)

Where Y_{ij} is the dependent variable, namely support for more environmental policy stringency, for individual i in country j. To assess the *Hypotheses 1* and *2* the two models include a measure of age group membership ($COHORT_{ij}$) and intergenerational network ($CHILDREN_{ij}$) as independent variables respectively. Per the theoretical framework, I expect $\beta_1 > 0$ in both models.

The intercept β_{0j} has a subscript j indicating that each country has its own intercept. Its specification is:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} OLDAGE_j + U_{0j}$$
$$\beta_{1j} = \gamma_{00} + \gamma_{11} OLDAGE_j + U_{1j}$$

(Level 2)

Where $OLDAGE_j$ indicates the Old Age Dependency ratio. Per *Hypothesis 3*, I expect $\gamma_{01} < 0$.

Finally, I report the combined multilevel model that will be used to test *Hypothesis 4*:

$$Y_{ij} = \gamma_{00} + \gamma_{01} OLDAGE_j + \gamma_{10} COHORT_{ij} + \gamma_{11} COHORT_{ij} * OLDAGE_j + U_{0j} + U_{1j} COHORT_{ij} + R_{ij}$$

(Combined Model)

The model specifies a cross-level interaction effect between membership to a particular age group ($COHORT_{ij}$) and the Old Age Dependency ratio ($OLDAGE_j$). This will allow to test if effect of being young *vis-à-vis* being old on preferences towards climate policy stringency

increases as the population gets older – i.e., *Hypothesis 4 (Countervailing Effects)*. This claim holds true if $\gamma_{11} > 0$.

IV. Results

TABLE 1. Weighted Multilevel Logistic Models (1-3) results

Support for environmental policy stringency			
	Dependent variable:		
	(1)	(2)	(3)
Age Group Middle-Aged (ref:Old)	0.029***	0.029***	0.017*
	(0.007)	(0.007)	(0.010)
Age Group Young (ref:Old)	0.047***	0.047***	0.029***
	(0.008)	(0.008)	(0.011)
Number of children	-0.004	-0.004	-0.004
	(0.003)	(0.003)	(0.003)
Gender (ref:Male)	0.045***	0.045***	0.046***
	(0.006)	(0.006)	(0.006)
High Income	0.045***	0.045***	0.045***
	(0.007)	(0.007)	(0.007)
Voting pattern (ref:Abstained)	-0.063***	-0.063***	-0.063***
	(0.008)	(0.008)	(0.008)
High Education	0.084***	0.084***	0.084***
	(0.006)	(0.006)	(0.006)
Environmental protection (% GDP)		-0.035*	-0.036**
		(0.018)	(0.018)
Social protection (% GDP)		0.015***	0.015***
		(0.005)	(0.005)
Unemployment rate		0.012	0.011
		(0.011)	(0.011)
Levels of emissions		0.001**	0.001**
		(0.001)	(0.001)
GDP per capita		-0.001	-0.001*
		(0.001)	(0.001)
Income Inequality		-0.033***	-0.032***
		(0.012)	(0.012)
Agricultural Share of Land		-0.004***	-0.004***
		(0.001)	(0.001)
Old Age Dependency Ratio		0.041	0.025
		(0.037)	(0.037)
Old Age Dependency Ratio*Middle-Aged			0.023*
			(0.013)
Old Age Dependency Ratio*Young			0.035**
			(0.016)
Constant	0.656***	0.469***	0.478***
	(0.015)	(0.093)	(0.093)
Observations	27,145	27,145	27,145
Log Likelihood	-17,426.890	-17,426.890	-17,423.960
Akaike Inf. Crit.	34,907.790	34,907.790	34,905.910
Note:			*p<0.1; **p<0.05; ***p<0.01

The results of the statistical analysis are reported in TABLE 1. Three models were fit using the maximum-likelihood method. Model 1 shows estimates produced at the individual level, whilst Models 2 and 3 build on this adding country-level variables and a cross-level interaction. The effects of all independent variables were constrained to be the same in each country as the theoretical hypotheses were not set out to assess specific cross-country variations in the response variable and this would have added to the models' complexity. Estimates were weighted and post-stratified by applying ESS 2016 "Analysis Weight" in order to correct for differential selection probabilities within each country, non-response, non-coverage, and sampling error related to the post-stratification variables whilst accounting for differences in population size across countries.

Hypothesis 1 holds true in all the statistical models as they display a positive coefficient on the age group variable where this specified to "Young" and "Old" is the reference category. The estimate is highly significant at all conventional levels in *Models 1* through *3*. Specifically, the estimate in *Model 3* indicates that, on average across countries, being young leads to a 4.77% increase in probability of being supportive of climate policy investments compared to being old. On the other hand, the models disprove *Hypothesis 2 (Age-based Solidarity)*. Indeed, the coefficient on the number of children is insignificant at all levels across models suggesting that a large intergenerational network is not likely to encourage greener policy preferences.

At the country level, *Hypothesis 3 (Population Ageing)* tested whether higher levels of population ageing correlate with lower levels of support for pro-environmental policymaking. The coefficient displayed for the Old Age Dependency ratio is statistically insignificant in both *Models 2* and *3* thus failing to corroborate this hypothesis. As regards country-level *Hypothesis 4 (Countervailing Effects), Model 3* includes an interaction effect between age group membership and the Old Age Dependency ratio. As a reminder, this aims to attest countervailing behaviours across age groups, namely if the effect of being young

with respect to being old on environmental policy preferences is stronger as a result of advanced population ageing – i.e., at high Old Age Dependency ratios. The coefficient on the interaction term is statistically significant at the 0.05 level in both weighted and unweighted models suggesting that there are, indeed, countervailing effects on climate policy preferences across age groups.

4. Discussion

The overarching question that the above results seek to answer is whether an age-based conflict exists on climate policy preferences. Such a conflict is expected to arise given the peculiar long-term nature of the climate change challenge and the required mitigation policies. Based on a principle of age-based self-interest, indeed, older people will favour shorter-term policies which can more promptly and directly benefit them. On the other hand, the young will more saliently account for long-term challenges, such as climate change, in their policy preferences, as the consequences of policy stagnation on these challenges can affect them to a greater extent. These are the considerations underlying *Hypothesis 1 (Age-based Conflict)* which, as per the above findings, seemingly find confirmation in the empirical analysis. The young are, indeed, more likely to favour environmental policy investments than the old across the surveyed data. This effect, however, is not particularly large (only a 4.77% increase in probability of being pro-environmental policy), pointing to the fact that age alone is not a strong determinant of preferences – as we will see below, however, it might create a dynamic conflict which further skews these preferences. The result is also in line with estimates from other empirical studies on the effect of age on

preferences regarding policies that engender intertemporal trade-offs, such as pensions[54], public debt[55], education[56] and childcare spending.[57]

Whilst these accounts point to evidence of age-based self-interest, this cannot conclusively be defined as the explanatory factor for the young generations' increased support for environmental policy stringency vis-à-vis the old (as argued in the theoretical framework for *Hypothesis 1*). Establishing this with certainty would require isolating age effects from cohort effects. The former effect establishes that age differences in policy preferences are a result of ageing itself.[58] This is precisely what the age-based self-interest claim builds on when arguing that the differences in climate policy preferences are a result of a self-interest, which is determined by age. The latter effect, in turn, refers to the idea that generational cohorts are socialized differently and maintain such distinctions in views throughout their lives. This would imply that the old are less supportive of environmental policy stringency compared to the young simply as a result of being born into a generation that is – and has been through its lifetime – less concerned about the environment. It is possible, for instance, that present young generations have been socialized to care more about the environment compared to old generations, especially when considering the increased issue salience of climate change across time.[59] Attesting whether this is true would require time-series

[54] For example, T. Emery, "Intergenerational conflict: evidence from Europe"; Hess, "Rising preferred retirement age in Europe: Are Europe's future pensioners adapting to pension system reforms?".
[55] For example, P. Jäger and T. Schmidtm "The political economy of public investment when population is aging: A panel cointegration analysis", *European Journal of Political Economy*, 43 (2016), 145-158.
[56] For example, M. A. Cattaneo and S. C. Wolter, "Are the elderly a threat to educational expenditures?"; J. Rattsø and R. J. Sørensen, "Grey power and public budgets: Family altruism helps children, but not the elderly", *European Journal of Political Economy*, 26:2 (2010), 222-234; R. J. Sørensen, "Does aging affect preferences for welfare spending? A study of peoples' spending preferences in 22 countries, 1985–2006", *European Journal of Political Economy*, 29 (2013), 259-271.
[57] For example, Goerres and Tepe, "Age-based self-interest, intergenerational solidarity and the welfare state: A comparative analysis of older people's attitudes towards public childcare in 12 OECD countries".
[58] O'Grady, T. "Is Europe becoming a 'gerontocracy'? New evidence on age cleavages in Europe since the 1980s", *Science Letter*, 24 July 2020, 23-40, https://go-gale-com.libproxy.ucl.ac.uk/ps/i.do?p=AONE&u=ucl_ttda&id=GALE%7CA629873164&v=2.1&it=r (Accessed 26 May 2024).
[59] For example, Myers et al., "A public health frame arouses hopeful emotions about climate change: A letter", *Climatic Change*, 113 (2012), 1105-1112; P. Bergquist and C. Warshaw, "Does global warming increase public concern about climate change?", *The Journal of Politics*, 81:2 (2019), 686-691.

datasets that track changes (or lack thereof) in generations' climate policy opinions. This data is unavailable. This constitutes a partial limitation to my analysis: whilst the focus is establishing if an intergenerational conflict in preferences *de facto* exists – a question to which the paper's empirical results have given an affirmative and significant answer –, uncovering its determinants – such as age-based self-interest vis-à-vis cohort effects – may be relevant to inform policymakers advocating for greater climate policy investments about the context that shapes voter preferences towards them.

As a rival mechanism to age-based self-interest, the analysis also tested for proof of intergenerational solidarity, namely whether having a close intergenerational network – proxied by the number of children – increases individuals' propensity to support long-term policies to hamper climate change, mainly by virtue of altruistic motives (*Hypothesis 2*). The number of children, however, was found to be an insignificant covariate across models thus conferring more substance to predictions of intergenerational conflict over ones of intergenerational solidarity. Yet the measure of intergenerational network is significantly restricted due to the unavailability of data on intergenerational relationships to the respondent other than children. A more extensive measure would include all the respondent's younger descendants, such as grandchildren and nephews. Without this, the analysis may produce deflated estimates. As an additional point, the number of children itself may not be an accurate measure to proxy for solidarity. Indeed, one could argue that it is the quality of this relationship that motivates solidarity – not its mere existence. Together these factors could lead to an overall underestimation of the importance of solidarity vis-à-vis conflict in intergenerational relations.

As regards predictions at the country-level, *Hypotheses 3 and 4* were set out to test for "special interest group" attributes of age groups. Following denotations by the scholars of long-term policymaking, the older generation was characterized as a "special interest group" based on the inference that it has both dominant short-term interests and disproportionate

political advantages with respect to the younger generation.[60] The first characteristic was corroborated by proving an intergenerational conflict as described by *Hypothesis 1*. The second was tested by including the Old Age Dependency ratio as a country-level variable and assessing its effect on predicted support for environmental policy stringency. Population ageing is, indeed, expected to be a channel through which older age-groups express overbalanced political influence, simplistically by virtue of having the old vote in greater proportions than the young. Given this and their dominant short-term interests, older populations are expected to correlate with lower overall levels of support for climate policy investments (*Hypothesis 3*). No significant evidence of such a correlation, however, was found in the empirical analysis.

This is not conclusive disproof of the older generation having greater political influence with respect to the younger generation and, hence, displaying characteristics of a "special interest group". First, there could be channels other than political participation that attest such an influence. As indicated by Tepe and Vanhuysse (2009), old people tend to hold more political offices and control more political resources. Further empirical studies are required to establish if the older generations could utilize these channels to skew climate policy outcomes in their favour. Secondly, such a conclusion would be in contrast with the significant results found to support *Hypothesis 4 (Countervailing Effects)*. This aimed to test whether membership to a particular generation, namely young versus old, became a stronger predictor of environmental preferences as a result of advanced population ageing. Such a result is expected according to a model of "countervailing lobbying", whereby interest groups' opposition to one another is dependent upon the strength of the other interest group. Finding a statistically significant result for *Hypothesis 4* - that is for the interaction term between the Old Age Dependency ratio (opponent coalition) and membership to the young generation (supporter coalition) - but no significant effect for *Hypothesis 3* proves precisely these countervailing dynamics. Only when contrasted with its opponent counterpart – the

[60] MacKenzie, "Institutional design and sources of short-termism".

young generation – does the share of the elderly in the population matter in explaining variation in support for more stringent climate policies. It is due to these reactionary effects that may be thought of as "special interest groups", akin to "green" and "brown" industry coalitions, that shape the dynamics of long-term environmental policies.

Proving such a dynamic gives further substance to the claim of an underlying intergenerational conflict on environmental preferences across advanced democracies. Specifically, it moves beyond the "static" definition of conflict employed in previous empirical studies as a mere contrast in views grounded in individual characteristics – such as age – which is, nevertheless, attested as an effect. Instead, it offers an empirical measure of conflict as a reactionary mechanism that shapes preference formation, where preferences diverge due to interactions between each group in addition to being shaped by individual attributes. In this sense, the intergenerational conflict is found to be "dynamic". To this author's knowledge, this is the first study testing for such a cross-level interaction on environmental policy preferences and to find statistically significant results around its effect.

Conclusion

Moved by theoretical claims indicating its determinant role in wide-spread climate policy stagnation across advanced democracies, this study has aimed to attest whether an age-based conflict on environmental policy preferences exists across advanced democracies. Its findings provide an affirmative answer to this question on two levels.

First, consistently with previous empirical evidence they indicate that the young are, on average, more likely to favour environmental policy investments than the old. This establishes a "static" age-based conflict of preferences – i.e., one where preferences simply

diverge in virtue of individual attributes such as age. Beyond what empirical studies have attested to date, however, the study also finds proof of what I deem a "dynamic" age-based conflict – i.e., one where preferences diverge due to interactions between each-other in addition to being shaped by individual attributes. Specifically, such a result indicates that the strength of the effect of being young *vis-à-vis* being old on environmental policy preferences increases with levels of societal ageing. This corroborates the claim that age groups are *de facto* "special interest groups" when it comes to climate policy and that their behaviour, just as that of "green" and "brown" coalitions, can be described according to models of "countervailing lobbying".

Notwithstanding these results, the paper's contributions are only *prima facie*. Notably, the study has only established the existence of an intergenerational conflict around environmental policy *preferences*. Further studies must be conducted to map how such an intergenerational conflict impacts climate policy *outcomes*. If significant results were to be found, these studies would confer full empirical backing to theoretical claims that intergenerational conflicts are a determinant of wide-spread climate policy stagnation across advanced democracies, as predicted by scholars of long-term policymaking. Despite this, the present paper contributes to the understanding of the variety of conditions that shape voters' attitudes towards long-term policymaking on climate change, thus representing a valuable contribution for policymakers striving to design policy solution under these conditions.

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ENERGY & ENVIRONMENT

The Future of the EU in the Baltic States: Lessons from Grid Synchronisation with Ukraine and Moldova

Giulia De Nardin and Hanna Klar

Introduction

Within their *Electricity Grid and Secure Transition Report*, the International Energy Agency (IEA) recently emphasised that as "[the] backbone of today's electricity systems, grids are set to become increasingly important as clean energy transitions progress, but they currently receive too little attention."[1] Indeed, while studies of the European Union's (EU) energy geopolitics regarding oil, gas, and coal are extensive, electricity policy constitutes a current blind spot.[2] Hoicka and Macarthur alongside Westphal et al. confirm this as they note that, despite rising competition over influence on grids, electricity infrastructure is often depoliticized and viewed as a purely technical matter.[3] In the words of Herman: "scholars of energy and geopolitics largely ignore the use of electricity in foreign policy or simply assume that electricity interconnectivity [...] is a cooperative foreign policy tool."[4] However, in times where "the EU is bringing grids to the centre of its agenda" through the *EU Action Plan for*

[1] International Energy Agency (IEA), "Electricity Grids and Secure Energy Transitions: Enhancing the Foundations of Resilient, Sustainable and Affordable Power Systems", October 2023, 7, https://doi.org/10.1787/455dd4fb-en.
[2] Christina E. Hoicka and Julie MacArthur, "The Infrastructure for Electricity: A Technical Overview," in *The Oxford Handbook of Energy Politics*, ed. Kathleen J. Hancock and Juliann Emmons Allison (Oxford University Press, 2021), 69–71, https://doi.org/10.1093/oxfordhb/9780190861360.013.33.
[3] Kirsten Westphal, Maria Pastukhova, and Jacopo Maria Pepe, "Geopolitics of Electricity: Grids, Space and (Political) Power", *SWP Research Paper,* 15 March 2022, https://doi.org/10.18449/2022RP06, Hoicka and MacArthur, "The Infrastructure for Electricity."
[4] Lior Herman, "Energy as an Instrument in Global Politics," ed. Kathleen J. Hancock and Juliann Emmons Allison, 28 January 2021, 309, https://doi.org/10.1093/oxfordhb/9780190861360.013.12.

Grids, registering the geopolitical implications of grids becomes ever more pressing.[5] To better understand the external dimension of the EU energy policy, we thus need to investigate the degree to which electricity grids are an instrument in regional influence.

Two years ago, on March 16 2022, the Ukrainian and Moldovan electricity grids were synchronised with the Continental European grid, also known as the Continental Synchronous Area. Synchronisation between electricity grids establishes a coupled system with common parameters (voltage and frequency) according to which the electricity grids involved must be operated. Following the Russian invasion of Ukraine, the Ukrainian and Moldovan Transmission System Operators (TSOs) - Ukrenergo and Moldelectrica - requested emergency synchronisation in order to disconnect from the Russian Integrated Power System/Unified Power System (IPS/UPS), to which they were formerly linked.[6] While the technical and regulatory elements of this synchronisation process had been in preparation since 2017, Russia's war of aggression forced a significant increase in pace.[7]

With this synchronisation reshaping interconnections, regulations, and trade, our objective is twofold. First, this paper aims to re-assess the EU's conceptualisation in external energy policy on two axes: power (Normative Power Europe vs. Market Power Europe) and actorness (Liberal vs. Geopolitical approach). Secondly, this paper aims to analyse in concrete terms the effects of this change for the EU's external energy policy outside the examined situation, in relation to the planned synchronisation with the Baltic states. A "conceptualisation" is

[5] European Commission, "Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions - Grids, the Missing Link - An EU Action Plan for Grids", 28 November 2023, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52023DC0757.
[6] ENTSO-E, "Two Years since Ukraine and Moldova Synchronised Electricity Grids with EU", 15 March 2024, https://www.entsoe.eu/news/2024/03/15/two-years-since-ukraine-and-moldova-synchronised-electricity-grids-with-eu/.
[7] ENTSO-E, "One Year after the Successful Synchronisation of the Continental European Power System with the Ukrainian and Moldovan Power Systems, the European TSOs Together with Ukrenergo Have Confirmed the Basis for an Essential and Effective Cooperation Contributing to the Security of the Interconnected Power System", 16 March 2023, https://www.entsoe.eu/news/2023/03/16/synchronisation-anniversary/.

intended as a framework to thoroughly consider the EU as a "power" and "actor", and should not be construed as the most ambitious aim to provide a theory to predict the EU's behaviour. Hence, this paper aims to answer the following questions: i) how can the EU's external energy policy be conceptualised in the context of this extended grid synchronisation? ii) what are the consequences of this re-conceptualisation for the electricity grid synchronisation with the Baltic states?

This paper has broadly drawn on two major strands of literature related to EU energy policy: first, the analyses of energy security through the lenses of European integration and, second, the focus on the EU's external energy policy by investigating key concepts of power and of actorness. For more than a decade, scholars have been attempting to conceptualise the EU's approach as a global actor, as well as the nature of the power it wields. However, with a handful of positive exceptions, there seems to be a noticeable scarcity of literature dealing with EU external power and actorness, within the somewhat narrower topic of energy grid synchronisation. Thus, the present work aims at contributing to bridge this research gap. We find that, after debating conceptual approaches of power and actorness, multi-actorness (chapter 4) is the best way to conceptualise the EU in energy policy.

Concerning our methodology, the policy documents under consideration include the European Commission's communications on REPowerEU and the External Energy Strategy; ENTSO-E and Energy Community publications; as well as statements and declarations issued by the EU, the Eastern Partnership countries concerned (Ukraine and Moldova), and the Baltic states. To remain within the scope of this study, we have limited the source base of our document analysis to those communications exploring electricity grids within the external dimensions of EU energy policy.

Before delving into the EU as "power wielding-actor" debate in the context of electricity grids, we will contextualise grid synchronisation in the settings of Moldova and Ukraine. Thereafter, we will investigate the different spheres of EU actorness in the external dimensions of its energy and electricity policy. Lastly, this paper aims to contribute to recent discussions on the geopolitical implications of the planned synchronisation between the Baltic states and the European grid. Although Lithuania, Latvia, and Estonia's position as EU member states diverges from Ukraine and Moldova's accession candidate status, their grid remains linked to the IPS/ UPS, centrally managed by Moscow.[8] Taking into account the implications identified in Ukraine and Moldova's synchronisation process with the Continental European grid, we find that, with Baltic synchronisation planned for 2025, the EU and Russia enter into competition over regional influence.

1. Setting the Stage: Synchronisation with the East

To investigate the EU's actions vis-à-vis Ukraine and Moldova with regard to electricity grids, we must first review the recent evolution of energy relations. The relationship between the EU and its Eastern neighbours in energy policy was particularly affected by gas supply bottlenecks in 2006, 2009, 2014 and 2022.[9] In 2006, the Energy Community was set up to coordinate energy market rules between the EU and its Eastern neighbours.[10] In 2009, the EU additionally sought policy rapprochement through the Eastern Partnership.[11] Both forums aimed to integrate neighbouring states into the European energy market and promote

[8] Justinas Juozaitis, "Baltic States' Synchronisation with Continental European Network: Navigating the Hybrid Threat Landscape", 2021, https://vb.lka.lt/object/elaba:114602905/.
[9] Paul J. J. Welfens, *Russia's Invasion of Ukraine: Economic Challenges, Embargo Issues and a New Global Economic Order* (Springer International Publishing, 2022), https://doi.org/10.1007/978-3-031-19138-1.
[10] Kataryna Wolczuk, "Managing the Flows of Gas and Rules: Ukraine between the EU and Russia", *Eurasian Geography and Economics,* 57:1 (2016), 113–37, https://doi.org/10.1080/15387216.2016.1174072.
[11] Mariam Dekanozishvili, *Dynamics of EU Renewable Energy Policy Integration*, Palgrave Studies in European Union Politics (Palgrave Macmillan, 2023), 105; Andrea Prontera, *Beyond the EU Regulatory State: Energy Security and the Eurasian Gas Market* (ECPR Press/Rowman & Littlefield International, 2019), 143; Andreas Goldthau, *The Politics of Shale Gas in Eastern Europe: Energy Security, Contested Technologies and the Social License to Frack* (Cambridge University Press, 2018), 25–26.

investments.[12] Following Russia's annexation of Crimea (2014), energy dialogues with the EU's Eastern partners experienced a renewed boost due to concerns regarding European energy security stemming from the disruptions in the Eastern gas pipeline system.[13] At the same time, the Energy Union programme gradually developed, aiming for independence from Russian energy resources.[14] As part of the subsequent European Energy Security Strategy (2014), the Commission set up an outward-looking energy strategy, primarily focused on expansion and diversification of energy partnerships.[15]

Debates surrounding the interconnection of electricity grids between continental Europe and its Eastern neighbourhood featured throughout these forums. During the restructuring of the post-Soviet space in the early 1990s, the vision of a unified electricity grid from Lisbon to Vladivostok had briefly arisen - only to be soon dismissed when circumstances changed due to the EU's eastward enlargement process of 2004 and deteriorating relations between Ukraine and Russia.[16] As a result, Moldova and Ukraine remained synchronously interconnected to Russia's IPS/UPS.[17] In 2005, the EU and Ukraine signed a "Memorandum of Understanding" for energy cooperation, aiming for full integration of energy markets.[18] Following an extensive feasibility study, in 2016, Ukraine and Moldova's network operators

[12] Georg Zachmann and Lukas Feldhaus, "Synchronising Ukraine's and Europe's Electricity Grids", *Low Carbon Ukraine*, 6 May 2021, 2, https://www.lowcarbonukraine.com/en/synchronising-ukraines-and-europes-electricity-grids/ (Accessed 8 April 2024).; Stephen Minas, "Towards the East: The Energy Community and the Extension of EU Climate Governance", in *EU Climate Diplomacy: Politics, Law and Negotiations,* ed. Stephen Minas and Vassilis Ntousas (Routledge, 2018), 87–88.
[13] Tim Boersma and Andreas Goldthau, "Wither the EU's Market Making Project in Energy: From Liberalization to Securitization?" in *Energy Union*, ed. Svein S. Andersen, Andreas Goldthau, and Nick Sitter (Palgrave Macmillan UK, 2017), 106, https://doi.org/10.1057/978-1-137-59104-3_6.
[14] Andreas Goldthau, *The Politics of Shale Gas in Eastern Europe: Energy Security, Contested Technologies and the Social License to Frack*, (Cambridge University Press, 2018), 42; European Commission, "Energy Union Package", 25 February 2015, https://eur-lex.europa.eu/resource.html?uri=cellar:1bd46c90-bdd4-11e4-bbe1-01aa75ed71a1.0001.03/DOC_1&format=PDF.
[15] Boersma and Goldthau, "Wither the EU's Market Making Project in Energy", 105–7.
[16] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 22–24.
[17] OECD, "Moldova 2022 Energy Policy Review, 13 October 2022, 79, https://www.oecd-ilibrary.org/energy/moldova-2022-energy-policy-review_1628694f-en.
[18] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 24.

signed an interconnection agreement with ENTSO-E[19], outlining requirements for accession to the European grid.[20]

When, on 24 February 2022, the Russian Federation launched a war of aggression against Ukraine, Ukraine and Moldova were still connected to the IPS/ UPS system. While, as stated above, a long-term plan for interconnection between Ukraine, Moldova, and the European grid had been in place, Russia's invasion had significant implications for the regional interconnectedness of the electricity grid.[21] Three days after the invasion, ENTSO-E received urgent requests from the electricity transmission system operators (TSOs) Ukrenergo and Moldelectrica to carry out an emergency synchronisation with the Continental European grid.[22]

Synchronisation is the most far-reaching form of connection between (at least two) electricity grids. The status of synchronisation establishes a coupled system with common parameters according to which the operation of the electricity grids involved must be based, and is therefore more far-reaching than a "pure" traded exchange of electricity.[23] Synchronous operation of electricity grids occurs when grid voltage and frequency match.[24] For frequency and voltage stability, the withdrawal of electricity (consumption) must equal

[19] ENTSO-E: the European Network of Transmission System Operators for Electricity (established in the EU's Third Internal Market Package from 2009 and new mandates from The Clean Energy Package 2019) whose task it is to provide conditions for the access to the network for e.g. cross-border exchanges in electricity (Westphal et al., "Geopolitics of Electricity", 14).
[20] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 24; IEA, "Moldova 2022 – Analysis", 30 June 2022, 81, https://www.iea.org/reports/moldova-2022.
[21] Welfens, *Russia's Invasion of Ukraine Economic Challenges*, 3.
[22] ENTSO-E, "Request for Emergency Synchronisation of Ukrainian Power System to Continental Europe Power System", 28 February 2022, https://www.entsoe.eu/news/2022/02/28/28-february-2022-request-for-emergency-synchronisation-of-ukrainian-power-system-to-continental-europe-power-system/ (Accessed 22 May 2024).
[23] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 15–16; Zachmann and Feldhaus, "Synchronising Ukraine's and Europe's Electricity Grids", 2.
[24] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 9.

electricity feed-in (generation) at all times.[25] The more geographically extensive a synchronous electricity grid is, the more energy-generating power plants are usually connected to the grid operation. This in turn can lead to greater stability in the system.[26] However, participants in a synchronised grid also share risks, as local vulnerabilities can lead to cascading effects for the entire grid and ultimately to failure in trading mechanisms or communication technologies.[27] For example, in 2021, the disruption to a Croatian substation caused disruptions to the whole Central European network (CEN), which is the world's largest synchronous grid supplying over 400 million people in 24 countries.[28]

Following the Russian invasion of Ukraine on February 24 2022, Ukrenergo and Moldelectrica decoupled the remains of historical infrastructural connections to the Russian electricity grid.[29] An emergency synchronisation was carried out on 16 March 2022, before commercial electricity exchanges began in June 2022.[30] In December, ENTSO-E confirmed that Ukrenergo had met all requirements for a permanent synchronisation, thus enabling Ukrenergo to officially join ENTSO-E as a full member on January 1 2024[31]. This signifies a closer integration of Ukraine into the European energy market and facilitates grid operating cooperation with nearby EU member states, such as Germany, Poland, Slovakia, and Lithuania.[32]

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[25] Tim Schittekatte and Alberto Pototschnig, "Distributed Energy Resources and Electricity Balancing : Visions for Future Organisation", *Technical Report* (European University Institute, 2022), 4, https://doi.org/10.2870/95157.
[26] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 10; Leonardo Meeus, *The Evolution of Electricity Markets in Europe* (Edward Elgar Publishing, 2020), 11, https://cadmus.eui.eu/handle/1814/69266.
[27] Schittekatte and Pototschnig, "Distributed Energy Resources and Electricity Balancing", 4; Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 10.
[28] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 10; ENTSO-E, "Request for Emergency Synchronisation of Ukrainian Power System to Continental Europe Power System".
[29] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 14; IEA, "Moldova 2022 – Analysis", 71.
[30] IEA, "Moldova 2022 – Analysis", 71; ENTSO-E, "Request for Emergency Synchronisation of Ukrainian Power System to Continental Europe Power System".
[31] ENTSO-E, "Two Years since Ukraine and Moldova Synchronised Electricity Grids with EU".
[32] Dmytro Tkach and Dmytro Tkach, "The Main Losses of the Ukrainian Energy System as a Result of Massive Attacks by Russia", *Economics, Finance and Management Review*, 2 (2023), 51–59, https://doi.org/10.36690/2674-5208-2023-2-51-59.

With synchronisation between the Ukrainian, Moldovan, and the CEN comes an increased interconnection and a closer relationship in grid operation and electricity exchange. This tightened relationship gives rise to the question of how the associated regulatory and technological developments translate into the sphere of political influence.

2. (Political) Power and Electricity Grids

I. Revisiting the Power-Debate in an EU Context

A tale as old as the institution(s) themselves – what kind of influence does the EU exercise when it enters the game? Due to its inherent logic diverging from the traditional concept of the nation state in International Relations, authors have widely debated which kind of power the EU constitutes.[33] While Zimmermann (2007) argues for the EU to be a realist power, similar to his perceptions of states, Grabbe (2006) emphasises the EU's transformative power, Orbie (2008) conceptualises the EU as a civilian power, and Wagner (2017) accentuates a liberal power Europe.[34] However, two concepts in particular have spurred the debate: Manner's Normative Power Europe (NPE) and Damro's Market Power Europe (MPE).[35]

[33] As the scope of this paper is limited, for a detailed debates on the conceptualizations of power more fundamentally, cf. among others Baldwin (2016).
[34] Hubert Zimmermann, "Realist Power Europe? The EU in the Negotiations about China's and Russia's WTO Accession", *JCMS: Journal of Common Market Studies,* 45:4 (2007), 813–32, https://doi.org/10.1111/j.1468-5965.2007.00749.x; Heather Grabbe, *The EU's Transformative Power: Europeanization through Conditionality in Central and Eastern Europe* (Palgrave Macmillan, 2006); Jan Orbie, "A Civilian Power in the World? Instruments and Objectives in European Union External Policies" in *Europe's Global Role : External Policies of the European Union,* ed. Jan Orbie (Ashgate, 2008), 1–33, https://doi.org/10.4324/9781315255828-9; Wolfgang Wagner, "Liberal Power Europe", *JCMS: Journal of Common Market Studies,* 55:6 (2017), 1398–1414, https://doi.org/10.1111/jcms.12572.
[35] Ian Manners, "Normative Power Europe: A Contradiction in Terms?", *JCMS: Journal of Common Market Studies,* 40:2 (2002), 235–58, https://doi.org/10.1111/1468-5965.00353; Chad Damro, "Market Power Europe," *Journal of European Public Policy,* 19:5 (2012), 682–99, https://doi.org/10.1080/13501763.2011.646779.

For Manner, the idea that the EU has the "ability to shape conceptions of 'normal'" lies central to its ability to wield power.[36] The EU's unique power derives from ideational shaping, occuring at its core in the case of the norms of liberty, democracy, peace, rule of law, and human rights.[37] Normative power does not imply the EU to be a particularly moral or ethical actor - rather, normative power aims to alter the rules of the game to the EU's advantage.

Damro, on the other hand, considers the single market and economic integration to be the foundation of the EU's identity and engine of power. For him, "the single market provides the material existence of the EU as an MPE that externalises its economic and social market-related policies and regulatory measures".[38] Following this logic, Meunier and Nicolaïdis observe the EU to not exercise power *in* but rather *through* trade.[39] According to Damro, the single market's economic heavyweight (market size attraction), the EU's position as a regulator (exercised through reward/sanction mechanisms), and competing internal interests (interest congestion) make up the three characteristics of MPE.[40] This is not to be misunderstood to mean that all EU interests are of an economic nature – still, its power derives from its being a single market.[41]

While NPE and MPE made important contributions to the conceptualization of power in the EU context, the literature tends to apply either only NPE or only MPE, disregarding the other. Chen criticises that NPE literature "primarily focuses on [the] promotion of vague socio-political norms and principles (e.g. human rights, democracy)" whereas MPE perspectives

[36] Manners, "Normative Power Europe", 240.
[37] *Ibid*, 242–43.
[38] Damro, "Market Power Europe", 683.
[39] Sophie Meunier and Kalypso Nicolaidis, "The European Union as a Conflicted Trade Power", *Journal of European Public Policy,* 13:6 (2006): 907, https://doi.org/10.1080=13501760600838623.
[40] Damro, "Market Power Europe", 686–88.
[41] *Ibid*, 683.

regard precise policies or regulations, all the while disregarding overarching EU doctrines.[42] In agreement with this literature review, we support the call by Chen (2023) to develop arguments that consider both perceptions of power in studying empirical examples.[43] Thus, the following sections aim to examine the implications of synchronisation between the European Continental, Ukrainian, and Moldovan grids for a power conceptualization in the EU context, observing and contrasting both NPE and MPE dynamics.

II. Ever Closer to Ukraine and Moldova: Normalisation Through Normative Power Europe?

Following the Eastern enlargement processes of the early 2000s, Keukeleire and Delreux attest that "the EU and Russia became direct competitors, leading to a 'clash of integration processes' in what had become a 'contested neighbourhood'."[44] In the context of grid expansion, Westphal et al. note a similar relevance of these accession processes, "[driving] the expansion of the electricity network."[45] Later, in 2016, the *EU Global Strategy*, set in the context after the annexation of Crimea, emphasised the EU's commitment to promoting stability in Ukraine to counter Russia's regional threats and support neighbourhood countries through measures such as trade advantages.[46] Notable illustrations of this are the 2016 and 2017 Association Agreements with Moldova and Ukraine, which established a substantial trade partnership and initiated the process for grid synchronisation.[47] Similarly, the *European Neighborhood Policy* (ENP) shifted from targeting "an area of prosperity and

[42] Xuechen Chen, "Bridging Normative and Market Power Europe: The EU's Diffusion of Market-Related Norms and Policies in ASEAN", *Journal of European Integration,* 45:4 (2023), 594, https://doi.org/10.1080/07036337.2022.2110245.
[43] Although her literature review holds up, this paper does not agree with Chen (2023) that the theories of NPE and MPE have not both considered both dimensions. For example, NPE would argue that all concrete actions on a European level, e.g., issuing directives or regulations, serve the shaping of overarching norms. MPE would take the point of view that while power might get exercised through e.g., attraction or coercion from economic operations, weighting in power serves the purpose of EU general interests.
[44] Stephan Keukeleire and Tom Delreux, *The Foreign Policy of the European Union* (Bloomsbury Publishing Plc, 2022), 286.
[45] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 27.
[46] European Union External Action, "Shared Vision, Common Action: A Stronger Europe", 1 June 2017, 25-39, https://www.eeas.europa.eu/eeas/shared-vision-common-action-stronger-europe_en.
[47] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 24.

good neighbourliness, founded on the values of the Union and characterised by close and peaceful relations based on cooperation" towards framing synchronisation in terms of enlargement.[48] Westphal et al. observe that energy networks, especially electricity, "became a key instrument for bringing accession candidates closer to the EU as well as for stabilising the neighbourhood."[49]

After Russia's invasion in 2022, a similar pattern has been established, this time more pronounced: that of framing Ukraine and Moldova as close European neighbours - possibly future member states - of the EU, whilst emphasising peace, stability, and democracy in Europe.[50] Synchronising the grids shortly after February 2022 contributed to this image. Only in March 2024, the President of ENTSO-E, Zbyněk Boldiš, emphasised solidarity with Ukraine and Moldova as a motivation for synchronisation, stating:

> *"Synchronisation is an act of solidarity from the European Transmission System Operators. It was important for Ukraine and Moldova as it helped them keep their electricity systems stable under extremely difficult circumstances. As things have evolved, the synchronisation now offers Ukraine the opportunity to make the best possible use of its reserves and trade electricity with the EU both in import and export directions."*[51]

Similarly, EU Energy Commissioner Kadri Simson declared that "the synchronisation of the grids two years ago was not only a very important achievement for securing energy supplies for both Ukraine and Moldova. It was also a strong political symbol of our support, and that

[48] Keukeleire and Delreux, *The Foreign Policy of the European Union*, 279.
[49] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 18.
[50] Dekanozishvili Mariam, *Dynamics of EU Renewable Energy Policy Integration*, 110.
[51] ENTSO-E, "Two Years since Ukraine and Moldova Synchronised Electricity Grids with EU".

remains the case today."[52] Considering the dimensions of Manner's (2002) NPE, it becomes evident that the EU repeatedly attempts to establish what is supposed to be conceived as normal: Ukraine's and Moldova's approximation, and the EU as a powerful ally and regional protégé that cares for its neighbours.

Interestingly, delving one step deeper reveals how the framing power of NPE in the context of grid expansion contributes to the broader landscape of energy security and competition. In addition to Ukraine's long-standing relevance to European energy supply as a gas transit country, with forecasts of increasing electrification and a growing electricity transportation costs, grid infrastructure has gained in importance.[53] Olaf Scholz and Volodymyr Zelenskyy recently stated that "energy exports to Western Europe are one of the pillars a future Ukrainian economy could rest on", including gas, hydrogen, and renewable energy sources (RES).[54] Looking at Ukraine's current electricity mix, its nuclear capacity could play a key role in those envisioned electricity trades.[55]

Additionally, Westphal et al. and Feldhaus et al. emphasise Ukraine's potential for renewable energy production.[56] As part of the *RePowerEU* plan presented by the Commission on May 18 2022, the EU has set itself the goal of reducing its excessive dependence on Russian fossil fuel imports by accelerating the transition to renewable

[52] *Ibid*.
[53] IEA, "Electricity Grids and Secure Energy Transitions – Analysis", 10, 33, https://www.iea.org/reports/electricity-grids-and-secure-energy-transitions (Accessed 10 March 2024).
[54] Benjamin Wehrmann, "Renewable Energy Exports Key Pillar for Ukraine's Reconstruction – Chancellor Scholz", *Clean Energy Wire*, 25 October 2022, https://www.cleanenergywire.org/news/renewable-energy-exports-key-pillar-ukraines-reconstruction-chancellor-scholz (Accessed 22 May 2024).
[55] IEA, "Ukraine Real-Time Electricity Data Explorer – Data Tools", 19 April 2022, https://www.iea.org/data-and-statistics/data-tools/ukraine-real-time-electricity-data-explorer (Accessed 8 April 2024).
[56] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 19–20, 26; Zachmann and Feldhaus, "Synchronising Ukraine's and Europe's Electricity Grids", 3.

energies.[57] The interdependence of RES and grids will play its part in regional competition.[58] As potentials for renewable energy from solar and wind follow distinct geographic patterns, "It is of geopolitical significance that electricity interconnection will henceforth expand [...]. With this, demands for control and governance in the electricity neighbourhood will rise."[59]

III. Electricity Market Integration: Market Power Europe?

While these implications contribute as motivating factors for grid synchronisation, contemplating Damro, another kind of exercised power - MPE - could be considered at play. The weight of the EU's single market holds a recognizable position in regional electricity developments.[60] Here, Damro notes two spheres, attraction and coercion – in other words, Brussels decides who is included or excluded from its single market.[61]

Herranz-Surralles and Prontera have repeatedly argued that the EU links energy cooperation with countries in its immediate neighbourhood to the prior establishment of European (technical and market-shaping) standards and regulations.[62] In her comparative study on the foreign energy policy of the Russian Federation and the EU towards Ukraine, Wolczuk states: "Russia exports hydrocarbons whereas the European Union promotes regulatory framework[s]."[63] This links to Damro's notion that externalisation of EU regulations plays a

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[57] European Commission, "Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions | RePowerEU Plan", 18 May 2022, 1, https://eur-lex.europa.eu/legal-content/DE/TXT/?qid=1653033742483&uri=COM%3A2022%3A230%3AFIN.

[58] Daniel Scholten et al., "The Geopolitics of Renewables: New Board, New Game", *Energy Policy,* 138 (2020), 10, https://doi.org/10.1016/j.enpol.2019.111059.

[59] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 26.

[60] *Ibid*, 27.

[61] Damro, "Market Power Europe", 683.

[62] Anna Herranz-Surrallés, "An Emerging EU Energy Diplomacy? Discursive Shifts, Enduring Practices," *Journal of European Public Policy,* 23:9 (2016), 14, https://doi.org/10.1080/13501763.2015.1083044; Prontera, *Beyond the EU Regulatory State*, 223.

[63] Kataryna Wolczuk, "Managing the Flows of Gas and Rules: Ukraine between the EU and Russia," *Eurasian Geography and Economics,* 57:1 (2016), 113, https://doi.org/10.1080/15387216.2016.1174072.

crucial role in MPE.[64] Synchronising grids and commencing commercial trade has been prepared within ENTSO-E since 2017 under conditionality to align Ukraine's electricity market with EU regulations.[65] Following the aforementioned EU-Ukraine energy agreements, the Ukrainian electricity market is now to be modelled after the EU design.[66] According to Damro, as a part of the externalisation process "actors of the EU attempt to get other actors to adhere to a level of regulation similar to that in effect in the European single market", or what Westphal et al. describe as a logic of "rules before joules".[67]

In contrast, Westphal et al. emphasise that implementation of agreed standards and regulations would ultimately be left to sovereign states – the introduction of European energy policy standards could therefore at least not be considered mandatory.[68] Regarding the grid synchronisation with Moldova and Ukraine, two factors seem to come together: 1) the attraction of the European economic weight; and, 2) the necessity to decouple from a hostile Russia. Westphal et al. noted before Russia's invasion in 2022 that "the appeal of the ENTSO-E network and its impact on its neighbourhood are high, especially since Russia's 2014 annexation of Crimea introduced a climate of heightened security concern."[69] Thus when looking at MPE, while the EU's single market and its regulatory influence bear weight, another motivating factor would be to disconnect from Russia's network to reduce risk.

Looking at the conceptualization of the EU as a power wielding actor in the context of Ukraine and Moldova's synchronisation has demonstrated that electricity grid integration is a

[64] Damro, "Market Power Europe", 687–90.
[65] According to Damro ("Market Power Europe", 687), when looking at the EU's power, "important roles are played by various networks of national regulators and EU-level regulatory agencies" – such as ENTSO-E.
[66] OECD, "Competition Market Study of Ukraine's Electricity Sector", 30 June 2023, 12, https://www.oecd.org/publications/competition-market-study-of-ukraine-s-electricity-sector-f28f98ed-en.htm.
[67] Damro, "Market Power Europe", 690; Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 18.
[68] Kirsten Westphal, "The Energy Politics of the European Union," in *The Oxford Handbook of Energy Politics*, ed. Kathleen J. Hancock and Juliann Emmons Allison (Oxford University Press, 2021), 450–51, https://doi.org/10.1093/oxfordhb/9780190861360.013.17.
[69] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 27.

significant contributor to shaping political communication, energy markets, and geopolitical competition. To summarise with the words of Westphal et al.: "In the EU neighbourhood, phenomena of competing vectors of interconnection and permeability to political power are evident [in] the electricity system."[70] As demonstrated above, through including narrative around synchronisation into a wider expression of support for Ukraine, a NPE approach can explain how the perception of Ukraine-EU relations and the EU's actions in its neighbourhood are shaped. On the other hand, Damro's conceptualization of MPE allows for exploration of economic weight, its power of attraction and expansion of the EU's regulatory framework for increasingly competitive electricity markets. It becomes evident that both, NPE and MPE are useful concepts to observe the degree to which the EU wields power in the context of Ukrainian-Moldovan grid synchronisation. However, aside from the much debated concept of power, we also have to understand to what extent the EU has become an international actor through these electricity grid dynamics.

3. Which European Union? Detecting EU Geopolitical Actorness

I. EU Actorness: Liberal vs. Geopolitical Perspectives

In the context of the emergency synchronisation of Ukraine's and Moldova's electricity systems with the CEN, the EU was particularly active through targeted policies, strategic initiatives, and support measures. Its role, however, must be interpreted in light of a decade-long debate in the external energy policy literature, concerning its 'actorness'. Various authors have conceptualised the EU's role in external energy governance by defining actorness as "the extent to which the Union has become an actor in global politics."[71] Categorisations of actorness often oscillate between two extremes: a liberal approach focused on market liberalisation, competition, and climate change objectives, and a newer geopolitical (or strategic) approach viewing energy as a strategic commodity requiring

[70] *Ibid*, 28.
[71] Charlotte Bretherton and John Vogler, *The European Union as a Global Actor* (Routledge, 2014), https://doi.org/10.4324/9780203022672.

protection.[72] Whether the EU acts as a liberal or a geopolitical actor - or something in between - depends on several constraining factors, such as the distribution of competences between the EU and its member states, the unwillingness of the latter to delegate competence to the former, and conflicting preferences across national governments.[73] Given this historical characterisation of the EU as a liberal market actor, any shift towards a geopolitical position represents a significant departure from previous EU practices. Hence, this section aims to examine recent developments to uncover the geopolitical character of EU actorness concerning the emergency synchronisation in Ukraine and Moldova.

Traditionally, the EU has long been associated with the idea of an actor pursuing liberal energy policies and depoliticized energy relations, which prioritises competitiveness and open energy markets.[74] Accordingly, a liberal actor is defined as one "interpreting issues primarily in terms of trade rather than geopolitics, and employing policy tools designed to build and maintain open markets."[75] On the other hand, geopolitical actorness involves the mobilisation of a country's natural resources and related infrastructure for the achievement of foreign policy goals.[76] Geopolitical actorness concentrates on securing access to primary resources and technologies and controlling supply chains. It is carried out in particular through fast political and diplomatic initiatives to find alternative suppliers, considering the rapidly changing geopolitical circumstances.[77] This is arguably the situation in which the EU

[72] Andrea Prontera, *The New Politics of Energy Security in the European Union and beyond: States, Markets, Institutions* (Routledge, 2017); Marco Siddi, "The EU's Gas Relationship with Russia: Solving Current Disputes and Strengthening Energy Security", *Asia Europe Journal,* 15:1 (2017), 107–17; Andreas Goldthau and Nick Sitter, "Power, Authority and Security: The EU's Russian Gas Dilemma", *Journal of European Integration,* 42:1 (2020), 111–27.

[73] Francesca Batzella, "Engaged but Constrained. Assessing EU Actorness in the Case of Nord Stream 2", *Journal of European Integration,* 44:6 (2022), 821–35, https://doi.org/10.1080/07036337.2022.2043853.

[74] Andreas Goldthau and Nick Sitter, "A Liberal Actor in a Realist World? The Commission and the External Dimension of the Single Market for Energy", *Journal of European Public Policy,* 21:10 (2014), 1452–72, https://doi.org/10.1080/13501763.2014.912251.

[75] *Ibid*.

[76] Elena Kropatcheva, "Playing Both Ends Against the Middle: Russia's Geopolitical Energy Games with the EU and Ukraine", *Geopolitics,* 16 (2011), 553–73.

[77] Marco Siddi, "The Geopolitics of Energy Transition: New Resources and Technologies", in *The Implications of Emerging Technologies in the Euro-Atlantic Space: Views from the Younger Generation*

found itself after Russia's attack on Ukraine in February 2022. Indeed, limiting or reducing energy imports from Russia for political objectives (e.g. weakening Putin's regime and/or showing solidarity with Ukraine), regardless of economic expediency, embodies a geopolitical approach to external energy policy.[78]

II. A Shift Towards Geopolitical Actorness

The EU's goal to end its energy dependence on Russia triggered what can be defined as a "geopolitical turn". A rising body of scholars remarked that the Russian-Ukrainian war triggered a "geopolitical awakening" for the EU, leading to a further normalisation of a European foreign policy driven by security interests.[79] In particular, Bargués et al. argue that "the defensive reinterpretation of resilience is eroding the distinctive, normative character of EU foreign and security policy", undermining the traditional identity of the EU as a liberal actor.[80] In addition to these considerations, Jerzyniak and Herranz-Surrallés pointed out that "the geo-economic shift within the EU is not merely anecdotal, but constitutes a structural transformation."[81]

Leaders Network, ed. Julia Berghofer et al. (Springer International Publishing, 2023), 73–85, https://doi.org/10.1007/978-3-031-24673-9_5.

[78] Marco Siddi and Irina Kustova, "From a Liberal to a Strategic Actor: The Evolution of the EU's Approach to International Energy Governance", *Journal of European Public Policy,* 28:7 (2021), 1076–94.

[79] Kristi Raik et al., "EU Policy towards Ukraine: Entering Geopolitical Competition over European Order", *The International Spectator,* 59:1 (2024), 39–58; Anders Wivel, "USA, Det Transatlantiske Forhold Og Den Europæiske Sikkerhedsorden: Krisen i Den Liberale Internationale Orden Og Europas Normalisering", *Økonomi & Politik,* 96:2 (2023), 19–31; Anne Pintsch and Maryna Rabinovych, "Geopolitical and Technocratic: EU International Actorness and Russia's War Against Ukraine", *Fondation Robert Schuman*, 21 February 2023, https://www.robert-schuman.eu/en/european-issues/657-geopolitical-and-technocratic-eu-international-actorness-and-russia-s-war-against-ukraine (Accessed 22 May 2024); Christine Nissen and Jakob Dreyer, "From Optimist to Sceptical Liberalism: Reforging European Union Foreign Policy amid Crises", *International Affairs,* 100:2 (2024), 675–90, https://doi.org/10.1093/ia/iiae013.

[80] Pol Bargués, Jonathan Joseph, and Ana E Juncos, "Rescuing the Liberal International Order: Crisis, Resilience and EU Security Policy", *International Affairs,* 99:6 (2023), 2281–99.

[81] Anna Herranz-Surrallés, Chad Damro, and Sandra Eckert, "The Geoeconomic Turn of the Single European Market? Conceptual Challenges and Empirical Trends", *JCMS: Journal of Common Market Studies* (2024), jcms.13591.

It was under these circumstances that the shift to a geopolitical approach in EU external action accelerated and started influencing the intra-European discourse. This can be observed in several affirmations by the Commissioner for Energy, Kadri Simson, such as that "energy is now being used as a weapon on a daily basis"[82] or that "Russia has again and again demonstrated that it is an unreliable supplier who uses energy as a political weapon – trying to single out targets across the EU."[83] More specific statements regarding emergency synchronisation are along the same lines: for example, Commissioner Simson stated, on 28 February 2022, that the emergency synchronisation is "a strategic initiative for increasing Ukraine's energy independence"[84]; on 7 September, 2023, that "the synchronisation of Ukraine also shows that grids are a matter of geopolitical importance"[85]; and, on 15 March 2024, that "the synchronisation of the grids [...] was also a strong political symbol of our support."[86]

Interestingly, the EU framed the emergency synchronisation as part of its broader comprehensive policy initiative, the REPowerEU Plan, which argued in favour of using the EU's market power to obtain better conditions in global energy trade.[87] This can be seen as a step by the EU towards achieving "strategic autonomy", defined as "the capacity of the EU to act autonomously – that is, without being dependent on other countries – in strategically

[82] European Commission, "Speech by Commissioner Simson at the Three Seas Business Forum: 'Building a Balanced and Resilient Energy Sector in the Three Seas Region'", 21 June 2022, https://eaccny.com/news/chapternews/speech-by-commissioner-simson-at-the-three-seas-business-forum-building-a-balanced-and-resilient-energy-sector-in-the-three-seas-region/.
[83] European Commission, "Speech by Commissioner Simson at the Chatham House Energy Transitions 2022 Conference 'Raising Ambition, Accelerating Transition'", 18 March 2022, https://www.chathamhouse.org/events/all/conference/energy-transitions-2022.
[84] European Commission, "Remarks by Commissioner Simson at the Press Conference of the Energy Council Meeting", 28 February 2022, https://ec.europa.eu/commission/presscorner/detail/fr/speech_22_1474.
[85] European Commission, "Keynote Introductory Speech at ENTSO-E's Grids Forum", 7 September 2023, https://ec.europa.eu/commission/presscorner/detail/en/speech_23_4377.
[86] ENTSO-E, "Two Years since Ukraine and Moldova Synchronised Electricity Grids with EU".
[87] Marco Siddi and Federica Prandin, "Governing the EU's Energy Crisis: The European Commission's Geopolitical Turn and Its Pitfalls", *Politics and Governance*, 11:4 (2023), 286–96.

important policy areas."[88] In the REPowerEU Communication, the European Commission pointed out the objective of ensuring reliable and sustainable energy to its neighbouring countries by committing to an emergency synchronisation between the Continental European grid and the Moldovan and Ukrainian grids.[89] Furthermore, the REPowerEU Plan presented an external dimension through a commitment by the member states to a common energy strategy and unified energy diplomacy.[90] The Commission and the High Representative presented the Energy Security Strategy in the Joint Communication "EU External Energy Engagement in a Changing World", stating that "the emergency electricity grid synchronisation with Ukraine and Moldova is a major step towards ensuring security of supply."[91] The reference to the emergency synchronisation in the Strategy is an explicit bridge between the EU's external energy policy and its diplomatic toolbox, used here to shape EU energy relations.

This brief analysis indicated that the EU's approach to electricity synchronisation took a decisive geopolitical turn after the Russian attack on Ukraine in February 2022, thus giving plausibility to the scholarly assertions that the EU is increasingly a geopolitical actor. As the situation shows no signs of abating -– with further military escalation in the Russia-Ukraine

[88] Mario Damen, "EU Strategic Autonomy 2013-2023: From Concept to Capacity", *European Parliamentary Research Service*, 8 July 2022, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2022)733589; Mario Damen, "Four Challenges of the Energy Crisis for the EU's Strategic Autonomy", *European Parliamentary Research Service,* 20 April 2023, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2023)747099.
[89] European Commission, "Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions - REPowerEU: Joint European Action for More Affordable, Secure and Sustainable Energy", 8 March 2022, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2022%3A108%3AFIN.
[90] Elena Chachko and Katerina Linos, "Ukraine and the Emergency Powers of International Institutions", *American Journal of International Law,* 116:4 (2022), 775–87.
[91] European Commission and High Representative of the Union for Foreign Affairs and Security Policy, "Joint Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - EU External Energy Engagement in a Changing World", 18 May 2022, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=JOIN%3A2022%3A23%3AFIN.

war and growing tensions between the West and China – the EU's geopolitical turn in energy policy will likely continue in the foreseeable future.[92]

Nonetheless, one should notice that a bifurcated position fails to capture important elements of the present dynamics in EU actorness. The possibility of detecting these strategic initiatives further credits "multi-actorness" explanations, a novelty in the debate, which combine both the geopolitical and the liberal market approach. The multi-actorness approach has become a feature of what we refer to as the extension of EU foreign, security, and defence policy, which includes its energy security or external energy policy.[93] Specifically, it stresses the need to address European actorness by observing what happens beyond the EU borders. A distinction between what is the European Union and what is European is becoming increasingly difficult in the context of differentiated integration, as shown by the cooperation happening outside the EU's direct frameworks in the field of external energy policy. The constellation of stakeholders, which also includes external actors such as third countries or the Energy Community itself, plays a crucial role in defining what European foreign energy policy actorness is all about.

4. Implications for the Baltic Sates

I. Contextualising Energy Security Concerns in the Baltic Region

The first technical effects of the interconnection of Ukraine and Moldova with the European grid have become visible through faster inter-area oscillations, an increase in fluctuations, and changes in the cross-border flows in and out of Ukraine and surrounding countries.[94] Our

[92] Siddi and Prandin, "Governing the EU's Energy Crisis".
[93] Pernille Rieker and Mathilde T. E. Giske, "Conceptualising the Multi-Actorness of EU(Ropean) Foreign and Security Policy" in *European Actorness in a Shifting Geopolitical Order: European Strategic Autonomy Through Differentiated Integration*, ed. Pernille Rieker and Mathilde T. E. Giske (Springer Nature Switzerland, 2024), 15–42.
[94] Philipp C. Böttcher et al., "Initial Analysis of the Impact of the Ukrainian Power Grid Synchronization with Continental Europe", *Energy Advances,* 2:1 (2023), 91–97, https://doi.org/10.1039/D2YA00150K.

analysis has contextualised the geopolitical implications of this synchronisation on the power exercised by the EU and the EU's actorness. However, it is also worth noting that further synchronisation projects are planned within EU member states.

Electricity grids have been framed as a security concern for the Baltic states Estonia, Latvia, and Lithuania due to their status as the last EU member states in the Euroatlantic space with electricity grids still dependant on third countries - specifically their synchronous operations with the IPS/UPS - created during the Soviet era and centrally managed by Moscow.[95] The interconnected energy transmission network encompassing the three Baltic countries, Belarus, and Russia is known as the BRELL (Belarus-Russia-Estonia-Latvia-Lithuania) power ring within the IPS/UPS framework. Following the call of Böttcher et al. (2023), the subsequent section thus aims to investigate "how the synchronisation of the Moldovan-Ukrainian power grid to the Continental European one will [...] lead to an accelerated synchronisation of the Baltic power grids to the Continental European one", and what implications this would have from a geopolitical perspective.[96]

The electricity network of the Baltic states is already well connected to grids of fellow EU member states. The strategic prioritisation of Baltic desynchronization from the BRELL system and synchronisation with the CEN has been a key priority in European energy policy since 2013.[97] In line with the aims of the Commission's Baltic Energy Market Interconnection Plan, the Estonia-Finland (Estlink I and II), Lithuania-Sweden (NordBalt), and Lithuania-Poland (LitPol Link) interconnections were built. In June 2018, the European Commission and the Baltic countries formally endorsed the political roadmap for synchronising the Baltic

[95] Juozaitis, "Baltic States' Synchronisation with Continental European Network".
[96] C. Böttcher et al., "Initial Analysis of the Impact of the Ukrainian Power Grid Synchronization with Continental Europe".
[97] Songying Fang et al., "Electricity Grids and Geopolitics: A Game-Theoretic Analysis of the Synchronization of the Baltic States' Electricity Networks with Continental Europe", *Energy Policy*, 188 (2023), https://doi.org/10.2139/ssrn.4644564.

states' electricity grid with the CEN by 2025.[98] Finally, on June 20 2019, the political roadmap for executing the synchronisation was signed by the European Commission, the Baltic countries, and Poland.[99]

In light of the Russian invasion, and the following emergency synchronisation with Ukraine and Moldova, the Baltic synchronisation project discourse (re-)gained momentum. Baltic synchronisation is considered as "an essential political priority for the achievement of the Energy Union."[100] Currently, Russia and Belarus remain important actors in the stabilisation of frequency and voltage as well as for electricity trading.[101] Commissioner Sinkevicius stressed that "We must – and I am sure we will – escape the spider web of BRELL."[102] In August 2023, the heads of state of the three Baltic states agreed to bring forward the synchronisation completion date from the end of 2025 to February of that same year.[103] On this occasion, Commissioner Simson stated that the "[...] agreement is a symbol of European solidarity in action."[104] At present, ENTSO-E supports the synchronisation project by working on the elaboration of the relevant procedures and essential system checks.[105]

[98] European Commission, "Questions and answers on the synchronisation of the Baltic States' electricity networks with the continental European network (CEN)", 28 June 2018, https://ec.europa.eu/commission/presscorner/detail/de/MEMO_18_4285.
[99] European Commission, "Energy Security: European Solidarity in Action", 20 June 2019, https://ec.europa.eu/commission/presscorner/detail/en/IP_19_3337.
[100] European Commission, "Estonia, Latvia & Lithuania Agree to Synchronise Their Electricity Grids with the European Grid by Early 2025", 3 August 2023, https://energy.ec.europa.eu/news/estonia-latvia-lithuania-agree-synchronise-their-electricity-grids-european-grid-early-2025-2023-08-03_en.
[101] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 23.
[102] European Commission, "Commissioner Sinkevicius Delivers a Speech an Opening of the 41st Session of the Baltic Assembly", 28 October 2022, https://ec.europa.eu/commission/presscorner/api/files/document/print/en/speech_24_1033/SPEECH_24_1033_EN.pdf.
[103] European Commission, "Speech by Executive Vice President Dombrovskis at the Vilnius 700th anniversary conference: 'Creating a Better Future in a Turbulent World'", 8 September 2023, https://ec.europa.eu/commission/presscorner/detail/en/speech_23_4401.
[104] European Commission, "Estonia, Latvia & Lithuania Agree to Synchronise Their Electricity Grids with the European Grid by Early 2025".
[105] ENTSO-E, "Annual Report – 2022 Edition", July 2023, https://consultations.entsoe.eu/entso-e-general/have-your-say-on-the-entso-es-annual-report-2022/supporting_documents/entsoe_AR2022_230629.pdf.

II. Challenges and Opportunities in the Synchronisation Process

One of the key challenges for the Baltic states lies in the fact that the desynchronization process started in a "geopolitical environment that has deteriorated dramatically since the start of Russia's aggression against Ukraine" in 2014, which has only worsened since 2022.[106] From a Russian perspective, the Baltic's regained independence and alignment with Europe began to be perceived as an unfortunate geopolitical setback that contradicts national interests and aspirations for great power status.[107] Thus, while synchronisation with the Continental European grid might mean a foot in the door in terms of power and influence for Europe, Russia might view the process of electrical approximation towards the West as a chance to target and undermine Europe and seed Euroscepticism.[108] Causing a delay in the process or physical breakdowns in the system could undermine the reputation of Baltic and partner governments while sewing a sense of instability.[109] Hence, this could enable the Kremlin to utilise them as tools in its efforts to erode the trust and consensus necessary for European actors and ENTSO-E to function efficiently.[110] Therefore, as correctly identified by Tuohy et al., if played smartly, "Baltic desynchronization efforts could be turned by the Kremlin into a major political issue literally overnight."[111]

As in the case of oil and natural gas client states, an opportunity arises for Russia to use electricity grids as an effective measure to increase the costs for actors opposing the Kremlin's interests. For example, cyber-attacks with BlackEnergy3 malware on Ukraine's distribution system in December 2015, as well as current attacks on Ukrainian electricity infrastructure, demonstrate that grids should be recognized in their function as critical

[106] Emmet Tuohy et al., "The Geopolitics of Power Grids: Political and Security Aspects of Baltic Electricity Synchronization", *International Centre for Defence and Security (ICDS)* (2018), 1, https://www.jstor.org/stable/resrep54445.
[107] *Ibid*, 6.
[108] *Ibid*.
[109] Tuohy et al., "The Geopolitics of Power Grids", 12.
[110] Tuohy et al., "The Geopolitics of Power Grids", 7.
[111] *Ibid*, 15.

infrastructure when considering synchronisation dynamics.[112] Commissioner Simson stated: "The integration in the EU of the electricity grids of the Baltic states is the last step to ensure energy security in the region."[113] The European debate frames Baltic synchronisation, similar to the Ukraine-Moldova grid interconnection, as an energy security concern - this time not within Europe's close neighbourhood but *within* its own borders - and, through the grid connection, as crucial to the integrity of the Union's energy infrastructure.

The geopolitical aspects of the (de-)synchronisation efforts become increasingly visible through the preparation by all involved parties for an event of hasty decoupling.[114] Russia has begun to prepare Kaliningrad, its Baltic-enclosed enclave, for this occurrence through enhanced modern transmission grids and power generation capacities, as the Lithuanian transit of electricity is locked in via contract only until 2025. Kaliningrad would therefore become an energy enclave if electricity relations are not restored.[115] Meanwhile, the Baltic states are set to manage discussions regarding their withdrawal from the BRELL agreement (which Tuohy et al., among others, have termed BRELLxit) at the level of Transmission System Operators (TSOs) to avoid financial pressures from Belarusian and Russian operators.[116] Entering into political negotiations for the separation of Baltic power grids from the IPS/UPS system poses the risk of additional payments, such as the continuation of electricity trading after synchronisation or compensating Russian investments in power infrastructure.[117]

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[112] *Ibid*, 8–9; Shotaro Tani, "Ukraine Risks Losing 'Energy War' with Russia, Sector Boss Warns", *Financial Times*, 3 March 2024, https://www.ft.com/content/c562f39e-45d6-4032-9244-52053910d671 (Accessed 19 March 2024).
[113] European Commission, "Estonia, Latvia and Lithuania Agree to Synchronise Their Electricity Grids with the European Continental Grid in Early 2025 | EC Press", *PubAffairs Bruxelles*, 3 August 2023, https://www.pubaffairsbruxelles.eu/eu-institution-news/estonia-latvia-and-lithuania-agree-to-synchronise-their-electricity-grids-with-the-european-continental-grid-in-early-2025-ec-press/, (Accessed 22 March 2024).
[114] Westphal, Pastukhova, and Pepe, "Geopolitics of Electricity", 23.
[115] *Ibid*, 24.
[116] Tuohy et al., "The Geopolitics of Power Grids", 1.
[117] Juozaitis, "Baltic States' Synchronisation with Continental European Network".

Delving deeper into the spheres of influence and motivations for the Baltic synchronisation, the European standpoint also considers the potential for the Baltic states to enhance European targets for energy transition and a greener grid. Within the coming decades, Lithuania, Latvia, and Estonia plan to invest into electricity generation from renewable energy sources and transmission capacity. While different scenarios have been modelled under varying assumptions (for example, on GDP and demand growth), the Baltic states are - to varying degrees - expected to decarbonize their respective electricity generation mix.[118] The Lithuanian government intends to reach a renewables share of 100% in electricity mix 2050.[119] Central to Lithuania's energy security policy lies a move away from electricity imports (currently 70% electricity imports) as well as regional integration.[120]

In Latvia, renewable energy sources, particularly hydrogen generation, dominate the electricity mix. Considering Latvia's historic reliance on Russian energy imports, its shift towards renewable energy sources presents a significant opportunity to enhance energy security and reduce energy costs.[121]

Similar to the other Baltic countries, Estonia's electricity production is relatively dependent on fossil fuels. However, it should be noted that Estonia has considerably lowered its greenhouse gas emissions over the past decade, thanks to the production of electricity from oil shale and the parallel growth of wind, PV, and biomass generation.[122] However, Estonia's relevance for the European energy transition becomes visible on another front. The Estonian potential to become a critical mineral supplier has become a key axis in the European

[118] Nelli Putkonen et al., "Modeling the Baltic Countries' Green Transition and Desynchronization from the Russian Electricity Grid", *International Journal of Sustainable Energy Planning and Management,* 34 (2022), 45, https://doi.org/10.54337/ijsepm.7059.
[119] IEA, "Lithuania 2021 – Energy Policy Review", 28 April 2021, https://www.iea.org/reports/lithuania-2021.
[120] *Ibid*.
[121] IEA, "Latvia - Countries & Regions", https://www.iea.org/countries/latvia (Accessed 8 April 2024).
[122] IEA, "Estonia 2023 – Energy Policy Review", 20 November 2023, https://www.iea.org/reports/estonia-2023.

transition. Building one of the few non-China based rare earth elements processing facilities, Estonia's goal is to start production in 2025.[123]

Against the background of these factors, the following developments will have to be monitored in order to follow the regional power dynamics in the context of the Baltic synchronisation. Firstly, Russia's framing regarding the BRELLxit as well as Kaliningrad's electricity interconnection will play a major role. Shifting the discourse to put an emphasis on missed synchronisation targets could aim to undermine the integrity of the process, and consequently the integrity of the Balic governments and their European partners. Similarly, if it came to this stage, physical disruptions would cause insecurity that could be politically leveraged to portray the IPS as a historically stable, viable grid option. Therefore, we want to emphasise the importance of an observation made by Tuohy et al.: "Resilience and integrity - of political institutions and crisis management decision-making [...] - are important parameters in weighing the choices designing future steps and threat mitigation measures by the Baltic states."[124] Europe, ENTSO-E, and the Baltics have to be prepared with a coordinated response should Russia attempt to shift the discourse through physical or informational disruptions. Secondly, the position of Poland as an important regional partner for the Baltic synchronisation remains relevant: current framings of Russia as a regional threat enhance the synchronisation efforts, whereas a shift towards Euroscepticism could slow down the process's speed on the axis of European electricity integration. Lastly, as the Baltic states do show a high potential for electricity generation from renewables and critical minerals production, tracking the progress on the EU's targets could become more promising. Similar to those of the EU's RePowerEU and Green Deal, targets remain targets until fulfilled. Thus, the Baltic's added capacity in renewables over the coming years as well as Estonia's coal consumption remain important factors for the attempted "greening" of the grid.

[123] *Ibid*.
[124] Tuohy et al., "The Geopolitics of Power Grids", 15.

Conclusion

This paper has investigated the political power dimensions at play in the context of the extended synchronous area of the Central European grid. Contrasting Normative Power Europe (Manner) and Market Power Europe (Damro) has shed light on the implications of grid synchronisation for the dynamics at work in a geopolitically contested area. Through the lens of NPE it is evident that, through the synchronisation with Moldova and Ukraine, power was exercised through a form of integration into the Union and its community of values. EU statements and ENTSO-E documents put an emphasis on the close relations to Ukraine and Moldova as neighbouring countries as well as the European solidarity and support as a reliable power in its periphery. Furthermore, synchronisation also shapes economic integration into the EU and imposes European technological, regulatory, and market standards; through which MPE becomes evident. The attraction and coercion mechanism of the European single market are traceable not only for Ukraine and Moldova, who switched from one regional economic heavyweight (Russia) to another (Europe). Similar dynamics can be seen with the Baltic states who aim to disconnect ties with a Russia that is increasingly perceived as a hostile actor, ready to weaponize energy policy. As Tuohy et al. (2018) correctly identified, "desynchronization will finally undo one of the last remnants of the legacy of Soviet occupation while further deepening integration with Europe."[125]

Fundamentally, the outbreak of war in Ukraine in February 2022 seems to confirm the presence of a geopolitical approach in EU actorness. The analysis of the EU's role in the emergency synchronisation of Ukraine's and Moldova's electricity systems with the Continental European grid revealed the presence of several geopolitical elements. The European external energy policy is hence undergoing a reconceptualisation in its essence.

[125] Emmet Tuohy et al., "The Geopolitics of Power Grids: Political and Security Aspects of Baltic Electricity Synchronization".

Despite historical associations with liberal actorness, the EU's embrace of geopolitical strategies is reflecting a pragmatic response to external factors, including evolving global dynamics such as the war in Ukraine. However, we acknowledge that characterising the EU as either a geopolitical or a liberal actor, to the exclusion of either option, oversimplifies its complex approach to external energy governance. Ultimately, the concept of "multi-actorness" emerges as a more nuanced framework, acknowledging the interplay of geopolitical and market-oriented considerations within European energy policy.[126]

Investigating the ongoing debates surrounding the synchronisation of the Baltic states with the Continental European grid, it is clear the EU has set the synchronisation process as a priority and frames the process as an important step towards energy security, notably for its own member states. In a geopolitically tense region, Moscow's current grid influence stands opposed to the Baltic's electrical approximation to Europe. The synchronisation process could become contested in narrative and potentially even in physical disruptions while the Baltics are still integrated in the IPS. Taking into consideration the high renewables share in electricity generation as well as the Estonian critical minerals potential, the approximation of the Baltic grids with the Continental European one could contribute to the greening European grids, thus furthering influence in the energy transition.

Arguably, the EU's turn to a geopolitical stance in energy, specifically electricity, policy began before the war. While a comprehensive analysis of the EU's geopolitical shift in energy policy could start earlier than the Russian invasion of Ukraine, this would require a wider scope and a lengthier study. In our investigation we have seen that synchronisation with Ukraine and Moldova as well as with the Baltics has been discussed for several decades. Only now, with the Russian war of aggression against Ukraine, regional dynamics have shifted to such a

[126] Rieker and Giske, "Conceptualising the Multi-Actorness of EU(Ropean) Foreign and Security Policy".

significant degree that the envisioned synchronisation projects became reality - or, in the case of the Baltics, gained a new momentum.

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TRANSATLANTIC SECURITY

Ukraine's Path to NATO: Analyzing Russia's Foreign Policy Drivers in Ukraine and of Western Opposition from a Historical Perspective

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(*This article is a product of an M.A. thesis from the Universidad Carlos III de Madrid titled "How La Moncloa Should View Ukraine's NATO Accession: Spain's Incentives to Confront Russia's Ontological Security")*

Introduction

"Ukraine joining NATO is the same as accelerating the occurrence of WWIII." – Dmitry Medvedev as Deputy Chair of the Russian Security Council.[1]

This Russian pontification in recent years has become central to its foreign policy rhetoric in engagement with the West. Much of this narrative has permeated into the psyche of member states within NATO, creating hesitancy, internal fracturing surrounding the conversation of the Alliance's expansion, and member state paralysis for advancing the discussion in fear of fracturing the current unity. However, as the Director of Foreign and Defense Policy at the American Enterprise Institute, Kori Schake, explains, NATO unity will always be hard to

[1] Syarifah Huswatun Miswar, "Ukraine Joins NATO: Assessing Future Disasters", *Modern Diplomacy*, 5 October 2022, https://moderndiplomacy.eu/2022/10/06/ukraine-joins-nato-assessing-future-disasters/.

maintain.[2] As Senior Fellow at the Brookings Institution Michael E. O'Hanlon writes, “any discussion of a future security architecture for currently neutral states in Eastern Europe should be cognizant of the histories, strategic environments, and current political debates in these countries."[3] Cognizance of the histories is what this article intends to flesh out, with a specific focus on Russia’s perception and relationship with Ukraine and NATO. This article aims to answer the following question: based on Russia’s foreign policy drivers and relationship with NATO, i.e., the West, would Ukraine’s NATO accession benefit or further destabilize European security?

This article finds that, based on Russia’s past strategic behavior, Ukraine's entry into NATO would be seen as an extreme offense, but not escalatory, and could better guarantee European security.

1. Methodology

This paper’s analysis uses strategic foresight methods, supported by historical analysis, archival research, and case studies. This includes four historical analysis sections: (I) The Near Abroad, (II) Russia’s Domestic Influence on Foreign Policy, (III) Russia’s Past Relationship with the West, and (IV) the Past Core Western Policy Towards Ukraine and Russia. In addition, four case studies support these sections: (1) Russia's Relationship with Ukraine, (2) Color Revolutions, (3) Russian Demography, and (4) Russia's Reactions to NATO Enlargement.

[2] Michael Mazarr et al., “Can Russia's War in Ukraine End without Nuclear Weapons?”, *Carnegie Endowment for International Peace*, 3 November 2022, https://carnegieendowment.org/2022/11/03/can-russia-s-war-in-ukraine-end-without-nuclear-weapons-pub-88321.
[3] Michael E. O'Hanlon, *Beyond NATO a New Security Architecture for Eastern Europe* (Brookings Institution Press, 2017).

These sections were chosen as central points for analysis through the use of horizon scanning, which uses backcasting to determine the drivers behind the 2022 Russian invasion of Ukraine and the 2014 annexation of Crimea. The sections analyze past trends and drivers of change to conduct a current trend analysis and risk assessment to draw conclusions about past trends to predict future trends and make recommendations that inform current policy actions and the decision-making process. This research recognizes that geostrategy generally, let alone in Eastern Europe, has never formed a clear scientific consensus, but has been defined by theories tested and never proven. Yet, post-Russian invasion of Ukraine, this paper can focus the process for data collection and source prioritization on individuals whose analysis and predictions withstood the shock of the Russian invasion of Ukraine and were recognized as having understood Russian and Ukrainian behavior and strategic thinking.

Despite this research's adherence to the provided research methods, this paper recognizes that political science and geopolitics are not an exact science but an interdisciplinary approach to strategic thinking that includes culture, people, history, geography, economy, and security, among other areas. As such, this paper roots its analysis in the empirical evidence of history and geography to then analyze countries' geopolitical imaginaries that includes state psyche and its propagated concepts, fantasies, cultural predispositions, and insecurities.[4]

Given the nature of political science as an inexact social science that can produce conscious or subconscious confirmation bias, each section will continuously raise contrary arguments and debunk their reasoning through the preciseness of backcasting based on historical analysis.

[4] Mikhail Suslov, "Geopolitical Imagination", *Columbia University Press*, 22 February 2017, https://cup.columbia.edu/book/geopolitical-imagination/9783838213613.

I. Theoretical Departure Point: Deluded Projection – Russian Ontological Security

To analyze Russia, the state's psyche must first be articulated to contextualize Russia's history and strategic behavior. Many analysts and scholars have begun to see a state's institutionalized thinking as a form of psychology. In the early 20th century Friedrich Ratzel coined the term lebensraum or "living space" to refer to the state's inherent need for expansion to determine its security.[5] This became a defining feature of the strategy and culture of Nazi Germany. Some have now attributed this strategic thinking, culture, and ideology to be the defining factor for Putin and the Kremlin.[6] Vadim Shtepa see's the Russian psyche as in need of being de-imperialized,[7] and the Harvard Belfer Center's Paul Kolbe, a former CIA officer, attributes the Russian invasion of Ukraine to primarily, history and psychology.[8] Molly Krasnodębska identifies that the sociological concept of ontological security is not only relevant in viewing the activity of individuals but also from collective actors like nation states.[9] Ontological security is defined as the need to experience oneself as a continuous unchanging whole in time to achieve a sense of agency.[10] Through a reliance on their own intrinsic self-image of continuation and consistency to more easily predict the world around them, ontological security is how a person or state can make sense of the world to ensure a basic feeling of safety and physical security. This requires consistent narratives about the entity and its surroundings, allowing the state to "avoid existential

[5] Holocaust Encyclopedia, "Lebensraum", *United States Holocaust Memorial Museum*, https://encyclopedia.ushmm.org/content/en/article/lebensraum (Accessed 14 May 2024).
[6] Sławomir Sierakowski, Daniel Esmond, and Alex Finch, "Putin's Lebensraum: By Sławomir Sierakowski & Irena Grudzińska Gross", *Project Syndicate*, 15 March 2022, https://www.project-syndicate.org/onpoint/conversation-about-putin-and-ukraine-by-slawomir-sierakowski-and-irena-grudzinska-gross-2022-03.
[7] Vadim Shtepa, "The Struggle to De-Imperialize the Russian Psyche", *Jamestown,* 18 January 2024, https://jamestown.org/program/the-struggle-to-de-imperialize-the-russian-psyche/.
[8] Susan A. Hughes, "How Russian History-and Human Psychology-Can Explain the Crisis in Ukraine", *Harvard Kennedy School*, 23 February 2022, https://www.hks.harvard.edu/faculty-research/policy-topics/international-relations-security/how-russian-history-and-human.
[9] Molly Krasnodebska, "Politics of Stigmatization", *springerprofessional.de*, May 2018, https://www.springerprofessional.de/en/politics-of-stigmatization/18526730.
[10] Anthony Giddens, "Modernity and Self-Identity : Self and Society in the Late Modern Age", *Google Boeken* (1991), https://books.google.be/books/about/Modernity_and_Self_Identity.html?id=Jujn_YrD6DsC&redir_esc=y.

anxiety."[11] Maria Mälksoo formulates that a state not only needs to preserve its territorial security but also its sense of being to prevent vulnerability from other political actors. This process is both "relational and subjective."[12] Jennifer Mitzen advances the argument that the state's narrative is so important that, in certain instances, they will prioritize "conflict over unpredictability" to return to its ontological security.[13]

In application to Russia, ontological security will aid in understanding its strategic culture, which in essence is the ideas, narratives, and debates in the internal self-identity of the state within the international environment.[14] At the core of Russia's self-identity is its self-perpetuated idea that it sits at the top of the hierarchical relationships of its region, most of all over Ukraine; in addition, Russia's self-narrative is dependent upon the "significant othering" of the West vis-à-vis the U.S. and Europe.[15] Russian elites are married to the idea of "great powerhood." Yet Vsevolod Samokhvalov, characterizes this sense of being as an "imbalance between the material and ideational dimensions of great powerhood."[16] Moreover, a great nation must have the recognition of other nations as such, combined with that of their own leaders and citizens, to expect to have "special rights and duties in the international arena." This is oftentimes an existential challenge for Russia. Norwegian political scientist Iver Neumann writes that "a constant within the overall Russian debate"

[11] Anthony Giddens, *The Consequences of Modernity* (Stanford University Press, 2016).
[12] Maria Malksoo, "'Memory Must Be Defended': Beyond the Politics of Mnemonical Security", *Security Dialogue,* 10 February 2016, https://www.academia.edu/21760147/Memory_must_be_defended_Beyond_the_politics_of_mnemonical_security.
[13] Jennifer Mitzen and Catarina Kinnvall, "An introduction to the special issue: Ontological securities in world politics", *Cooperation and Conflict,* 52:1 (2016), 3-11, https://doi.org/10.1177/0010836716653162.
[14] Molly Krasnodębska, "Confrontation as Ontological Security: Russia's Reactions to the EU-Ukraine Association Agreement" in *European-Russian Power Relations in Turbulent Times,* ed. Mai'a Cross and Ireneusz Pawel Karolewski (University of Michigan Press, 2021)
[15] *Ibid*.
[16] Vsevolod Samokhvalov, *Russian-European Relations in the Balkans and Black Sea Region: Great Power Identity and the Idea of Europe* (Palgrave, 2017).

about itself is that "Russia has to be a great power, or it will be nothing."[17] Samokhvalov argues that this internal phenomenon defines Russian foreign policy.[18]

Before embarking on the analysis, it is important to preface that while Putin and Russian psyche and strategy are not one in the same, at present they are incredibly intertwined as the result of the Russian "adhocracy," and given Putin's preference as the embodiment of the propagated Russian legacy. Olga Oliker believes that "Putin embodies this new Russian ideal."[19] Galeotti characterizes Putin as "homo sovieticus" because of the impression that developing his career in the more dominant USSR has had on his worldview.[20] At the senior country policy level of directive, Putin has, in large part, taken complete ownership of those decisions for the past 20 years. As former U.S. Ambassador to Russia, Michael McFaul discusses in his experiences in Moscow, even during Medvedev's presidency, the real decision-making always took place with Putin. Putin took charge of the invasion of Georgia, and when Obama went to Moscow in 2009, despite his many meetings with Medevdev, who expressed a more Western-leaning foreign policy, the breakthrough for U.S.-Russia cooperation could never fully occur, as once Obama sat down with Putin, he made clear that he viewed the U.S. as the enemy and he called the shots.[21] The author of "The Russian Presidency of Dmitry Medvedev," Joseph Laurence Black, writes that "Medvedev appeared to function as a proxy president, rarely stepping outside the confines of evolutionary Putinism, to which he added a 'liberal', legalistic, and perhaps even moral scaffold."[22] The

[17] Iver B Neumann, *Russia and the Idea of Europe: A Study in Identity and International Relations,* 2nd ed. (Routledge, 2017).
[18] Vsevolod Samokhvalov, *Russian-European Relations in the Balkans and Black Sea Region: Great Power Identity and the Idea of Europe*.
[19] Mark Galeotti, *We Need to Talk about Putin: How the West Gets Him Wrong* (Ebury Press, 2019)
[20] *Ibid*.
[21] Michael McFaul, *From Cold War to Hot Peace: An American Ambassador in Putin's Russia* (Houghton Mifflin Harcourt, 2018).
[22] Joseph Laurence Black, *The Russian Presidency of Dmitry Medvedev, 2008-12: The next Step Forward or Merely a Time Out?, Routledge Contemporary Russia and Eastern Europe Series* (Routledge/Taylor & Francis Group, 2015).

problem with Putin's approach is that one individual in no way can tackle the entirety of a country's policy challenges.

2. Analysis

I. The 'Near Abroad'

A primary driver of Russia's self-identity is the core belief that it has always been an empire with control over the 'near abroad.' Near abroad is the preferred term for how Russians have traditionally referred to their sphere of influence.[23] It encompasses the post-Soviet countries, including Germany, except for possibly the Baltic states.[24] The Russian elite uses this term to stoke "fraternalist narratives concerning brotherly links, paternalistic relationships, and special historical and cultural commonalities with these countries."[25] The Russian entity depends on this narrative. Russian political philosopher Nikolai Berdyaev, in an attempt to rationalize this self-perception, notes that even when the country is experiencing setbacks, they must hold on to their great power status, which "constitutes the essence of Russian identity" because of Russia's "spiritual and material wealth."[26] The more empirical rationality at the core of the creation of this self-identity is out of a realist necessity for ethnic Russians to develop the capability for defensibility despite their challenging geographic positioning. George Kennan, in his 1946 "Long Telegram," referred to a "traditional and instinctive Russian sense of insecurity." Russia's extensive border, with little inherent topographical means for defense, has always been a vulnerability to possible

[23] Marvin Kalb, *Imperial Gamble Putin, Ukraine, and the New Cold War* (Washington, D.C: Brookings Institution Press, 2015).
[24] *Ibid*.
[25] Dmitry Gorenburg, "Russian Foreign Policy Narratives", *George C. Marshall European Center For Security Studies*, November 2019, https://www.marshallcenter.org/en/publications/security-insights/russian-foreign-policy-narratives-0.
[26] Julia Gurganus and Eugene Rumer, "Russia's Global Ambitions in Perspective", *Carnegie Endowment for International Peace*, 20 February 2019, https://carnegieendowment.org/2019/02/20/russia-s-global-ambitions-in-perspective-pub-78067.

invaders.[27] Imperial expansion was a means for defense against these possible invasions. Consequently, "buffer states" on Russia's border gave Russia a sense of security.[28] In today's Russia, the rhetoric of the regime echoes this imperial and Soviet past.[29]

Austrian-American sociologist Peter Berger said that "the past is malleable and flexible, changing as our recollection interprets and re-explains what has happened."[30] The past for Russia not only falls victim to this fallacy of history but actively distorts its creation. Russia uses the histories of the ancient Rus or Kyvian Rus to define its history of empirical influence. Russia longs for and perpetuates the manifestation of the never-achieved "Slavic Empire," an idea that dates back to the 18th and 19th centuries.[31] The closest thing to this empire was the Russian empire, which, after the division of Poland in 1773 and 1795 and subsequent incorporation into the Russian empire from 1772 to 1918, became the only Slavic state that held most of Eastern and East Central Europe.[32] This empire included most of present-day Moldova, the Baltic states, and for a time, Finland, from 1809 to 1918.[33] According to Russian logic towards Ukraine today, all of those territories now encompassed by modern states could be subjugated to the same Russian justification for modern conquest. For Russia's current regime, Russia's distant but short and relatively recent history of military victories over Poland, Sweden, the Ottoman Empire, and Central Asia is a fundamental narrative.[34] This history is used by Russian thinkers such as Aleksandr Dugin to emphasize the importance of the recognition of a distinct continental power, ruled by Russia, in Eurasia that

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[27] Olga Oliker et al., "What Explains Russia's Annexation of Crimea?", *RAND Corporation*, 22 September 2015, https://www.rand.org/pubs/perspectives/PE144.html.
[28] *Ibid*.
[29] *Ibid*.
[30] Peter L. Berger, "The Past Is Malleable and Flexible, Changing as Our Recollection Interprets and Re-Explains What Has Happened", *AllGreatQuotes*, 13 September 2016, https://www.allgreatquotes.com/quote-353727/.
[31] Molly Krasnodębska, "Confrontation as Ontological Security: Russia's Reactions to the EU-Ukraine Association Agreement".
[32] *Ibid*.
[33] Fiona Hill and Angela Stent, "The World Putin Wants", *Foreign Affairs*, 8 November 2022, https://www.foreignaffairs.com/russian-federation/world-putin-wants-fiona-hill-angela-stent.
[34] Julia Gurganus and Eugene Rumer, "Russia's Global Ambitions in Perspective".

is in constant ideological conflict with the West.[35] According to Senior Fellow at the American Enterprise Institute Leon Aron, this narrative is directly reflected in the creation of modern Russia's foreign policy. The Soviet-era perestroika was replaced by a three-part doctrine: 1) Russia must be a dominant presence on the territory of the former Soviet Union; 2) it must be influential in international affairs elsewhere; and 3) it must be a nuclear power on par with the U.S.[36] Russia's Foreign Policy Concept of 2000 even specified the requirement of a "friendly belt on the perimeter of the Russian border."[37]

A. Case Study 1: Russia's Relationship with Ukraine – The Importance of Ukraine

The most important 'buffer state' in Russia's 'near abroad' is Ukraine. Former U.S. Ambassador to the Soviet Union Jack Matlock wrote that Russia's "real red line has always been Ukraine."[38] Zbigniew Brzezinski said in 1997 that "without Ukraine, Russia ceases to be an empire."[39] This sits deep within the psyche of Russian policymakers, including Putin. Timothy Snyder, in a New Yorker essay, overviews Putin's obsession with Russia's historical perception of Ukraine:

"In 2012, he [Putin] described Russia as a "state-civilization," which by its nature absorbed smaller cultures such as Ukraine's. The next year, he claimed that Russians and Ukrainians

[35] Molly Krasnodębska, "Confrontation as Ontological Security: Russia's Reactions to the EU-Ukraine Association Agreement".
[36] Michael Mandelbaum, "Excerpt: The New Russian Foreign Policy", *Council on Foreign Relations*, 1998, https://www.cfr.org/excerpt-new-russian-foreign-policy.
[37] José Pardo de Santayana, "¿Por Qué a Rusia Le Interesa Tanto Ucrania?", *www.ieee.es*, 9 June 2021, https://www.ieee.es/publicaciones-new/documentos-de-analisis/2021/DIEEEA25_2021_JOSPAR_Rusia.html.
[38] Marvin Kalb, *Imperial Gamble Putin, Ukraine, and the New Cold War*.
[39] Pavel Baev, "Russia's War in Ukraine Misleading Doctrine, Misguided Strategy", *Russia.NEI.Reports, No. 40, Etudes De L'ifri*, October 2022.

were joined in "spiritual unity." In a long essay on "historical unity," published last July, he argued that Ukraine and Russia were a single country, bound by a shared origin."[40]

Ukrainian historian Sherhii Plokhy, in his book, *The Gates of Europe: A History of Ukraine*, clarifies that Russia's "recall of history" and rewriting of Ukrainian history as Russian to justify acts of aggression is not only a contemporary phenomenon but ignores thousands of years of Ukrainian and Eastern European history to focus on "two isolated periods of Imperial Russia and the USSR."[41] He summarizes this behavior as Russia's false sense of nostalgia, which perpetuates a founding myth of modern Russia as a Russian nation-building test by the ruling class.[42] Russia had engaged in as many as five nation-building projects by 2011. One tool Putin uses for this is the loosely defined term "compatriots" (sootechestvenniki) to signify "us" versus "them."[43] Putin has even confirmed the use of the tool in his Annual Address to the Federal Assembly.[44]

Russia and Ukraine do in fact have long-dated connections, but the Russian depiction that at the core of those connections is Russian supremacy lacks empirical support. In a speech on March 18, 2014, shortly after the annexation of Crimea, Putin referred to Kyiv as the "mother of all Russian cities," a common thinking in Russia relating to Moscow and Saint Petersburg.[45] This thinking however, is not due to Russian influence, but is the product of the influence of a far-predated history. Kyiv in the eighth and ninth centuries brought Christianity from Byzantium to the Slavs, which became an anchor for the Kyivan Rus. By no means can

[40] Timothy Snyder, "The War in Ukraine Is a Colonial War", *The New Yorker*, 28 April 2022, https://www.newyorker.com/news/essay/the-war-in-ukraine-is-a-colonial-war.
[41] Sherhii Plokhy, *The Gates of Europe: A History of Ukraine* (Basic Books, 2021).
[42] *Ibid*.
[43] Oxana Shevel, "Russian Nation-Building from Yel'tsin to Medvedev: Ethnic, Civic or Purposefully Ambiguous?", *Europe-Asia Studies,* 63:2 (2011), 179–202, https://doi.org/10.1080/09668136.2011.547693.
[44] Vladimir Putin, "Poslanie Federal'nomu Sobraniyu Rossiiskoi Federatsii", *Kremlin Archive,* 10 May 2007, http://archive.kremlin.ru/appears/2007/04/26/1156_type63372type63374type82634_125339.shtml
[45] Molly Krasnodębska, "Confrontation as Ontological Security: Russia's Reactions to the EU-Ukraine Association Agreement".

the Kyivan Rus be attributed to solely one nation today, but it does serve as a place where modern Russians, Ukrainians, and Belarussians draw their lineage.[46] In 2019, Putin was quoted as saying, "History has turned out in such a way that our people are united, and I believe that the Belarusians, Russians, and Ukrainians are one people. I have said it many times, many times, and this is what I believe; I am convinced."[47] The Grand Duchy of Muscovy expanded in the sixteenth century, and even then, it drew on the myth of the Kyivan Rus. This became the Russian idea that Russia and Ukraine are two aspects of a single civilization, an idea that Russian oligarchs love to promote.[48] Timothy Snyder sees this as the great myth that turned into a big lie. Combined with today's invasion, it has enabled an "umbrella for smaller lies."[49]

In the last century, Russia's concern over Ukrainian self-direction has progressively increased in importance to Russia and thus became more direct in its suppression of Ukrainian identity. The Russian Empire actively suppressed Ukrainian nationalist movements and attempts for an independent Ukraine.[50] At the turn of the century, the Bolsheviks fought their way to Kyiv in 1919 to reconquer Ukraine. They engaged in an early form of Russian-supported terrorism against "counter revolutionaries" and "alien class reactionnaires." Thousands of Ukrainians were rounded up and murdered.[51]

[46] Jonathan Masters, "Ukraine: Conflict at the Crossroads of Europe and Russia", *Council on Foreign Relations*, 11 October 2022, https://www.cfr.org/backgrounder/ukraine-conflict-crossroads-europe-and-russia.
[47] Vladimir Putin, "Plenarnoe zasedanie Peterburgskogo mezhdunarodnogo jekonomicheskogo foruma", *Speech in Saint Petersburg, Russia,* 7 June 2019, http://kremlin.ru/events/president/news/60707.
[48] Molly Krasnodębska, "Confrontation as Ontological Security: Russia's Reactions to the EU-Ukraine Association Agreement".
[49] Timothy Snyder, "How Putin's Lies Are Driving the War in Ukraine", *Foreign Affairs*, 2 February 2023, https://www.foreignaffairs.com/podcasts/how-putins-lies-are-driving-war-ukraine-timothy-snyder.
[50] Molly Krasnodębska, "Confrontation as Ontological Security: Russia's Reactions to the EU-Ukraine Association Agreement".
[51] Marvin Kalb, *Imperial Gamble Putin, Ukraine, and the New Cold War*.

With the creation of the Soviet Union came a more hands-on form of Russian nationalism intended to co-opt Ukrainian culture and history into Soviet space. Outbursts of Ukrainian nationalism infuriated the Soviet ruling class. In 1925, Stalin appointed Lazar Kaganovich, one of his trusted henchmen, to run the Ukrainian Communist Party. What followed was the far-right Ukrainian nationalist Stepan Bandera, who ran the militant side of the Organization of Ukrainian Nationalists. Those in Moscow felt Bandera represented the region of Galicia (Western Ukraine, Галич), and they hated him for it.[52] In what appears to be a contradiction but is exactly how imperial co-option takes form, Stalin launched a campaign to crush the Ukrainian nationalist movements, resulting in the Great Famine of 1932–33, and shortly after promoted the creation of 'modern' Soviet Ukrainian culture.[53] As Ukraine's land was mostly agrarian, the Soviet Union created a civil war over the ownership of grain to cause this famine, which Ukrainians now call the Holodomor.[54] Ukrainian-American political scientist Roman Szporluk recognizes that Ukrainian independence in 1991 would not have been possible without Bandera's militant resistance in 1939–1945.[55]

After the fall of the Soviet Union, Russia's influence over Ukraine became increasingly challenging. Ukraine and Russia are the two most populated, conventionally equipped, and powerful successor states of the Soviet Union, and given that, after the fall of the USSR, more ethnic Russians were in Ukraine than in any other post-Soviet state outside of the country, Ukraine was seen as even more illegitimate.[56] The factor of ethnicity was very important to those in the Kremlin. Former Russian President Boris Yeltsin worried that without Ukraine, Russia could be overrun by the Islamic majority of Azerbaijan, Kazakhstan, Uzbekistan,

[52] *Ibid*.
[53] Molly Krasnodębska, "Confrontation as Ontological Security: Russia's Reactions to the EU-Ukraine Association Agreement".
[54] Viljar Veebel, "Russia's neo-imperial dependence model: Experiences of former Soviet republics", *Romanian Journal of Political Sciences,* 48:1 (2017), 4-34;
Karel C. Berkhoff, *Harvest of Despair: Life and Death in Ukraine under Nazi Rule* (Harvard University Press, 2004).
[55] Marvin Kalb, *Imperial Gamble Putin, Ukraine, and the New Cold War*.
[56] Michael Mandelbaum, "Excerpt: The New Russian Foreign Policy".

Tajikistan, and Kyrgyzstan.[57] Putin's policies have inherited these xenophobic and Islamaphobic stances demonstrated in the migration and terrorist crackdowns on those coming from Uzbekistan, Tajikistan, and Kyrgyzstan.[58] Moreover, Russian politicians at the time felt that losing Ukraine meant Russia was closer to subjugation by the West. Ukraine was the key to maintaining Russia's right to be a superpower,[59] and of course, the loss of the Crimean Peninsula, which constitutes an important access point to the Black Sea, was both a loss in "strategic and symbolic meaning in Russian identity narratives."[60] All of which came to a head in 2014.

Many analysts continue to perpetuate the narrative that Russia's partial invasion of Ukraine and illegal annexation of Crimea was a reaction to NATO expansion when, in actuality, it was purely economic in Ukraine's possible association with the EU.[61] British-American former Deputy Assistant to the President of the United States, Fiona Hill, writes that Moscow was escalated by the idea that Ukraine was leaving the Russian sphere of influence:

"Ukraine wanted to associate with any entity or country other than Russia. Whether Ukraine wanted to join the European Union or NATO or have bilateral relations with the United States—any of these efforts would have been an affront to Russia's history and dignity."[62]

[57] Marvin Kalb, *Imperial Gamble Putin, Ukraine, and the New Cold War*.
[58] Denis Leven, "Russia's Migrants and Ethnic Minorities Shiver at New Putin Terror Crackdown", *Politico*, 9 April 2024, https://www.politico.eu/article/russia-migrants-ethnic-minorities-vladimir-putin-terror-crocus-city-hall/.
[59] Jonathan Masters, "Ukraine: Conflict at the Crossroads of Europe and Russia".
[60] Cristian Nitoiu, "The European External Action Service and the Ukraine Crisis: The Case of the 2015 Revision of the European Neighbourhood Policy" in *European-Russian Power Relations in Turbulent Times,* ed. Mai'a Cross and Ireneusz Pawel Karolewski (University of Michigan Press, 2021).
[61] Fiona Hill and Angela Stent, "The World Putin Wants".
[62] *Ibid*.

Despite the EU's "significant efforts to defuse Russian concerns about negative implications of the agreements," the idea of the Association Agreement (AA) and Deep and Comprehensive Free Trade Agreement (DCFTA) between the EU and Ukraine was too threatening to Russia's ontological security narrative. The EU emphasizes that the agreement would not impact Ukraine's economic relationship with Russia or any other country. The AA not only did not present either a serious economic or security threat to Russia, but it would have benefited both Ukraine's and Russia's economies.[63] The concern for Russia was that AA was an intervention in "civilizing Europe" and that, more than anything else, it would allow the opportunity for a different social and economic model than their own to possibly be seen as more appealing. All of which could undermine Russia's ability to act as the regional hegemon.[64] What should not have become existential, as former U.S. Ambassador to Russia Michael Mcfaul puts it, in 2014 was "the battle for Ukraine," which "was a zero-sum contest for Putin," and the only thing that could have prevented Russia's escalation would have been if Ukraine was already made a NATO member.[65]

The 'Near Abroad' Key Takeaways:

1. Russia's strategic culture requires a sphere of influence.
2. Russia holds a false nostalgia for fabled possibilities of imperial greatness.
   a. At the core of this imagined empire is Ukraine.
3. Any Western engagement with Ukraine or independent and/or autonomous Ukrainian government from Russia is seen as escalatory for Russia.

II. A Deep Fear of Democracy: Russia's Domestic Influence on Foreign Policy

With respect to Russia's domestic society's influence on foreign policy at the turn of this century, the Russian Federation found both civil engagement and democratic movement within and outside of its borders to be extremely threatening. In the eyes of the Putin regime,

[63] Cristian Nitoiu, "The European External Action Service and the Ukraine Crisis: The Case of the 2015 Revision of the European Neighbourhood Policy".
[64] *Ibid*.
[65] Michael McFaul, *From Cold War to Hot Peace:An American Ambassador in Putin's Russia*.

both exhibited a work in unison that could only be the product of Western influence. Putin's greatest fear of Western-induced regime change led the Kremlin to move towards a policy of "neo-revisionism."[66] Timothy Snyder describes that it is easier for Russia to live with the idea of a flawed democracy than a healthy one.[67] To Putin, Western democracy promotion was only a disguise for Western strategy and inflicting regime change.[68]

A. Case Study 2: Russia's Relationship with Color Revolutions

What exacerbated Russia's relationship with the West, both with the EU and NATO, were "color revolutions" around Russia's sphere of influence. British political scientist Richard Sakwa believes the catalyst for the deterioration of Russia's relationship with the EU began fairly quickly in the early 2000s during the revolutions in Georgia (2003), Ukraine (2004), and Kyrgyzstan (2005) – all of which demanded more independence from Moscow.[69] The Kremlin deeply believed that the Orange Revolution was orchestrated from outside of Ukraine.[70] Russian opposition leader Andrei Piontkovsky held this same judgment and felt the real fear from Moscow was that if these democratic uprisings could happen in Ukraine, they could happen in Russia.[71] In saying "Ukraine could help bring Russia closer to Europe," former Ukrainian President Yushchenko when he traveled to Brussels in 2005 to promote cooperation both with the EU and Russia, "seeded Putin's already dim vision of Ukraine with images of Western conspiracies and CIA plots designed to undermine Russia."[72]

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[66] Molly Krasnodębska, "Confrontation as Ontological Security: Russia's Reactions to the EU-Ukraine Association Agreement".
[67] The Economist, "Understand Putin by Understanding His Favourite Thinkers", *The Economist*, 7 April 2018, https://www.economist.com/books-and-arts/2018/04/05/understand-putin-by-understanding-his-favourite-thinkers.
[68] Yulia Nikitina, "Russia's Regionalism Projects in Eurasia" in *European-Russian Power Relations in Turbulent Times*, ed. Mai'a K. and Ireneusz Paweł Karolewski (University of Michigan Press, 2021).
[69] Mai'a K. and Ireneusz Paweł Karolewski, *European-Russian Power Relations in Turbulent Times* (University of Michigan Press, 2021).
[70] Michael E. O'Hanlon, *Beyond NATO a New Security Architecture for Eastern Europe*.
[71] Marvin Kalb, *Imperial Gamble Putin, Ukraine, and the New Cold War*.
[72] *Ibid*.

The year that cemented Russia's concern for malign Western influence, which the Kremlin believed to be aimed at provoking civil unrest in Russia, was 2011. This was not because of outside activity, but because of the regime's lack of control over its domestic society. That year, Russia's elections were extremely close, leading many to question the results. In order for Putin to operate uncontested in Russia, his party must hold a majority of seats in the lower house of Russia's parliament, the Duma (Congress). Putin's opposition claimed voter fraud, as United Russia (Putin's party) won 52% of the seats in the Duma, a striking decrease from the 70% it had won in the 2007 election, and a narrow hold on the majority.[73] In shock at the regime's growing overt grip on power, tens of thousands of people (protesters claim 120,000) gathered in anti-Putin protests, holding banners reading "Russia without Putin."[74] When Putin was asked if the white ribbons the protesters were wearing were a sign of a color revolution, he chose to characterize them as "contraceptives," saying that those in the streets were fighting "aids [HIV]" and were part of a foreign plot to destabilize Russia.[75] In 2017, the EU courts found the Russian 2011 election to have had "broad ballot-stuffing" suggesting up to 11 million fraudulent votes.[76] Post-election, this was the year that Russia boosted its anti-NATO rhetoric.

The following year, facing upcoming presidential elections, Putin, with popularity and power under question, needed deep connection with the Russian public; he took on a "movie star"

[73] Marvin Kalb, *Imperial Gamble Putin, Ukraine, and the New Cold War*; Dmytro Bushuyev and Oleksii Polegkyi, "Russian Foreign Policy and the Origins of the 'Russian World", *Forum for Ukrainian Studies*, 7 September 2022, https://ukrainian-studies.ca/2022/09/06/russian-foreign-policy-and-the-origins-of-the-russian-world/.

[74] *Ibid*; Tom Parfitt, "Anti-Putin Protesters March through Moscow", *The Guardian*, 4 February 2012, https://www.theguardian.com/world/2012/feb/04/anti-putin-protests-moscow-russia.

[75] Luke Harding, "Vladimir Putin Question and Answer Session in Russia - Thursday 15 December 2011", *The Guardian*, 15 December 2011, http://www.theguardian.com/world/blog/2011/dec/15/vladimir-putin-questionand-answer-session-in-russia-live.

[76] Daniel Brown, "An EU Court Ruled That Putin's Party Rigged the 2011 Russian Elections", *Business Insider*, 7 July 2017, https://www.businessinsider.com/eu-court-putins-party-rigged-the-2011-russian-elections-2017-6.

appearance in politics, embraced populism and nationalistic rhetoric, and adopted harsher rhetoric, blaming the U.S. and West for everything.[77] Marvin Kalb writes that Putin "loves Russians who love him."[78] Putin could tap into his original persona, which enabled him to take off in Russia. He began his political presence as a contrast to Yeltsin, "a sober professional."[79] He promoted his tough traditional masculinity; vulgar and brutal language, and strength as a "judo master" to appeal to the conservative ideas of manhood and strength, which translated into his policy.[80] Putin directs the Kremlin to shape public opinion rather than represent or digest it.[81] Putin creates his own history, just as Stalin had, and disseminates it to the masses on his state media, where 90% of Russians get most of their information and 55% get everything they know from it.[82] In recent years, this has meant using a troll army of hundreds of bloggers who flood social networks with anti-Western and pro-Putin rhetoric.[83] While challenging to really gauge, Putin's popularity is normally around 80–90%.[84] Public opinion is extremely important to Putin to shape, as up until recently, Putin preferred to govern within a hybrid government that has parts of both democracy and authoritarianism to avoid the need for complete repression.[85]

This domestic control requires tools for supporting the narratives that are asserted to the general public. As Ukrainian scholar Oleksii Polegkyi at Harvard University puts it, "Russian policy has always been part of its domestic policy, and the role of foreign policy issues increased significantly during certain periods of its history as an instrument of mass mobilization. Putin's regime depends on militarism to retain power."[86]

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[77] *Ibid*; Michael McFaul, *From Cold War to Hot Peace : An American Ambassador in Putin's Russia*.
[78] Marvin Kalb, *Imperial Gamble Putin, Ukraine, and the New Cold War*.
[79] Olga Oliker et al., "What Explains Russia's Annexation of Crimea?".
[80] *Ibid*.
[81] *Ibid*.
[82] Marvin Kalb, *Imperial Gamble Putin, Ukraine, and the New Cold War*.
[83] *Ibid*.
[84] Michael E. O'Hanlon, *Beyond NATO a New Security Architecture for Eastern Europe*.
[85] Olga Oliker et al., "What Explains Russia's Annexation of Crimea?".
[86] Dmytro Bushuyev and Oleksii Polegkyi, "Russian Foreign Policy and the Origins of the 'Russian World".

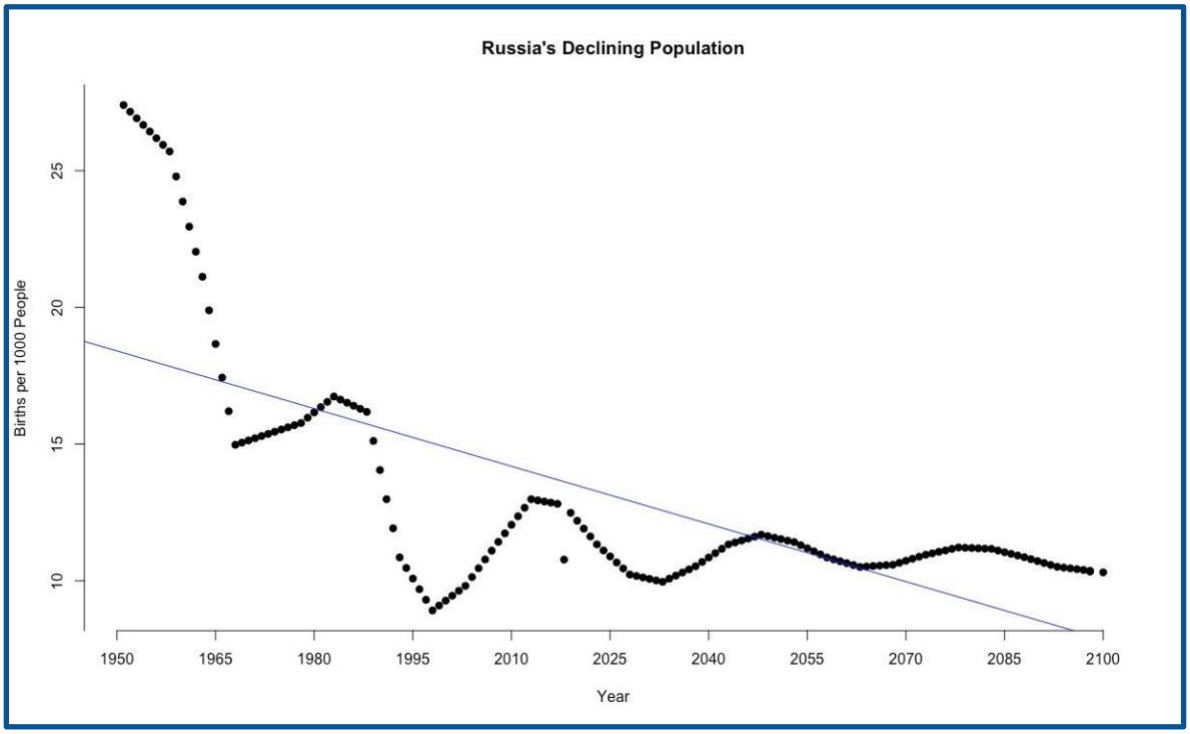
All such concerns and practices came to a head in 2014. Ukrainian protesters descended on Kyiv's Independence Square (*Maidan*) after pro-Russian Yanukovych refused to sign the AA.[87] The Euromaidan Revolution, which was a successful Ukrainian response to a Russian-backed autocracy, was the major trigger for Putin.[88] Again, Moscow saw Maidan as a dangerous democratic occurrence that could pave the way for a similar uprising to occur in Russia.[89] Russia's reaction to illegally annexing Crimea was not the result of Western policy, which had little impact on Russia's domestic society, but of Russia's fear of internal domestic unrest and the need to perpetuate the narrative of the malign Western adversary.[90]

B. Case Study 3: Russia's Relationship with Color Revolutions

A domestic issue that has dictated much of Russia's foreign policy strategy in the 21st century has been Russia's declining population and birth rate. In Soviet times, the population was about 240 million. Today, it is in consistent decline, with a current population of 143 million.[91] French demographer Lauren Chaalard said that "Putin is obsessed with this demographic issue." She describes that for Putin, a country's power is "linked to the size of its population." In January 2020, Putin referred to it as a "historic challenge," linking Russia's future success to the bolstering of its population.[92] At one point, Putin even halted all American adoptions of Russian orphans.[93] Figure 1 below depicts this historic birthing challenge and projects its future decline.

[87] *Ibid*.
[88] Michael McFaul, *From Cold War to Hot Peace : An American Ambassador in Putin's Russia*.
[89] Olga Oliker et al., "What Explains Russia's Annexation of Crimea?".
[90] Michael McFaul, *From Cold War to Hot Peace : An American Ambassador in Putin's Russia*.
[91] Marvin Kalb, *Imperial Gamble Putin, Ukraine, and the New Cold War*.
[92] Cyrielle Cabot, "Population Decline in Russia: 'Putin Has No Choice but to Win' in Ukraine", *France 24,* 24 May, 2022, https://www.france24.com/en/europe/20220524-population-decline-in-russia-putin-has-no-other-choice-but-to-win-in-ukraine.
[93] Marvin Kalb, *Imperial Gamble Putin, Ukraine, and the New Cold War*.

Figure 1: Birth Rate in Russia – Population Decline (2023)[94]



Data Source: MacroTrends

Russia's Fear of Democracy Key Takeaways:

1. The Putin regime fears democracy near its border resulting in Russia's malign influence abroad.
2. Countering democracy is a cornerstone for Russian foreign policy.
3. Russia prefers flawed democracies and has framed democracy as a vessel for Western strategic influence.
4. Putin has always longed for favorable public opinion to enhance his legitimacy and enable easier rule.
5. Russia's declining population is a policy priority of the current regime.

[94] Samuel Dempsey, "Russia's Declining Population, Data Source - 'Russia Birth Rate 1950-2023'", *MacroTrends*, 2023, https://www.macrotrends.net/countries/RUS/russia/birth-rate#:~:text=The%20current%20birth 20rate%20for,a%202.37%25%20decline%20from%202020.

III. Countering the West and Russia's Reactions to NATO Enlargement

A. Countering the West

In 1996, former Russian foreign minister Yevgeny Primakov defined the contemporary foreign policy as the "Primakov Doctrine." It outlined that Russia would "no longer follow the lead of the Western powers, especially the U.S.," but take its position as a central world power, standing as an alternative to the U.S.-led unipolar world. Sergey Lavrov summarized this contemporary foreign policy transition in 2014, saying:

"The moment he took over the Russian Foreign Ministry heralded a dramatic turn of Russia's foreign policy. Russia left the path our Western partners had tried to follow after the breakup of the Soviet Union and embarked on a track of its own."[95]

By no means did this counter of the West begin with Primakov. Sitting in contrast to the West has long been ingrained in the ontological security of Russia. In the mid-nineteenth century, Russian Empire naturalist Nikolay Danilevsky deplored Russia's unfair treatment by Europe, claiming a double standard on the international stage. Danilevsky pointed to Europe's disregard of Prussian and Austrian aggression against Denmark and their condemnation of Russia's protection of Orthodox Christians from Turkey. Danilevsky was the "precursor of Putin's lament about the West's double standards."[96] What holds validity is that Russia's greatest defeats have come from the West: the Crimean War of 1853 and, more recently, the Cold War. These defeats sit within the psyche of Russia and are substantial drivers of Moscow's security and defense policy today.[97]

[95] Julia Gurganus and Eugene Rumer, "Russia's Global Ambitions in Perspective".
[96] *Ibid*.
[97] *Ibid*.

Operating in conjunction is an insecurity of "backwardness" toward Western Europe by Russian elites that has existed since at least the eighteenth century.[98] This was reinforced by many in the West promoting the notion that Russia needed to emulate the West in order to "catch up." The West would use the rhetoric of "inevitability" to describe global development as a natural progression towards incorporation with the West in forms of "liberal secularism" and "modern colonialism."[99] Within this narrative, Russia still promotes the idea of Western russophobia.[100]

What developed to create a "central dilemma" were the Slavophiles of the 19th century, who aimed for a resurgence of a great, powerful Russia that would derive from the nostalgia of Russia's past. In this view, Russia sits at the "center of a distinct Eurasian civilization," with traditional values of fraternalism in its sphere of influence.[101] Still, these two visions within Russia needed to sit in contrast to the West to promote their narratives with a point of reference to vilify.[102] Russia's foreign policy narratives twist reality to justify foreign policy decisions, yet they always include an element of truth at their core, to increase their ability to persuade.[103]

Russia expert Jeffry Mankoff wrote that, post-Soviet Union, Russia believed itself to be a rival of the U.S. and sought to be a power comparable to the U.S. in a multipolar world order.[104] To

[98] Molly Krasnodębska, "Confrontation as Ontological Security: Russia's Reactions to the EU-Ukraine Association Agreement".
[99] Dmitry Gorenburg, "Russian Foreign Policy Narratives".
[100] *Ibid*.
[101] *Ibid*.
[102] Molly Krasnodębska, "Confrontation as Ontological Security: Russia's Reactions to the EU-Ukraine Association Agreement".
[103] Dmitry Gorenburg, "Russian Foreign Policy Narratives".
[104]Molly Krasnodębska, "Confrontation as Ontological Security: Russia's Reactions to the EU-Ukraine Association Agreement".

achieve this, Russia understood its advantage of time. George Kennan wrote in *The Sources of Soviet Conduct*:

"The Kremlin is under no ideological compulsion to accomplish its purposes in a hurry . . . and it can afford to be patient. These precepts are fortified by the lessons of Russian history: of centuries of obscure battles between nomadic forces over the stretches of a vast unfortified plain. Here caution, circumspection, flexibility and deception are the valuable qualities . . . Its [the Soviet Union's] political action is a fluid stream which moves constantly, wherever it is permitted to move, toward a given goal. . . . The main thing is that there should always be pressure, unceasing constant pressure, toward the desired goal. There is no trace of any feeling in Soviet psychology that that goal must be reached at any given time."[105]

To achieve this multipolarity, contemporary Russia has taken steps to "court" the developing world since 2014: in Syria, supporting the al-Assad regime with Iran, but also with Egypt, Israel, Saudi Arabia, and in Africa, most recently in the support of militant leaders in the Sudanese civil war;[106] but also in Latin America through the support of left-wing governments.[107] Russia has done an excellent job at promoting itself in the global south as the "champion" against "U.S. imperialism."[108] To undermine the "unfair domination" by the U.S., Russia promotes their leadership alongside China through a whataboutism that condemns Western outside intervention in sovereign affairs, such as in Kosovo.[109] Russia can do so, given their "successes" in the annexation of Crimea, intervention in Syria, interference in Western elections in Spain and the U.S., and military standoffs with the West

[105] Julia Gurganus and Eugene Rumer, "Russia's Global Ambitions in Perspective".
[106] Nima Elbagir et al., "Exclusive: Evidence Emerges of Russia's Wagner Arming Militia Leader Battling Sudan's Army", *CNN*, 21 April 2023, https://www.cnn.com/2023/04/20/africa/wagner-sudan-russia-libya-intl/index.html.
[107] Fiona Hill and Angela Stent, "The World Putin Wants".
[108] *Ibid*.
[109] Dmitry Gorenburg, "Russian Foreign Policy Narratives";
Julia Gurganus and Eugene Rumer, "Russia's Global Ambitions in Perspective".

in the Baltic Sea. Prior to the current invasion of Ukraine, Putin compiled a list of references to support his ability to "punch above his weight."[110]

B. Case Study 4: Russia's Reactions to NATO's Enlargements

Despite these accomplishments and advances in their gray-zone operation capabilities, Russia has been risk-averse in its approach to NATO. Post-Cold War, Russia actually believed NATO would either disband or join forces with Russia, which much of institutional Russia was excited about. Developing closer ties, Russia signed the framework agreement on NATO-Russia relations in 1997.[111] In 2000, BBC reporter David Frost asked Putin about Russian membership. His reply sits in great contrast to the Russian narrative of today.

"Why not? Why not? I do not rule out such a possibility . . . in the case that Russia's interests will be reckoned with, if it will be an equal partner. Russia is a part of European culture, and I do not consider my own country in isolation from Europe and from . . . what we often talk about as the civilized world. Therefore, it is with difficulty that I imagine NATO as an enemy."[112]

Putin even recalled an instance when he raised the question of joining NATO with Bill Clinton, who he said had no objection.[113] In 2002, NATO-Russia ties deepened with Russia's membership in the NATO-Russia Council.[114] As NATO expanded, Russia's indifference was

[110] Julia Gurganus and Eugene Rumer, "Russia's Global Ambitions in Perspective".
[111] Olga Oliker et al., "What Explains Russia's Annexation of Crimea?".
[112] David Hoffman, "Putin Says 'Why Not?' to Russia Joining NATO", *The Washington Post*, 6 March 2000, https://www.washingtonpost.com/archive/politics/2000/03/06/putin-says-why-not-to-russia-joining-nato/c1973032-c10f-4bff-9174-8cae673790cd/.
[113] RFE/RL, "Putin Says He Discussed Russia's Possible NATO Membership with Bill Clinton", *RadioFreeEurope/RadioLiberty*, 4 June 2017, https://www.rferl.org/a/russia-putin-says-discussed-joining-nato-with-clinton/28526757.html.
[114] Olga Oliker et al., "What Explains Russia's Annexation of Crimea?".

maintained, with hints of more adversarial rhetoric. In 2004, after the 5th NATO expansion, Sergei Lavrov said that "the presence of American soldiers on our border has created a kind of paranoia in Russia."[115] Yet, no actual Russian escalation took place. What the Kremlin did do was attempt to strengthen the role of the OSCE to enable more pluralism in the international organization space.[116] This is not to say there weren't any grievances. The Russian political elite saw NATO expansion into the post-Soviet space as a disregard for "Russian sensitivities" and, in some cases, a means to "humiliate" Russia.[117] Some within Moscow do see NATO as an aggressive force on their border.[118] Former Governor of Saint Petersburg Anatoly Sobchak and Russian security expert Andrei Kokoshan saw NATO Partnerships for Peace (PfP) programs as pathways for NATO accession, despite 35 countries, including Russia and Ukraine, holding PfPs mostly from the 1990s and a few from the early 2000s. Less than half—only 15 countries with PfPs—ended up becoming NATO members (see figure below).[119]

Figure 2: Partnerships for Peace (PfP) (27 Mar. 2020)[120]

Countries with Partnerships for Peace (PfP) Programs		
Countries	**Signed by**	**Date**
Albania	PDT Sali Berisha	23.02.94
Armenia	FM Vahan Papazian	05.10.94
Austria	FM Alois Mock	10.02.95

[115] Steven Lee Myers, "As NATO Finally Arrives on Its Border, Russia Grumbles", *The New York Times*, 3 April 2004, https://www.nytimes.com/2004/04/03/world/as-nato-finally-arrives-on-its-border-russia-grumbles.html.
[116] Yulia Nikitina, "Russia's Regionalism Projects in Eurasia".
[117] Michael Mandelbaum, "Excerpt: The New Russian Foreign Policy".
[118] Michael E. O'Hanlon, *Beyond NATO a New Security Architecture for Eastern Europe*.
[119] *Ibid*.
[120] NATO, "Signatures of Partnership for Peace Framework Document (Country, Name & Date)", 27 March 2020, https://www.nato.int/cps/en/natolive/topics_82584.htm.

Azerbaijan	PDT Geidar Aliyev	04.05.94
Belarus	FM Uladzmir Syanko	11.01.95
Bosnia and Herzegovina	PDT Nebojša Radmanović	14.12.06
Bulgaria	PDT Jelu Jelev	14.02.94
Croatia	FM Tonino Picula	25.05.00
Czechia	PM Vaclav Klaus	10.03.94
Estonia	FM Jüri Luik	03.02.94
Finland	FM Heikki Haavisto	09.05.94
Georgia	FM A.Chikvaidze	23.03.94
Hungary	FM Jeszensky	08.02.94
Ireland	FM Andrews	01.12.99
Kazakhstan	FM Saudabayev	27.05.94
Kyrghyz Republic	PDT Askar Akayev	01.06.94
Latvia	PM Valdis Birkavs	14.02.94
Lithuania	PDT Brazauskas	27.01.94
Malta	DPM/FM Guido de Marco	26.04.95
Moldova	PDT Mircea Snegur	16.03.94
Montenegro	PDT Filip Vujanovic	14.12.06
Poland	PM Pawlak	02.02.94

Romania	FM Melescanu	26.01.94
Russia	FM Andrei Kozyrev	22.06.94
Serbia	PDT Boris Tadić	14.12.06
Slovakia	PM Meciar	09.02.94
Slovenia	PM Janez Drnovsek	30.03.94
Sweden	FM Margaretha Af Ugglas	09.05.94
Switzerland	FM F. Cott	11.12.96
Tajikistan	AMB. Sharif Rahimov	20.02.02
The Republic of North Macedonia	Head of Government Crvenkovski Branko	15.11.95
Turkmenistan	DPM B. Shikmuradov	10.05.94
Ukraine	FM Zlenko	08.02.94
Uzbekistan	FM Saidmukhtar Saidkasimov	13.07.94

NATO's behavior did not change much in the 21st century, but progressively Russia's rhetoric around it did. "From 1997 to early 2014, NATO deployed virtually no combat forces on the territory of its new members," and prior to 2014, Ukraine was neutral with a 2010 Ukrainian law that affirmed its non-bloc status.[121] To support a heightened rhetoric, Russian analysts would do things like combine U.S. and NATO spending to "characterize it as growing."[122] Still,

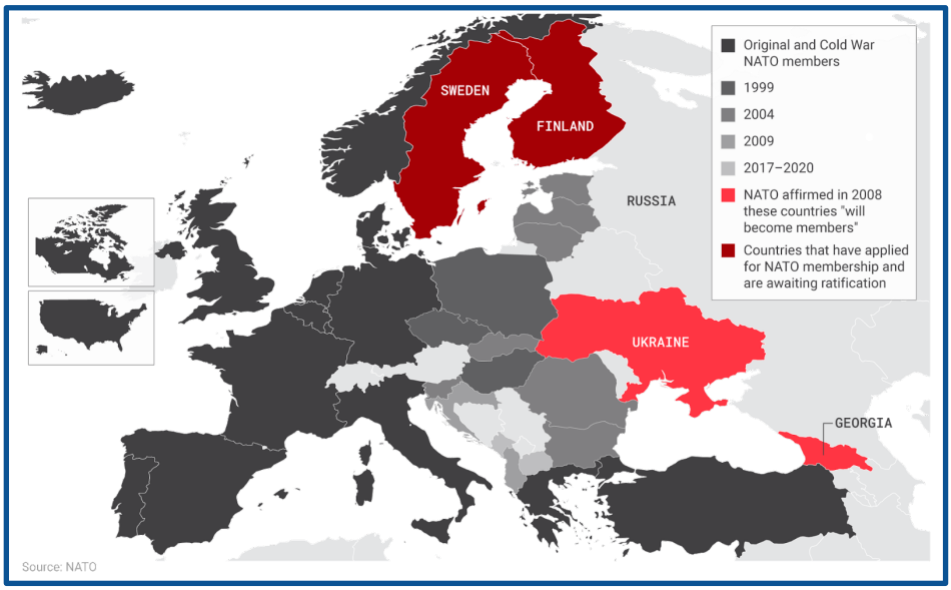
[121] Steven Pifer, "One. More. Time. It's Not about NATO", *Brookings*, 28 July 2022, https://www.brookings.edu/opinions/one-more-time-its-not-about-nato/.
[122] Olga Oliker et al., "What Explains Russia's Annexation of Crimea?".

Russia's actions towards NATO or in defiance of NATO have been limited. Russia's invasion of Crimea occurred with the knowledge that NATO would not intervene. Similar to Russia's intervention in Syria.[123] When Wagner forces came upon a U.S. Delta Force Joint Special Operations Command in Syria, Russia chose to allow for the obliteration of the entire unit, 200 to 300 men, instead of entering an open conflict with NATO.[124] During the entirety of the Obama Administration, during the NATO-Russia Council, ICBMs were routinely discussed, but NATO expansion was never discussed by Russia.[125] NATO's expansion into Russia's former sphere of influence is insulting to Russia; it "undermines Russia's "special role" in the region, but it is not escalatory.[126] Even now, despite Russia at first claiming that the entry of Sweden and Finland into NATO would be met with "serious military and political consequences," after Finland's accession, no such actions have been taken.[127] What did happen after the announcement, was a change in tone from Putin in addressing the Collective Security Treaty Organization (CSTO):

"As to enlargement, Russia has no problem with these states - none. And so in this sense there is no immediate threat to Russia from an expansion [of NATO] to include these countries."[128]

[123] Julia Gurganus and Eugene Rumer, "Russia's Global Ambitions in Perspective".
[124] Thomas Gibbons-neff, "How a 4-Hour Battle between Russian Mercenaries and U.S. Commandos Unfolded in Syria", *The New York Times*, 24 May 2018, https://www.nytimes.com/2018/05/24/world/middleeast/american-commandos-russian-mercenaries-syria.html.
[125] Michael McFaul, *From Cold War to Hot Peace: An American Ambassador in Putin's Russia*.
[126] Molly Krasnodębska, "Confrontation as Ontological Security: Russia's Reactions to the EU-Ukraine Association Agreement".
[127] Andrew Roth, "Putin Issues Fresh Warning to Finland and Sweden on Installing NATO Infrastructure", *The Guardian*, 29 June 2022, https://www.theguardian.com/world/2022/jun/29/russia-condemns-nato-invitation-finland-sweden/
[128] Guy Faulconbridge, "Putin Sees No Threat from NATO Expansion, Warns against Military Build-Up", *Reuters*, 17 May 2022, https://www.reuters.com/world/europe/russia-calls-finland-sweden-joining-nato-mistake-with-far-reaching-consequences-2022-05-16/.

Figure 3: NATO Expansion Since its Founding (23 Nov. 2023)[129]
As of April 4, 2023 Finland is a NATO member.



Putin's policies are not based on the actions of the West but on those within Russia. As a result, Putin promotes the idea that the West is looking for regime change in Russia, with little substantiation.[130] As historian of Russia, Stephen Kotkin, understands, Russia's expansion long predated NATO or the modern Russian state. Their imperial and expansionist tendencies may be cultural rather than strategic. As such, in today's context, the problem is that Russia's capabilities for world influence don't match its ambitions. Still, Russia's perpetual geopolitics is a choice that Putin continues and has worsened.[131]

Countering the West and NATO's Expansion Key Takeaways:
1. NATO expansion has never been met with Russian escalation or aggression.
2. Russia avoids conflict with NATO to its own strategic detriment.
3. Russia needs to be seen as and positioned as an equal to the United States.

[129] Rajan Menon, "Reconfiguring NATO: The Case for Burden Shifting", *Defense Priorities*, 23 November 2023, https://www.defensepriorities.org/explainers/reconfiguring-nato-the-case-for-burden-shifting.
[130] Michael McFaul, *From Cold War to Hot Peace: An American Ambassador in Putin's Russia*.
[131] Stephen Kotkin, "Stephen Kotkin: What Putin Got Wrong about Ukraine, Russia, and the West | Foreign Affairs Interview", *YouTube*, 27 April 2023, https://www.youtube.com/watch?v=dTXEmz6nJGk.

4. Russia promotes narratives of countering the West regardless of the West's actions.
5. Russia uses these narratives to bolster support in the global community especially in the MENA region.
6. Russia once viewed NATO more as an ally than an enemy.
7. There has always been NATO-skepticism by the Russian elite.

IV. The West's Lack of a Ukraine Policy and the Appeasement of Russia

It is important to recognize that much of the debate over creating security in Eastern Europe and articulating the placement of Ukraine and the role of NATO is in large part challenging due to the past failures of the West to develop a coherent strategy for engaging the region outside of the context of Russian rule.

Ukrainian diplomatic records indicate this repeated struggle after their contemporary independence. Senior Lecturer at the University of Pennsylvania, Ecaterina Locoman, conducted a study of Ukrainian diplomatic records from 1991. What she found was that Western countries consistently viewed Ukraine through the "Russia prism," Russian diplomats and military attachés spread anti-Ukrainian information among Western officials and international organizations such as the EU and NATO, and Western officials relied on the Russian narrative and Kremlin information channels, which of course led to Russian bias in Western policy.[132] Most of those in the West were educated about Eastern European history through Russian propaganda.[133] What Locoman suggests is that Russia's main goals towards Ukraine were to prevent the country's entire incorporation into Western institutions, be it security or the economy. The Kremlin intended to achieve this goal by provoking internal Western divisions. They did so with success. In 1994, German diplomats told their Ukrainian counterparts that "Germany by no means would risk spoiling its relations with Russia for the

[132] Ecaterina Locoman, "What's next for Ukraine's (and Its Neighbors') Domestic and Foreign Policy?", *Foreign Policy Research Institute*, 13 June 2022, https://www.fpri.org/article/2022/06/whats-next-for-ukraines-and-its-neighbors-domestic-and-foreign-policy/.
[133] Timothy Snyder, "How Putin's Lies Are Driving the War in Ukraine".

interests of some post-Soviet states."[134] As a result of Russia's political campaign in Western policy circles, Ukrainian leaders were often portrayed as "unreliable and corrupt leaders."[135]

Into the early 2000s, much of the Western approach to Russia was headed by the United States. President W. Bush prided himself on developing a close relationship with Putin. The two countries worked in cooperation on much of the counterterrorism operations in the Middle East. The way McFaul put it, Bush felt that he needed Russia on the side of the U.S., regardless of the red flags, in order to one day take on the growing threat of China.[136]

The most significant rapprochement with Russia was undertaken under the Obama administration, continuing right where Bush left off with the "Reset" in U.S.-Russia relations. McFaul, in his book *Cold War to Hot Peace*, outlines the actions of appeasement that both administrations took towards Russia. The Bush administration did not "deter future Russian military aggression in the Black Sea region." After the ceasefire in Georgia, Bush rejected "Tbilisi's request for anti-tank and air defense weapons," and a few months later under Obama, the "Russia Reset" policy was kicked off. McFaul draws the conclusion that "Putin could only have concluded that the benefits of invading Ukraine [in 2014] would exceed the costs."[137] As Timothy Snyder discusses, while 2014 should have been treated with the severity it demanded, Russia got the West stuck in the created ambiguity of the "little green men."[138] Still, McFaul holds to the idea that correlation is not causation in the case of Russia. That said, the policies of Russia were a product of internal political developments. While

[134] Ecaterina Locoman, "What's next for Ukraine's (and Its Neighbors') Domestic and Foreign Policy?". https://www.fpri.org/article/2022/06/whats-next-for-ukraines-and-its-neighbors-domestic-and-foreign-policy/.
[135] *Ibid*.
[136] Michael McFaul, *From Cold War to Hot Peace: An American Ambassador in Putin's Russia*.
[137] *Ibid*.
[138] Timothy Snyder, "How Putin's Lies Are Driving the War in Ukraine".

predominantly true, these Western policies allowed for no consequence for Russia's egregious behaviors.

U.S. reluctance towards developing a clear Ukraine policy or willingness to engage proactively with Russia was demonstrated in 2015, post-annexation of Crimea. Three think tanks, Brookings, the Atlantic Council, and the Chicago Council on Global Affairs, came together in January 2015 to propose $3 billion in security assistance to Ukraine. They intended to put "the heat on Obama to get tough with Putin." Declaring that, "The West needs to bolster deterrence in Ukraine by raising the risks and cost to Russia of any renewed major offensive."[139] The prospect of such engagement caused uproar in Europe and the United States. Merkel immediately ruled out Germany sending any military supplies to Ukraine. French President Francois Hollande sided with diplomacy and called Putin, demanding a ceasefire in eastern Ukraine. Both the French President and German Prime Minister flew to Moscow, pressuring the leaders to return to Minsk to come to an agreement.[140] Obama dismissed the need for such engagement entirely. He sided with the "off-ramp," which was an "illusion." Obama disregarded the moment of severity, simplifying the threat, calling Russia a "regional power" and moved on. As Marvin Kalb put it, Putin was not seeking a way out of Ukraine; "on the contrary, he seemed determined to keep Russian forces in Ukraine."[141] As Thoman Graham addresses, all previous U.S. presidents who tried Russian rapprochement ended up further from it than they were when they came to power. Now, President Biden, with his slogan "America is back," in an attempt to recover U.S. leadership, took a more hardline approach with Russia prior to the full-scale invasion of Ukraine.[142] Still, the outline for unified resistance and deterrence of Russian aggression is absent.

[139] Marvin Kalb, *Imperial Gamble Putin, Ukraine, and the New Cold War*.
[140] *Ibid*.
[141] *Ibid*.
[142] Thomas Graham, "Let Russia Be Russia", *Foreign Affairs*, 24 February 2023, https://www.foreignaffairs.com/articles/russia-fsu/2019-10-15/let-russia-be-russia.

Western Appeasement Key Takeaways:	
1.	The West has always seen Ukraine through the 'Russia prism.'
2.	Historically, the transatlantic approach to Russia has been appeasement.

Conclusion

While Russian strategic history has always required a sphere of influence, placing a primary emphasis on the control of Ukraine, more importantly is Russia's behavior in relation to NATO and the West, which has continuously behaved in a risk-averse manner. On the other hand, Russia's lack of control over internal matters has led to Russian escalations abroad. The Western policy of appeasement towards Russia has acted not as a precipitating cause of Russian foreign policy, but as a contributor to Russia's continuous violation of international law. Putin and previous Russian leaders have exploited Ukraine's past ambiguity of strategic placement and will continue to do so if Ukraine is not in NATO. While this article does not observe more recent developments, recent and distant history demonstrates that Ukraine's entry to NATO is not escalatory for Russia and instead acts to the contrary.

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TRANSATLANTIC SECURITY

The Role of NATO's Nuclear Deterrence in Transatlantic Security in the Face of Russian Aggression Against Ukraine

Agata Bidas

Introduction

During the launch of the New Agenda for Peace in New York in June 2023, UN Secretary-General Antonio Guterres discussed the increasing global challenges, such as armed conflicts, human rights violations, rising inequalities between states, terrorism, and climate crises. The need for nuclear disarmament was emphasized, particularly in light of Russia's aggression against Ukraine in February 2022. Guterres highlighted the increasing concerns regarding nuclear war and the dissatisfaction of states with the slow progress of disarmament.[1] This concern is echoed in scholarly literature, where scholars argue that such aggression, originating from a nuclear weapon state, necessitates a reevaluation of nuclear weapons' role in security doctrines.[2] Simultaneously, the international community celebrated a significant milestone with the entry into force of the Treaty on the Prohibition of Nuclear Weapons (TPNW) on January 22, 2021. This marked the first legally binding treaty to completely ban nuclear weapons. However, nuclear weapon states, including NATO member states, did not support the Treaty.

[1] António Guterres,"Launching New Agenda for Peace Policy Brief, Secretary-General Urges States to 'Preserve Our Universal Institution' Amid Highest Level of Geopolitical Tension in Decade", *UN Press Release*, 20 July 2023, https://press.un.org/en/2023/sgsm21885.doc.htm (Accessed 26 May 2024).
[2] Bonn International Centre for Conflict Studies (BICC) gGmbH, Hessische Stiftung Friedens- und Konfliktforschung, Institut für Friedensforschung und Sicherheitspolitik an der Universität Hamburg (IFSH), Universität DuisburgEssen Campus Duisburg, Fak. für Gesellschaftswissenschaften, Institut für Entwicklung und Frieden (INEF), "Rüstungsdynamiken. Abrüsten Statt Wettrüsten. Friedensgutachten", *Friedensgutachten,* 2022, https://doi.org/10.14361/9783839464038.

The article aims to examine NATO's nuclear deterrence strategies amidst these opposing global trends. This analysis evaluates NATO's nuclear deterrence strategy in response to Russia's actions in Ukraine and assesses its effectiveness against potential threats from Russia, taking into account the dynamic nature of regional conflicts. Additionally, the implications of the Treaty on the Prohibition of Nuclear Weapons are considered, as well as the roles of other NATO members with nuclear capabilities, specifically France and the United Kingdom. The main argument is that the current nuclear deterrence paradigm is being challenged by a nuclear-armed state's aggression against a non-nuclear state and continued threats of nuclear weapon use. Therefore, NATO's nuclear deterrence strategy must be recalibrated, taking into account the Treaty on the Prohibition of Nuclear Weapons and the nuclear strategies of emerging powers. Ignoring these changes could undermine the conventional structure of nuclear deterrence in response to current global challenges. To achieve the objectives of the article, literature research was chosen as the most appropriate method, supplemented by news articles for ongoing event analysis, when scientific papers were lacking.

1. Current Landscape of Global Nuclear Weapons

According to the Stockholm International Peace Research Institute (SIPRI) Yearbook 2023, all states possessing nuclear weapons (the United States, Russia, the United Kingdom, France, China, India, Pakistan, North Korea, and Israel) possessed altogether 12,512 nuclear weapons as of January 2023, with 9,576 of those maintained in military stockpiles for future deployment. Nearly 90% of the world's nuclear weapons are still in the possession of Russia and the USA.[3]

[3] Stockholm International Peace Research Institute, "States Invest in Nuclear Arsenals as Geopolitical Relations Deteriorate", *SIPRI Press Release*, 12 June 2023, https://www.sipri.org/media/press-release/2023/states-invest-nuclear-arsenals-geopolitical-relations-deteriorate-new-sipri-yearbook-out-now (Accessed 26 May 2024).

SIPRI Yearbook 2023 estimates that the number of nuclear weapons in China's arsenal increased from 350 in January 2022 to 410 in January 2023. The other nuclear weapon states are also expected to increase their nuclear arsenal. Although the UK's nuclear arsenal did not appear to grow in 2022, it was announced in 2021 that the limit of warheads would be increased from 225 to 260. France is also expected to grow its arsenal. Currently, French stockpiles are estimated to be 290, but in 2022, France explored a number of nuclear programs. Additionally, work was put into renovating and modernizing old systems.[4] Other nuclear-armed states, including Pakistan, India, North Korea, and Israel, are also modernizing and expanding their nuclear capabilities.[5]

Since 1986, global nuclear arsenals have seen a significant reduction from 76,000 warheads to approximately 12,500.[6] The US and Russia have led this reduction, cutting their arsenals by 76.2% and 85.8%, respectively. France and the UK halved their warheads, while China's arsenal remained stable.[7] However, most reductions occurred in the 1990s through US-Soviet/Russian treaties.[8] Although overall numbers are decreasing, the rate of reduction has slowed, with the US and Russia mainly dismantling retired weapons. Notably, global military stockpiles, including operational forces, are expanding again.[9]

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[4] *Ibid*.
[5] *Ibid*.
[6] Bonn International Centre for Conflict Studies (BICC) gGmbH, Hessische Stiftung Friedens- und Konfliktforschung, Institut für Friedensforschung und Sicherheitspolitik an der Universität Hamburg (IFSH), Universität DuisburgEssen Campus Duisburg, Fak. für Gesellschaftswissenschaften, Institut für Entwicklung und Frieden (INEF), "Rüstungsdynamiken. Abrüsten Statt Wettrüsten. Friedensgutachten", *Friedensgutachten,* 2022, https://doi.org/10.14361/9783839464038 (Accessed 26 May 2024).
[7] *Ibid*.
[8] World Nuclear Association, "Plans for New Reactors Worldwide", 30 April 2023, https://world-nuclear.org/information-library/current-and-future-generation/plans-for-new-reactors-worldwide (Accessed 26 May 2024).
[9] Hans Kristensen, Matt Korda, Eliana Johns, Mackenzie Knight, Kate Kohn, "Status of World Nuclear Forces - Federation of American Scientists", *Federation of American Scientists*, 29 March 2024, https://fas.org/initiative/status-world-nuclear-forces/ (Accessed 26 May 2024).

It is crucial to stress that although five recognized nuclear weapon states are allowed to possess their weapons according to the Non-Proliferation Treaty (NPT), they are obliged to disarm according to Art. 6. This obligation was also highlighted by the International Court of Justice in Advisory Opinion in 1996. According to the Court, "there exists an obligation to pursue in good faith and bring to a conclusion negotiation leading to nuclear disarmament in all its aspects under strict and effective international control.[10]

2. Nuclear Disarmament and Non-Proliferation Regime after the Russian Aggression on Ukraine

Nuclear arms control and disarmament diplomacy experienced significant setbacks after Russia's complete invasion of Ukraine in February 2022. Following the invasion, the US halted its bilateral strategic stability dialogue with Russia. At that time, the only treaty that remained in effect was the 2010 New Strategic Arms Reduction Treaty (New START), extended for an additional five years in February 2021. However, in 2023 Russia declared that it would suspend the application of New START's verification procedures and declared that it was halting its involvement in the New START.[11] However, it is important to stress that it was not only Russia withdrawing from the bilateral arm control treaties. For example, the US withdrew from the Intermediate-Range Nuclear Forces Treaty in 2019 due to alleged Russian non-compliance with the treaty's provisions.[12]

Moreover, the withdrawal of Russia from the CTBT is expected to significantly impact the nuclear non-proliferation regime. The Comprehensive Nuclear-Test-Ban Treaty (CTBT) is

[10] International Court of Justice, "Legality of the Threat or Use of Nuclear Weapons", *1996 Advisory Opinion of the International Court of Justice*, 8 July 1996, https://www.icj-cij.org/case/95 (Accessed 26 May 2024).
[11] Clara Portela, "The EU and the Transformed Nuclear Context Since the War in Ukraine", *IAI Istituto Affari Internazionali*, 13 June 2023, https://www.iai.it/en/pubblicazioni/eu-and-transformed-nuclear-context-war-ukraine (Accessed 26 May 2024).
[12] Bonn International Centre for Conflict Studies (BICC) gGmbH, Hessische Stiftung Friedens- und Konfliktforschung, Institut für Friedensforschung und Sicherheitspolitik an der Universität Hamburg (IFSH), Universität DuisburgEssen Campus Duisburg, Fak. für Gesellschaftswissenschaften, Institut für Entwicklung und Frieden (INEF), "Rüstungsdynamiken. Abrüsten Statt Wettrüsten. Friedensgutachten", *Friedensgutachten,*2022, https://doi.org/10.14361/9783839464038.

another crucial instrument of the current global nuclear regime.[13] Although Russia ratified the CTBT in 2000, on 18 October 2023, the Russian parliament revoked the ratification of the Treaty.[14] The main argument Russia used to explain its decision was that the US had also not ratified the treaty, and Russia would have exactly the same obligations towards nuclear testing as the US.[15] Although the US promised ratification of the CTBT, the Treaty was never ratified.[16] The Russian withdrawal from the CTBT could have a negative impact on the global non-proliferation regime, and potentially benefit countries such as North Korea and Iran. Russia's shift in position may indicate a prioritization of countering the US over nuclear non-proliferation goals, which could lead to a wider departure from international nuclear treaties. The resumption of nuclear testing by Russia could provoke similar actions from other nations, escalating global nuclear tensions.[17]

Finally, the strongest impact that the Russian aggression might have on global non-proliferation efforts is nuclear threats coming from Russian President Vladimir Putin, which followed the invasion. For example, in his speech on the 29th of February 2024, President Putin stressed that Western countries risk provoking a nuclear war if they decide to send their troops to help Ukraine.[18] Therefore, the Russian invasion has called into question the strategy of nuclear deterrence, which will be analyzed below.

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[13] Chris McIntosh, "Framing the CTBT Debate Over the US Ratification of the Treaty" in *Banning the Bang or the Bomb?,* ed. Mordechai Melamud, Paul Meerts and I. William Zartman (Cambridge University Press eBooks, 2014), 146–65, https://doi.org/10.1017/cbo9781107358348.010.
[14] Camille Grand, "Another Blow to Arms Control: Russia's De-Ratification of the Nuclear Test Ban Treaty", *ECFR*, 2 November 2023, https://ecfr.eu/article/another-blow-to-arms-control-russias-de-ratification-of-the-nuclear-test-ban-treaty/ (Accessed 26 May 2024).
[15] Maxim Starchak, "Russia's Withdrawal From the Nuclear Test Ban Treaty Is an Own Goal", *Carnegie Endowment for International Peace*, 24 October 2023, https://carnegieendowment.org/politika/90831 (Accessed 26 May 2024).
[16] McIntosh, "Framing the CTBT Debate Over the US Ratification of the Treaty" in *Banning the Bang or the Bomb?*.
[17] Starchak, "Russia's Withdrawal From the Nuclear Test Ban Treaty Is an Own Goal".
[18] Vladimir Soldatkin and Andrew Osborn, "Putin Warns West of Risk of Nuclear War, Says Moscow Can Strike Western Targets", *Reuters*, 29 February 2024, https://www.reuters.com/world/europe/putin-warns-west-risk-nuclear-war-says-moscow-can-strike-western-targets-2024-02-29/ (Accessed 26 May 2024).

3. NATO Nuclear Deterrence

I. Nuclear Deterrence Theory

Nuclear deterrence is the primary justification for possessing nuclear weapons by states. With the exception of the Second World War bombings of Hiroshima and Nagasaki in 1946, they have never been used again, but they served as political tools for coercive diplomacy. Nuclear deterrence is defined as the idea that, in order to deter potential enemies from launching a nuclear attack, a country must maintain a credible nuclear arsenal, and persuade them of the catastrophic consequences such an attack would have for all parties involved. It is based on the idea of mutually assured destruction and the threat of massive retaliation, which would act as a deterrent, preventing nuclear war.[19]

According to Nye, at the heart of the nuclear dilemma remains the usability paradox, which means that to achieve effective deterrence, there must be some real prospect of nuclear use, either deliberate or accidental.[20] What Nye emphasizes is the fact that deterrence relies on the idea that the use of nuclear weapons, whether intentional or accidental, is possible. The credibility of deterrence is influenced by the potential for nuclear use, which increases the risk of unintended nuclear conflict while potentially stabilizing conventional conflicts.[21]

II. Evolution of NATO's Nuclear Deterrence Strategy

NATO's nuclear policy aims to balance disarmament and deterrence, asserting the alliance will remain nuclear as long as nuclear weapons exist. In the context of nuclear deterrence, it is crucial also to analyze the NATO Strategic Concept, adopted in 2022. The 2022 Concept recognizes new dangers to NATO's interests and principles, including cyber security, energy

[19] Martin Senn, "Nukleare (Ab)Rüstung: Eine Kritische Bestandsaufnahme Ethischer Argumente" in *Handbuch Friedensethik,* ed. Ines-Jacqueline Werkner and Klaus Ebeling (Springer eBooks, 2016), 781–92, https://doi.org/10.1007/978-3-658-14686-3_56.
[20] Joseph S. Nye, "Nuclear Ethics Revisited", *Ethics & International Affairs,* 37:1 (2023), 5–17, https://doi.org/10.1017/S0892679423000047.
[21] *Ibid.*

security, and China's growing influence. Notably, the Concept also recognizes Russia as the biggest threat to Euro-Atlantic security.[22] In terms of nuclear policy, NATO demonstrates how seriously it views possible nuclear threats by announcing its capability and resolve to use nuclear weapons if necessary, even though their use is still unlikely. Additionally, NATO is modernizing its nuclear forces and infrastructure as part of its efforts to modify its nuclear posture. This involves swapping out dual-capable planes for more sophisticated platforms like the F-35 due to the constant evolution of security threats, especially those originating from Russia.[23]

For seventy years, NATO's defense has primarily relied on nuclear deterrence, with strategies evolving over time through consensus decisions, including the 1979 dual-track decision and the flexible response strategy. The 2010 Strategic Concept reaffirmed NATO's dual commitment to deterrence and disarmament. NATO's current stance combines nuclear and conventional capabilities to address challenges like Russia's nuclear policy, North Korea's nuclear ambitions, emerging technologies, and regional instability.[24] While NATO itself does not possess nuclear weapons, its policy is implemented through the member states with such capabilities – mostly the US.

Nuclear weapons have been integral to NATO since its inception in 1949, enshrined in Article 5 of the North Atlantic Treaty, which commits all allies to defend any member in the event of an attack. This mutual defense pact was interpreted as a nuclear guarantee for the alliance. NATO's First Use (FU) policy, adopted during the 1940s and 1950s, allowed for the use of nuclear weapons in response to conventional aggression, stemming from concerns about

[22] Zoltan Szenes, "Reinforcing Deterrence: Assessing NATO's 2022 Strategic Concept", *Defense and Security Analysis,* 39:4 (2023), 539–60, https://doi.org/10.1080/14751798.2023.2270230.
[23] *Ibid*.
[24] Steven Hill, "NATO and the Treaty on the Prohibition of Nuclear Weapons: What Does the Entry Into Force of the TPNW Mean for NATO and Its Member States?", *Chatham House*, 30 March 2021, https://www.chathamhouse.org/2021/01/nato-and-treaty-prohibition-nuclear-weapons/03-natos-concerns-about-tpnw (Accessed 26 May 2024).

the Soviet Union's overwhelming conventional superiority. Tactical nuclear weapons were integrated into NATO's defense strategy in 1954, with the United States deploying 2,500 such weapons across Western Europe by 1960. The alliance later embraced a "flexible response" strategy in 1967. [25] It was designed as a response to Russia's strategy of "escalate to de-escalate," which entails escalating the level of destruction until the opposing side backs down.[26] This strategy permits the use of nuclear weapons as a last resort if a conflict escalates beyond the scope of conventional weapons. However, it is to be stressed that according to this strategy, nuclear weapons should deter both nuclear and conventional attacks.[27] Moreover, flexible response offered a variety of military options outside of massive retaliation in an effort to allay worries about the legitimacy of US nuclear commitments. It emphasized that in order to effectively respond to different levels of conflict and deter Soviet aggression, a balanced combination of conventional and nuclear forces is required. Therefore, NATO took a more nuanced approach to deterrence under the umbrella of flexible response, allowing for the ability to escalate or de-escalate military responses in accordance with the type and scope of the threat. The goal of this tactic was to reduce the possibility of nuclear escalation while offering a reliable deterrent against Soviet aggression.[28]

The situation shifted in the 1980s, when Mikhail Gorbachev's leadership in the Soviet Union culminated in disarmament efforts like the 1987 INF Treaty. Throughout the 1990s, the US and Russia continued nuclear disarmament, influencing NATO's approach. Despite calls for

[25] Nikolai Sokov, "No First Use, Sole Purpose and Arms Control", *Vienna Center for Disarmament and Non-Proliferation*, 4 December 2023, https://vcdnp.org/no-first-use-sole-purpose-and-arms-control/ (Accessed 26 May 2024).
[26] Heinz Gärtner, "Der Vertrag über das Verbot von Nuklearwaffen und negative Sicherheitsgarantien", in *Nukleare Abschreckung in Friedensethischer Perspektive Fragen Zur Gewalt*, ed. Ines-Jacqueline Werkner and
Thomas Hoppe (Springer-Verlag, 2019).
[27] *Ibid.*
[28] David S. Yost, "The US Debate on NATO Nuclear Deterrence", *International Affairs,* 87:6 (2011), 1401–38, https://doi.org/10.1111/j.1468-2346.2011.01043.x.

a No First Use (NFU) policy, NATO has retained flexibility due to political considerations, deeming the NFU policy divisive and politically risky.[29]

Current NATO nuclear policy is built on the described flexible response strategy. What is crucial to understand is that the NATO nuclear policy is largely shaped by the US. Therefore, examining the US nuclear policy will allow an understanding of the NATO strategy. In the US Nuclear Posture Review from 2022, a document that reviews the US nuclear policy, it was stated that the fundamental role of US nuclear weapons is to "deter nuclear attack on the United States, its allies, and partners."[30] It was also indicated that "the United States would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners."[31]

This claim indicates that there is no "no first use" or "sole purpose" policy in the US. A "sole purpose" policy means that the only use of nuclear weapons is to discourage other countries from using them, and a "no first use" policy states that the United States will never use nuclear weapons first in a conflict.[32] While the US has long said that it will not use nuclear weapons against the majority of non-nuclear weapon states, it has not explicitly defined when it would use them or excluded all scenarios in which it may.[33] The Trump Administration, in the 2018 Nuclear Posture Review, also rejected the idea of the sole purpose of nuclear weapons being to deter nuclear attacks.[34] Moreover, the 2018 Nuclear Posture Review signaled a departure from previous policies by expanding the circumstances under which the US would consider using nuclear weapons. This shift towards a "peace

[29] Nikolai Sokov, "No First Use, Sole Purpose and Arms Control".
[30] Amy F. Woolf, "U.S. Nuclear Weapons Policy: Considering 'No First Use'", *Congressional Research Service*, 9 March 2022, https://sgp.fas.org/crs/nuke/IN10553.pdf.
[31] *Ibid*.
[32] *Ibid*.
[33] *Ibid*.
[34] *Ibid*.

through strength" approach aimed to enhance deterrence, particularly against perceived Russian threats, by introducing the possibility of limited nuclear strikes.[35]

The reasons why the United States, and the whole of NATO, has refrained from adopting a "no first use" policy were their concerns regarding the perceived necessity of nuclear deterrence to prevent large-scale conventional war or the use of chemical and biological weapons.[36] For example, supporters of the current policy argue that maintaining the threat of nuclear escalation serves as a deterrent to adversaries like North Korea, China, or Russia, preventing them from exploiting regional conventional advantages before the U.S. or its allies can respond. They assert that abandoning this deterrent could increase the risk of conventional wars escalating to nuclear conflicts and undermine allies' confidence in U.S. defense commitments, potentially leading them to seek their own nuclear weapons.[37]

III. Nuclear Sharing

Apart from the flexible response strategy, the US also took steps to strengthen the legitimacy of its extended deterrence strategy through the nuclear sharing arrangements. As part of these arrangements, several European NATO member states host dual-capable aircraft (DCA) as well as the US nuclear gravity bombs.[38] This strategy was established in the 1960s, with the main goal to show the European NATO member states the US involvement in their security. Although the US nuclear weapons in Europe were reduced after the Cold War, the NATO's nuclear risk- and responsibility-sharing arrangements is still playing an important role in the transatlantic security, as they reassure allies of US commitments, communicate a credible deterrent message to adversaries, and divide the cost of extended deterrence

[35] Trevor McCrisken and Maxwell Downman, "'Peace Through Strength': Europe and NATO Deterrence Beyond the US Nuclear Posture Review", *International Affairs,* 95:2 (2019), 277–95, https://doi.org/10.1093/ia/iiz002.
[36] Woolf, "U.S. Nuclear Weapons Policy: Considering 'No First Use'".
[37] *Ibid*.
[38] Michael Rühle, "NATO's Nuclear Deterrence: More Important, yet More Contested", *NATO Defense College Policy Brief*, 2 (2019), https://www.ndc.nato.int/news/news.php?icode=1260.

responsibilities among alliance members.[39] Additionally, they might be seen as proof of US military and political presence in Europe.[40]

Nuclear sharing arrangements are believed to be crucial in deterring potential threats from Russia. Some NATO member states, particularly those close to the Russian border, view US non-strategic forces in Europe as essential for preventing such coercion and restoring balance in the face of Russia's nuclear capabilities.[41] The credibility of US extended deterrence is particularly important for NATO allies like the Baltic states, the Czech Republic, and Poland, who rely on it for security assurance. However, some states like Belgium, Germany, Luxembourg, the Netherlands, and Norway, were inclined to support the withdrawal of US nuclear weapons from Europe.[42] For example, in 2009, Germany proposed the withdrawal of remaining nuclear weapons from its territory. However, this proposal faced criticism from other member states, particularly the United States, which viewed nuclear weapons as crucial for protecting NATO allies, especially those bordering Russia.[43]

In fact, according to Veebel, non-nuclear NATO members that are close to Russia, like Estonia and Latvia, believe that strengthening regional security requires NATO's nuclear deterrence.[44] Occurrences such as the 2008 Georgia-Russia war and recent full-scale Russian invasion of Ukraine have highlighted the significance of credible deterrence for these states. In general, non-nuclear NATO members close to Russia understand how

[39] Yost, "The US Debate on NATO Nuclear Deterrence".
[40] *Ibid*.
[41] *Ibid*.
[42] *Ibid*.
[43] Kjølv Egeland, "Spreading the Burden: How NATO Became a 'Nuclear' Alliance", *Diplomacy and Statecraft*, 31:1 (2020), 143–67, https://doi.org/10.1080/09592296.2020.1721086.
[44] Viljar Veebel, "(Un)Justified Expectations on Nuclear Deterrence of Non-nuclear NATO Members: The Case of Estonia and Latvia?", *Defense and Security Analysis,* 34:3 (2018), 291–309, https://doi.org/10.1080/14751798.2018.1500758.

important NATO's nuclear deterrence is to preserving regional security and deterring possible threats.[45]

Another crucial example is Poland. The country's worries about Russian military actions in Ukraine as well as the alleged transfer of nuclear weapons to Belarus are the reason for its interest in hosting nuclear weapons, expressed in 2023 and repeated also in 2024. [46] By hosting the US nuclear weapons Poland would hope not only to strengthen its own security towards Russia but also to reaffirm the US commitment to extended deterrence by taking part in NATO's nuclear-sharing program.[47] On the other hand, it is important to highlight that this policy may bring significant risks and therefore, it is not an official position of the Polish government yet. The dynamics of potential escalation are the most important factor to consider, as the presence of nuclear weapons in a new NATO member state may raise tensions and lead to escalation of the conflict with Russia.[48] However, the Polish interest in hosting nuclear weapons shows the importance of nuclear sharing in the NATO strategy.

However, it is important to note that European NATO member states recognise the need to strengthen their security on their own. The crucial issue revealed by the Russian invasion of Ukraine has been the European dependence on the United States for its defense and it has led to calls for the European nuclear deterrent.[49] Moreover, the call for a European nuclear deterrent reflects Europe's aspiration for strategic autonomy, driven by concerns about the United States' commitment to Article 5. The acknowledgement that the US may not fully

[45] *Ibid*.
[46] Claudia Chiappa, "Poland: We're Ready to Host Nuclear Weapons", *Politico, 22* April 2024, https://www.politico.eu/article/poland-ready-host-nuclear-weapons-andrzej-duda-nato/ (Accessed 26 May 2024).
[47] "Poland's Bid to Participate in NATO Nuclear Sharing", *Strategic Comments,* 29:7 (2023), https://doi.org/10.1080/13567888.2023.2258045.
[48] *Ibid*.
[49] Jacques Lanxade et al.,"Europe Needs a Nuclear Deterrent of Its Own", *Atlantic Council*, 12 July 2023, https://www.atlanticcouncil.org/blogs/new-atlanticist/europe-needs-a-nuclear-deterrent-of-its-own/ (Accessed 26 May 2024).

meet its defense commitments to Europe has led to demands for greater autonomy in defense affairs.[50] This may increase the trend towards self-reliance in European strategic planning, possibly creating a supplementary mechanism to the current US nuclear umbrella in the future.[51]

IV. Effectiveness of the Nuclear Deterrence theory and Its Impact on Transatlantic Security

Having described the main arguments for possession of nuclear weapons, it is crucial to analyze if these arguments work in real life. First, the limitations of nuclear deterrence theories have been demonstrated by the Russian aggression towards Ukraine. As a nuclear-armed country, Russia launched an attack on a non-nuclear-armed country and issued a warning it was willing to employ nuclear weapons in response to any other country supporting Ukraine.[52] This illustrates that nuclear deterrence fails to promote peace; instead, it enables nuclear-armed countries to intimidate other nations without repercussions.[53] Russia was not deterred by the fact that Ukraine's allies (NATO) possess nuclear weapons, and it has been alluding to its own possession of nuclear weapons from the beginning of the aggression, which may have affected the Western reactions to the Russian aggression, especially at its beginning.[54]

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[50] Jakob Hanke Vela and Nicolas Camut, "As Trump Looms, Top EU Politician Calls for European Nuclear Deterrent", *Politico,* 25 January 2024, https://www.politico.eu/article/europe-nuclear-warfare-detterence-manfred-weber-vladimir-putin-ukraine-russia-war/ (Accessed 26 May 2024).
[51] *Ibid*.
[52] Heather Williams, "Deterring Nuclear Weapons Use in Ukraine", *Center for Strategic & International Studies*, 14 October 2022, https://www.csis.org/analysis/deterring-nuclear-weapons-use-ukraine (Accessed 26 May 2024).
[53] Bonn International Centre for Conflict Studies (BICC) gGmbH, Hessische Stiftung Friedens- und Konfliktforschung, Institut für Friedensforschung und Sicherheitspolitik an der Universität Hamburg (IFSH), Universität DuisburgEssen Campus Duisburg, Fak. für Gesellschaftswissenschaften, Institut für Entwicklung und Frieden (INEF),"Rüstungsdynamiken. Abrüsten Statt Wettrüsten. Friedensgutachten", *Friedensgutachten,* 2022, https://doi.org/10.14361/9783839464038.
[54] Heinz Gärtner, "Der Vertrag über das Verbot von Nuklearwaffen und negative Sicherheitsgarantien" in *Nukleare Abschreckung in Friedensethischer Perspektive Fragen Zur Gewalt*.

While Ukraine has consistently rejected Putin's nuclear threats and continues to resist Russian aggression, the fear of worsening situations among leaders in the West has a significant impact on their decision-making. For instance, Dickinson believes that Western decision-makers have been hesitant to support Ukraine militarily and take any steps that might incite more Russian aggression due to the prospect of nuclear war.[55] However, there are conflicting views in the literature on the question of whether Russian nuclear threats have successfully deterred the NATO states from engaging in the war.[56] Some argue that these threats influenced the US and other Western nations to show restraint. This is evidenced by the White House's refusal to intervene directly in the conflict and the cancellation of plans to supply Ukraine with aircraft when Russia declared a nuclear alert.[57] However, some suggest that Western decision-makers refrained from intervention due to general risk aversion, rather than a lack of concern for the situation, especially taking into consideration past costly and inconclusive military interventions.[58]

According to Williams et al., Russian nuclear threats were supposed to be aimed at deterring NATO intervention in Ukraine, Western aid for Ukraine, and attacks on Crimea and Russia. However, it did not prevent military aid to Ukraine or enable Russia to achieve its goals. In fact, Western support for Ukraine increased over time.[59] Moreover, it has to be emphasized

[55] Peter Dickinson, "Bowing to Putin's Nuclear Blackmail Will Make Nuclear War More Likely", *Atlantic Council*, 29 February 2024, https://www.atlanticcouncil.org/blogs/ukrainealert/bowing-to-putins-nuclear-blackmail-will-make-nuclear-war-more-likely/.
[56] Heather Williams et al., "Russian Nuclear Calibration in the War in Ukraine", *Center for Strategic and International Studies,* 26 February 2024, https://www.csis.org/analysis/russian-nuclear-calibration-war-ukraine.
[57] Clara Portela, "The EU and the Transformed Nuclear Context Since the War in Ukraine", *IAI Istituto Affari Internazionali*, 13 June 2023, https://www.iai.it/en/pubblicazioni/eu-and-transformed-nuclear-context-war-ukraine.
[58] *Ibid*.
[59] Williams et al., "Russian Nuclear Calibration in the War in Ukraine".

that Putin's use of nuclear threats in relation to the war in Ukraine has wider repercussions for international security. If Russia succeeds in normalizing the use of nuclear threats as a tool for foreign policy, it could undermine decades of non-proliferation efforts and lead to a new arms race. In consequence, this could make other states possessing nuclear weapons follow the pattern.[60]

To answer the question on the effectiveness of the NATO nuclear deterrence, it is crucial to analyze Russian nuclear deterrence theory. Russia upholds a nuclear strategy that frames nuclear weapons as tools of strategic deterrence against weapons of mass destruction (WMDs) while also remaining prepared to use nuclear weapons as a retaliation to conventional assaults. The Russian Military plan from 2010 maintains this strategic stance, stating that the deployment of nuclear weapons is still an option if the "very existence of the Russian Federation is put under threat."[61] Since this formulation is very general, it can be interpreted very broadly. The latest doctrinal document, the "Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence" of 2020, outlines that nuclear use aims to prevent the escalation of military actions and end them on terms acceptable to Russia.[62]

The next argument why the nuclear deterrence theory does not work is primarily because it rests on the flawed assumption that nuclear conflict can be controlled and that a nuclear exchange could result in a victory, an outlook not supported by evidence, especially when a state adopts a fist use policy. For example, the belief that the threat of first use of nuclear weapons effectively deters conventional conflicts or less lethal aggression against the U.S.

[60] Dickinson, "Bowing to Putin's Nuclear Blackmail Will Make Nuclear War More Likely".
[61] Łukasz Kulesa, Ian Anthony, Camille Grand, Christian Mölling, and Mark Smith, "Global Zero: Implications for Europe" in *Nuclear Weapons After the 2010 NPT Review Conference*, ed. Jean Pascal Zanders, (European Union Institute for Security Studies (EUISS), 2010), http://www.jstor.org/stable/resrep07021.8.
[62] Portela, "The EU and the Transformed Nuclear Context Since the War in Ukraine".

and its allies is contradicted by the continuous occurrence of crises and regional wars post-Cold War, showing little impact on enhancing security.[63] Furthermore, the notion that nuclear first use could turn dire situations to the U.S.'s advantage overlooks the global condemnation and the disproportionate retaliation it would provoke, undermining national and allied interests. Additionally, nuclear weapons offer no deterrence against numerous modern challenges, such as terrorism or attacks by non-state actors using chemical, biological, or cyber means.[64]

4. Treaty on the Prohibition of Nuclear Weapons (TPNW)

I. Main Principles of the TPNW

The Treaty on the Prohibition of Nuclear Weapons (TPNW) was adopted in July 2017 and came into force in January 2011, breaking a two-decade-long stagnation in international nuclear disarmament law. Despite wide support from UN Member States, including many representing a substantial share of the global population, major nuclear powers refused to endorse it, criticizing it as "idealistic" and logically flawed.[65] The TPNW rests on two pillars: the total prohibition of nuclear weapons and victim assistance and environmental clean-up, reflecting a shift towards humanitarian disarmament prioritizing human and victim needs over state-based security objectives.[66] The shift towards preventing human suffering and environmental degradation caused by problematic weapons began in the mid-1990s, challenging state-driven interests. The negotiation process of the TPNW involved broad participation from victims, civil society organizations, and experts, highlighting its

[63] James E. Doyle, "Nuclear No-First-Use (NFU) Is Right for America", *RealClear Defense*, 13 July 2016, https://www.realcleardefense.com/articles/2016/07/13/nuclear_no-first-use_nfu_is_right_for_america_109556.html (Accessed 26 May 2024).
[64] *Ibid*.
[65] Christopher P. Evans, "Questioning the Status of the Treaty on the Prohibition of Nuclear Weapons as a 'Humanitarian Disarmament' Agreement", *Utrecht Journal of International and European Law,* 36:1 (2021), 52–74, https://doi.org/10.5334/ujiel.532.
[66] *Ibid*.

humanitarian nature. The preamble of the TPNW emphasizes the contravention of international humanitarian law by nuclear weapons, echoing the ICJ Advisory Opinion from 1996.[67]

II. NATO's Position on the TPNW

NATO adopts a cautious approach towards the Treaty on the Prohibition of Nuclear Weapons, expressing doubts about its potential impact on the Nuclear Non-Proliferation Treaty and its effectiveness in the current state of international security. The alliance argues that disarmament efforts under the TPNW could fail to improve global security without the involvement of all nuclear-armed states. The alliance is especially concerned that the TPNW does not sufficiently address threats from important actors such as North Korea and Russia.[68] Since NATO is a nuclear alliance, none of its member states have supported the TPNW.

In addition to the nuclear powers and their NATO allies, other US allies such as South Korea, Australia, and Japan and prospective NATO members such as Montenegro, Moldova, and Ukraine have not supported the TPNW. This reveals a stark difference between the vast majority of countries supporting nuclear disarmament and a strong alliance led by the US and NATO, which have a long-standing security stake in nuclear weapons. Non-nuclear NATO members must balance their membership in a long-standing nuclear alliance with their duty under the NPT to work toward a world free of nuclear weapons, which they have verbally endorsed.[69] Therefore, according to Egeland, because NATO has made it clear that

[67] *Ibid*.
[68] Steven Hill, "NATO and the Treaty on the Prohibition of Nuclear Weapons: What Does the Entry Into Force of the TPNW Mean for NATO and Its Member States?".
[69] Tom Sauer, "How Will NATO's Non-nuclear Members Handle the UN's Ban on Nuclear Weapons?", *Bulletin of the Atomic Scientists,* 73:3 (2017), 177–81, https://doi.org/10.1080/00963402.2017.1315039.

it is a "nuclear alliance," pro-nuclear actors have been able to undermine efforts at disarmament while successfully arguing in favor of nuclear modernization and ongoing nuclear deployments.[70]

III. Impact of the TPNW on Deterrence Theory

It is increasingly clear to non-nuclear states that the risks and limitations of nuclear deterrence theory are the root of its problems. This theory relies on nuclear weapons and security measures based on deterrence, which can lead to catastrophic outcomes not only through intentional use, but also due to errors in judgment, mishaps, or escalation. Recent belligerent rhetoric and risky posturing by nuclear-armed powers, such as the exchange between North Korea and the US and Russian nuclear threats, highlight the unstable nature of nuclear deterrence.[71]

Supporters of the Treaty on the Prohibition of Nuclear Weapons who do not possess nuclear weapons view nuclear deterrence as a high-risk strategy due to its reliance on fallible human-controlled mechanisms. The interdependence of nuclear hazards worldwide means that all individuals are vulnerable to the devastation caused by nuclear weapons, regardless of the actions of individual states or leaders. Steps that are urgently needed to reduce these hazards include de-alerting, de-targeting, transparency initiatives, and pledges to refrain from first use.[72]

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[70] Kjølv Egeland, "Spreading the Burden: How NATO Became a 'Nuclear' Alliance".
[71] Alexander Kmentt, "Nuclear Deterrence Perpetuates Nuclear Risks: The Risk Reduction Perspective of TPNW Supporters", *European Leadership Network*, 4 December 2020, https://www.europeanleadershipnetwork.org/commentary/nuclear-deterrence-perpetuates-nuclear-risks-the-risk-reduction-perspective-of-tpnw-supporters/ (Accessed 26 May 2024).
[72] *Ibid*.

However, states possessing nuclear weapons prioritize maintaining 'strategic stability' and focus on mitigating threats that could undermine their deterrence relationships. This perspective limits the scope of risk reduction strategies as it prioritizes the legitimacy of nuclear deterrence over comprehensive risk reduction initiatives. This conflict arises from the need to maintain nuclear weapons for deterrence while ensuring they are never used intentionally or accidentally.[73]

States without nuclear weapons can contribute to reducing nuclear risk by highlighting the dangers and humanitarian impact of nuclear weapons. It is essential to have meaningful collaboration between states with and without nuclear weapons to fully address these threats. The TPNW project provides an open and inclusive forum for dialogue to balance the risks to humanity against the security advantages of deterrence. Ignoring these nuclear threats undermines the opportunity to reconcile opposing views in the nuclear weapons debate and perpetuates the limited strategy of focusing solely on strategic risks.[74]

However, the context of Russia's aggression against Ukraine and repeated by President Putin's nuclear threats underscores the TPNW's argument for total disarmament as the only solution to eliminate nuclear dangers. This situation highlights the urgency of addressing the increased prominence of nuclear weapons and rethinking security architectures that currently depend on such arms.[75]

[73] *Ibid*.
[74] *Ibid*.
[75] Ludovica Castelli, "Italy and the Nuclear Ban Treaty: A Hesitant Opening?", *IAI Istituto Affari Internazionali*, 16 June 2022, https://www.iai.it/en/pubblicazioni/italy-and-nuclear-ban-treaty-hesitant-opening (Accessed 26 May 2024).

However, it cannot be overseen that there are some authors who are more critical towards the TPNW. For example, Rühle notices that in the current security environment, initiatives to stigmatize nuclear weapons amount to "doubtful attempts to delegitimize the defense policies of Western democracies." At the same time, however, he warns about the risks coming from nuclear deterrence such as potential cyber-attacks on nuclear infrastructure.[76]

5. Outlook For the Future

In light of recent geopolitical developments, particularly Russia's aggression towards Ukraine, the role of NATO in nuclear deterrence is crucial for transatlantic security. Therefore, it is essential to reconsider NATO's nuclear strategy and its stance towards the TPNW. Additionally, Russia's withdrawal from the CTBT highlights the necessity for a strong NATO response to deter potential nuclear threats in the region.[77] However, it is important for the US to be aware that its refusal to ratify the CTBT could weaken the non-proliferation regime, exacerbating concerns over nuclear security in Europe.[78] Therefore, a joint effort is crucial to uphold the Comprehensive Nuclear-Test-Ban Treaty and prevent the hazardous resurgence of nuclear testing.[79]

NATO should denounce Russia's actions on international platforms, highlighting the breach of nuclear treaties and the impact on transatlantic security.[80] It is essential for NATO to review its nuclear deterrence strategy in light of the increasing tensions with Russia. This involves assessing the balance of nuclear and conventional forces to enhance deterrence and foster stability in the region.[81] Doyle recommends adopting a No First Use (NFU) policy, which aligns with NATO's goal of enhancing international stability and safeguarding

[76] Michael Rühle, "NATO's Nuclear Deterrence: More Important, yet More Contested".
[77] Camille Grand, "Another Blow to Arms Control: Russia's De-Ratification of the Nuclear Test Ban Treaty".
[78] Chris McIntosh, "Framing the CTBT Debate Over the US Ratification of the Treaty" in *Banning the Bang or the Bomb?*.
[79] Camille Grand, "Another Blow to Arms Control: Russia's De-Ratification of the Nuclear Test Ban Treaty".
[80] *Ibid*.
[81] Joseph S. Nye, "Nuclear Ethics Revisited".

transatlantic security interests.[82] However, Nye notes that changing the current nuclear strategy could affect current conflicts and tensions. In addition to Russian aggression against Ukraine, there are also concerns about Iran's and North Korea's nuclear ambitions. It is crucial to emphasize that any change in strategy within NATO could potentially impact all of these conflicts. Therefore, Nye suggests that one should always consider the appropriate mix of nuclear, conventional, and other instruments to extend deterrence and attempt to reduce the nuclear component where possible.[83] For instance, for the situation in North Korea, he proposes deploying more conventional forces instead of nuclear weapons to the Korean Peninsula.[84]

At the same time Anderson notices that, although NATO defined itself as a "nuclear alliance", it has to define what it means. The author claims that the current state of just maintaining few American weapons in Europe might not be enough for an effective deterrence. Therefore, the author suggests that the Alliance credibly communicates its political will and military capability to deter potential enemies.[85]

Moreover, as Williams suggests, to confront Russian aggression in the future, the United States and its allies should prioritize understanding the impact of international pressure on Russian decision-making.[86] It is important to maintain ambiguity in response messaging and coordinate with India and China to pressure Moscow against nuclear use. Additionally, countering Russian disinformation and remaining prepared for potential use scenarios are

[82] James E. Doyle, "Nuclear No-First-Use (NFU) Is Right for America".
[83] Joseph S. Nye, "Nuclear Ethics Revisited".
[84] Williams et al., "Russian Nuclear Calibration in the War in Ukraine".
[85] Matthew P. Anderson, "NATO Nuclear Deterrence: The Warsaw Summit and Beyond", *Connections. The Quarterly Journal (English Ed.),* 15:4 (2016), 5–30, https://doi.org/10.11610/Connections.15.4.01.
[86] Williams et al., "Russian Nuclear Calibration in the War in Ukraine".

crucial. Managing escalation will remain a key challenge for Western leaders as Russia continues to rely on nuclear threats.

For instance, the notion of a Sole Purpose (SP) policy, which proposes that nuclear weapons should only be used to deter nuclear attacks, is considered a potential strategy for reducing nuclear tensions and advancing disarmament. However, achieving meaningful disarmament in an unpredictable global security environment is complex due to the strategic value Russia and the US place on their nuclear forces, coupled with the anticipated expansion of China's nuclear arsenal. Therefore, a cautious approach to any significant reduction in nuclear capabilities is suggested.

Bridging gaps between the TPNW and the NPT is essential for NATO's disarmament efforts and transatlantic security. NATO's attendance at meetings as observers and endorsement of resolutions regarding the TPNW demonstrates its commitment to nuclear disarmament and security interests, particularly in response to Russian aggression. The observer status provides a platform for constructive engagement in disarmament discussions. Observer countries can make statements despite not having voting rights. This allows them to voice concerns and perspectives, particularly on issues such as verification mechanisms and the compatibility of the TPNW with the Nuclear Non-Proliferation Treaty.[87]

The next possible steps include changing NATO's language regarding the treaty, creating a "Group of Friends of the TPNW" within NATO, providing financial support to victims of nuclear weapon tests, and endorsing TPNW resolutions in the UN General Assembly. By

[87] Castelli, "Italy and the Nuclear Ban Treaty: A Hesitant Opening?".

participating, NATO's security interests can be protected, and a commitment to nuclear disarmament can be shown.[88]

NATO's engagement with the TPNW is crucial since the lack of engagement and criticisms towards the treaty risks ignoring the majority of international public opinion (including the citizens of NATO member states) and the efforts of civil society and international organizations that have supported the TPNW.[89]

Moreover, what Magula et al. propose is that NATO should strengthen its conventional capabilities, for example by increasing its troops in Poland but also by building hybrid deterrence capabilities. The authors draw attention to the fact that Russia uses hybrid warfare against NATO member states such as cyberattacks and disinformation campaigns. Therefore, NATO has to develop more effective answers to combat these threats. The authors also notice that NATO needs to adjust to present and future threats in order to strengthen its capacity to counter Russia and other adversaries outside of armed conflict, given the increasingly complex security landscape and uncertain future.[90]

Nevertheless, it is crucial to emphasize that deterrence strategies, including nuclear deterrence, need to adhere to the democratic values in order to be legitimized. Therefore, Colleta draws attention to the conflict between the traditional understanding of deterrence, based on risks, and the values of accountability and transparency that are crucial in

[88] Tom Sauer, "NATO Allies, Don't Dismiss the TPNW", *European Leadership Network*, 21 January 2021, https://www.europeanleadershipnetwork.org/commentary/nato-allies-dont-dismiss-the-tpnw/ (Accessed 26 May 2024).
[89] Castelli, "Italy and the Nuclear Ban Treaty: A Hesitant Opening?".
[90] Justin Magula, Michael Rouland, and Peter Zwack, "NATO and Russia: Defense and Deterrence in a Time of Conflict", *Defence Studies,* 22:3 (2022), 502–9, https://doi.org/10.1080/14702436.2022.2082957.

democracies. The NATO states' governments should balance these two contradictions in order not only to prevent external threats, but to also maintain and promote the democratic order. [91]

Conclusion

In conclusion, NATO's strategic approach to maintaining transatlantic security requires a delicate balance between maintaining a credible nuclear deterrent and engaging with disarmament efforts, including the Treaty on the Prohibition of Nuclear Weapons (TPNW), especially in light of Russian aggression towards Ukraine. The importance of NATO's adaptability in its nuclear posture is underscored by the evolving security landscape. It is crucial to ensure that deterrence remains effective without undermining the broader goals of nuclear non-proliferation and disarmament.

NATO's engagement with the TPNW could demonstrate a commitment to addressing the concerns of non-nuclear weapon states and acknowledging the potential humanitarian impact of nuclear weapons. This engagement should include tangible actions, such as providing compensation for victims of nuclear weapon testing. This not only aligns with moral imperatives but also strengthens the alliance's legitimacy on the global stage. By doing so, NATO can demonstrate leadership in the pursuit of a more secure world free from the threat of nuclear devastation.

In the context of current and potential conflicts, particularly with the possibility of Russian

[91] Damon V. Coletta, "Deterrence Logic and NATO's Nuclear Posture: SSQ", *Strategic Studies Quarterly,* 7:1 (2013), 69-92, https://uaccess.univie.ac.at/login?url=https://www.proquest.com/trade-journals/deterrence-logic-natos-nuclear-posture/docview/1317447099/se-2.

aggression in Europe, NATO should prioritize the development and deployment of conventional forces. Improving conventional capabilities provides a feasible way to deter aggression and reassure allies without increasing nuclear risks. This approach reflects a strategic calculation that the security challenges of the 21st century require diverse and flexible responses. NATO's security strategy must embody a comprehensive approach that leverages both nuclear deterrence and proactive engagement in disarmament initiatives. By doing so, NATO can help to safeguard transatlantic security, uphold international norms against the use of nuclear weapons, and contribute to the long-term goal of a world without them.

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TRANSATLANTIC SECURITY

East Versus West: European Strategic Autonomy and Transatlantic Ties

Ian Cameron

Introduction

Russia's invasion of Ukraine has triggered a Zeitenwende in European security and in EU politics, specifically in its security and defense policy. Moscow's aggression has discredited the French and German approaches towards Russia and defense policy, elevating policies supported by countries like Poland and the Baltics. As a result, some argue that Europe's "center of gravity" could be shifting eastwards, away from the traditional Franco-German engine and towards a new, more united bloc of Central and Eastern European (CEE) states likely led by Warsaw.[1]

In line with the European integration theory of "intergovernmentalism," which posits that European integration is primarily a process of national states searching for mutually advantageous bargains, such a shift would have major ramifications for the EU's approach to foreign and defense policy and for European security overall.[2] Importantly, foreign and defense policy in the EU remains highly intergovernmental, and final decision-making authority rests with national governments. Moreover, there are often multiple EU venues for

[1] In the context of this paper Central and Eastern Europe (CEE) refers to the formerly communist countries of the Eastern Bloc that joined the EU after the end of the Cold war; the "shift eastward" thesis includes not just the EU but also other international forums such as NATO. Therefore, the contention is not limited to the EU. However, most of the arguments presented in favor of the thesis that Europe's center of gravity is moving are also applicable to the EU, even if they consider NATO.

[2] Liesbet Hooghe and Gary Marks, "Grand Theories of European Integration in the Twenty-First Century", *Journal of European Public Policy,* 26:8 (2019), 1115-1116.

approaching foreign and defense policy issues as well as different and competing strategic preferences in the EU. Therefore, the relative balance of power inside the EU is critical to its overall strategic orientation as well as to determining specific reactions to foreign policy issues and crises.

This article analyzes two interrelated issues: the balance of power inside the EU and its effect on the transatlantic relationship. The key question is whether Europe's center of gravity is shifting eastward. The EU's CEE members have played a key role in shaping support for Ukraine in response to Russia's invasion, but they struggle to work as a unified bloc to influence policy-making, which undermines the likelihood of a long-term shift away from the traditional Franco-German power center towards a CEE grouping led by Warsaw.

Nonetheless, CEE countries will likely have a larger role in steering the debate on European security. Many CEE views on security policy have been vindicated, with Russia having become Europe's primary security threat. This article therefore uses the analysis of the EU's internal balance of power to address a contentious policy area inside the EU: European Strategic Autonomy (ESA), the long-discussed idea that the EU should become less dependent on the United States.

CEE members of the EU have long been wary of ESA as a thinly veiled attempt to weaken the United States' role in European defense and to strengthen the influence of the Franco-German duo.[3] For many CEE states, the connection to Washington is seen in existential terms, and European options are not seen as a viable replacement for the transatlantic relationship. Therefore, France and Germany, both of which support ESA, will need to develop a version of ESA that is compatible with CEE interests and preferences. This paper presents a version of ESA that is technically and politically feasible by focusing on two specific areas: military crisis management and defense industrial policy.

[3] Tomáš Valášek, "In Select Areas the Case for Strategic Autonomy is Strong for CEE", in *EU Strategic Autonomy: Central and Eastern European Perspectives*, ed. Damir Marusic and Kinga Brudzinska (GLOBSEC, 2021), 22-23.

1. European Foreign and Security Policy and the Role of the Franco-German Engine

Efforts to integrate security and defense policy in Europe go back to the origins of the EU, and the member states' interests and national priorities have consistently shaped those efforts. Moreover, while states' preferences differ regarding the supranational vs intergovernmental approach, the issue of foreign and security policy has historically been difficult to integrate given the centrality of security for state sovereignty.[4] Therefore, the EU's efforts in foreign and security policy have remained primarily intergovernmental and underdeveloped compared to integration in other areas.

The first attempt at defense integration was France's proposed European Defense Community (EDC) in the early 1950s. Paris was wary of German rearmament and developed the EDC to bind German power.[5] However, Bonn stipulated that all restrictions placed on Germany would apply to other participating countries as well.[6] Therefore, the EDC was abandoned in favor of German membership in NATO, which granted Germany sovereignty but also limited German power sufficiently for France.[7]

France's Fouchet Plan --- a later attempt to increase foreign and defense policy coordination--- likewise failed. The Fouchet Plan foresaw a primarily intergovernmental approach, focusing on regular summits and coordination in foreign and security policy and decreasing the United States' role in Europe and Britain. According to Jeffrey Vanke, the Fouchet Plan represented the closest Western Europe came to political union before the 1992 Maastricht treaty, but it stumbled on the determined resistance of one of the six member states: the Netherlands.[8] The European Political Cooperation emerged in 1969 to

[4] Mathias Koenig-Archibugi, "Explaining Government Preferences for Institutional Change in EU Foreign and Security Policy", *International Organization,* 58:1 (2004), 139-142.
[5] William Hitchcock, *France Restored: Cold War Diplomacy and the Quest for Leadership in Europe, 1944-1954* (University of North Carolina Press, 1998), 141-142.
[6] *Ibid*, 170.
[7] *Ibid*, 198-199.
[8] Jeffrey Vanke, "An Impossible Union: Dutch Objections to the Fouchet Plan, 1959-1962", *Cold War History,* 2:1 (2001), 95-96.

increase foreign policy coordination, but France ensured that it remained strictly intergovernmental in nature.[9]

European efforts in security and defense policy gained new momentum in the post-Cold War period. The Maastricht Treaty of 1992 provided the legal basis for a Common Foreign and Security Policy (CFSP), and the national preferences of member states shaped its evolution throughout the 1990s.[10] France consistently sought to limit the role of European institutions and retain an intergovernmental model. Similarly, until the Saint Malo initiative of 1998, the UK consistently blocked efforts to make defense an EU policy field.[11] Moreover, as the work of Christopher J. Bickerton, Dermot Hodson, and Uwe Puetter on New Intergovernmentalism points out, since the Maastricht Treaty the EU's activities have expanded rapidly while the constitutional basis for those activities has not.[12] Integration efforts have therefore focused primarily on voluntary coordination and consensus-building rather than supranationalism.

Throughout the process of European integration, the "Franco-German engine" has played a key role. Historically, France and Germany have driven integration and initiatives; other members could either join or be left behind.[13] Occasionally smaller states could block Franco-German projects, as when the Dutch refused the Fouchet plan in the early 1960s. However, it was often difficult to maintain such opposition in the face of a united Franco-German approach, as was the case in the Dutch case.[14]

Of course, France and Germany themselves often had differing interests and foreign policy approaches. During the Cold War their foreign policies often diverged, and they continue to

[9] Ulrich Krotz and Joachim Schild, *Shaping Europe: France, Germany, and Embedded Bilateralism from the Elysee Treaty to Twenty-First Century Politics* (Oxford University Press, 2013), 217.
[10] *Ibid*, 219.
[11] *Ibid*, 222.
[12] Christopher J. Bickerton, Dermot Hodson, and Uwe Putter, "The New Intergovernmentalism: European Integration in the Post-Maastricht Era", *Journal of Common Market Studies,* 53:4 (2015), 704, 711-712.
[13] Erik Jones, "Hard to Follow: Small States and the Franco-German Relationship", *German Politics,* 31:2 (2022), 345.
[14] *Ibid*, 353-354.

experience foreign policy friction.[15] However, as Ulrich Krotz and Joachim Schild's work on the role of the Franco-German engine shows, their bilateral relationship has remained remarkably stable over decades.[16] Krotz and Schild describe the relationship as "embedded bilateralism." Their partnership is highly institutionalized, based on mutually accepted norms, and seen by both as essential to national security, leading to decades of continual partnership and cooperation inside the European context.[17]

Since the end of the Cold War, the Franco-German duo has often played a key role in agenda setting and driving new projects. In the 1990s Berlin's views on foreign and security policy converged with Paris's, allowing for a more active role in shaping policy.[18] Krotz and Schild's work shows that although foreign and security policy was less shaped by Franco-German leadership than other policy areas, Paris and Berlin played a key part in the establishment and evolution of the EU's foreign policy regime.[19] Regarding more recent initiatives, Ines M. Ribeiro, José Rosa, and Ana Isabel Xavier argue that between 2016 (Brexit and Donald Trump's election) and 2022 (Russia's full-scale invasion), France and Germany reinvigorated EU defense policy with initiatives like PESCO and the MPCC.[20]

Therefore, while France and Germany do not present a unified front on all policy issues, they share a deeply-rooted bilateral connection and have repeatedly used their partnership to influence the direction of EU security and defense initiatives. Christoph Heusgen, Angela Merkel's Foreign and Security Policy Advisor from 2005-2017, writes that the foreign policy tradition for German chancellors is always to ask "what is France's stance, and how can we come to a common position?"[21]

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[15] Ulrich Krotz and Joachim Schild, *Shaping Europe: France, Germany, and Embedded Bilateralism from the Elysee Treaty to Twenty-First Century Politics* (Oxford University Press, 2013), 213-216.
[16] *Ibid*, 5-6.
[17] *Ibid*, 8-10.
[18] *Ibid*, 220-221.
[19] *Ibid*, 231-232.
[20] Ines M. Ribeiro, José Rosa, and Ana Isabel Xavier, "Franco-German leadership in the context of EU defence policy: from Brexit to the strategic compass", *Journal of Contemporary European Studies* (2024), 11-12.
[21] Christoph Heusgen, *Führung und Verantwortung: Angela Merkels Außenpolitik und Deutschlands künftige Rolle in der Welt* (Siedler, 2023), 26.

2. The EU and the War in Ukraine: A New Center of Gravity?

France and Germany have had primary leadership in the EU's relationship with Russia, as well as the EU's response to the war in Ukraine. Berlin's influence shaped the EU-Russia Partnership and Cooperation Agreement that entered into force in 1997, with Germany's goal being a close and cooperative relationship with Moscow.[22] Similarly, for most of the post-Cold War period Berlin pursued a strategy of economic rapprochement known as "Wandel durch Handel" (change through trade), which emphasized the power of economic interconnectedness to shape Russia's behavior.[23] Paris and Berlin were key to negotiating the end of the Russo-Georgian war of 2008.[24] Moreover as Liana Fix argues, Germany led the EU's response to Russia's 2014 aggression against Ukraine, with France and Germany dealing with Russia as a duo and attempting to pull the rest of the EU along.[25]

Indeed, even after 2014, Paris and Berlin sought compromise and cooperation with Russia where possible. To maintain their status as unbiased middlemen between Russia and Ukraine, Paris and Berlin even refrained from providing Kyiv with military assistance prior to Russia's full-scale invasion. Berlin limited its contributions to medical assistance and France opted to provide only transport helicopters and patrol vessels for Ukraine's interior ministry. In contrast, NATO members like the United States, the United Kingdom, and Poland all began delivering lethal military aid (anti-armor weapons, small arms, armored vehicles, etc.) prior to 2022.[26]

Of course, CEE countries also influenced the EU's approach to Russia and Eastern Europe. Warsaw consistently, and often successfully, sought to shape the EU's approach towards Ukraine. While Germany and France were focused on the Euro Crisis, Poland and Sweden

[22] Hannes Adomeit, "Bilanz der Deutschen Russlandpolitik seit 1990", *SIRIUS,* 4:3 (2020), 279.
[23] *Ibid*, 277.
[24] Christoph Heusgen, *Führung und Verantwortung: Angela Merkels Außenpolitik und Deutschlands künftige Rolle in der Welt* (Siedler, 2023), 31.
[25] Liana Fix, "The Different 'Shades' of German Power: Germany and EU Foreign Policy during the Ukraine Conflict", *German Politics,* 27:4 (2015), 506-509.
[26] Alexander Lanoszka, "The art of partial commitment: the politics of military assistance to Ukraine", *Post-Soviet Affairs,* 39:3 (2023), 182.

initiated the EU's Eastern Partnership program for post-Soviet states.[27] However, while Poland successfully anchored Ukraine in the EU's agenda, Warsaw never fully achieved its overarching policy goals.[28]

In contrast to the Franco-German approach, many CEE countries (e.g., Poland, the Baltic states, and Romania) always resisted engaging with Russia as a partner, due to long historical experience as well as more recent events. CEE governments frequently criticized their western neighbors' approach. For example, in early February 2022 Estonian Prime Minister Kaja Kallas warned that Russia wanted to expand its territory and the West needed to adopt a strategy of "strategic patience" with Russia. Similarly, Poland objected to Berlin's plans to build the NordStream 2 Baltic Sea pipeline.[29]

In the aftermath of Russia's invasion, CEE leaders rushed to support Ukraine. According to the Kiel Institute for the World Economy's Ukraine Support Tracker, in the first year after the invasion Poland and the Baltics gave the most aid to Ukraine as a percentage of GDP, and the Czech Republic and Bulgaria were also in the top 10. Germany was 14th and France was 22nd, behind both the United Kingdom and the United States.[30] Moreover, once refugee costs are included, 8 of the top 10 countries are CEE states.

The EU's reaction to Russia's aggression in 2014 demonstrates the differences in approach as well as the importance of intergovernmentalism. Viktor Szep finds that in reaction to the

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[27] Adam Krzeminski, "Im Osten viel Neues. Deutsche Ostpolitik aus polnischer Sicht", *Zeitschrift für Außen- und Sicherheitspolitik* 8 (2015), 411-412.
[28] Olga Bulyuk, "Same End, Different Means: The Evolution of Poland's Support for Ukraine at the European Level", *East European Politics and Societies and Cultures,* 31:2 (2017), 326-327.
[29] Ryan Heath and David Herszenhorn, "Estonian PM calls for strong sanctions and 'strategic patience' in dealing with Moscow", *Politico*, February 1 2022, https://www.politico.com/news/2022/02/01/estonia-prime-minister-sanctions-moscow-00004082 (Accessed 23 May 2024);
Alan Charlish, Pawel Florkiewicz, and Anna Wlodarczak-Semczuk, "Polish PM tells Germany's Scholz not to 'give in' over Nord Stream 2", *Reuters*, 9 December 2021, https://www.reuters.com/markets/commodities/polish-pm-tells-germanys-scholz-not-give-in-over-nord-stream-2-2021-12-09/ (Accessed 23 May 2024).
[30] Christoph Trebesch, Arianna Antezza, Katelyn Bushnell, André Frank, Pascal Frank, Lukas Franz, Ivan Kharitonov, Bharath Kumar, Ekaterina Rebinskaya, and Stefan Schramm, *The Ukraine Support Tracker: Which Countries Help Ukraine and How?* (Kiel Institute for the World Economy, 2023), 27, 31.

crisis, the European Council played a key role in setting the political agenda for sanctions against Russia, guided by norms that led to strong support for sanctions.[31] However, at the Council of the European Union, the approach was shaped by bargaining and contestation between members over which sanctions were appropriate.[32] For example, in 2014 Poland and the United Kingdom already wanted to exclude Russia from the SWIFT financial system, but countries with exposure to pressure from Russian gas exports rejected that.

In the wake of Russia's full-scale invasion, Franco-German leadership largely collapsed alongside their respective strategies towards Russia, and CEE countries played a more critical role in leading the European response. CEE countries led the charge in providing political support for Ukraine and lobbying other countries to do more for Kyiv. In March 2022 Warsaw and the Baltic states already supported Kyiv's efforts to sanction Russian energy exports, which put them directly at odds with Berlin, and in April 2022 the leaders of Poland and the Baltic states made a joint visit to Kyiv to show solidarity with Ukraine.[33] Poland, Slovakia, and the Czech Republic all stated unconditional support for Ukrainian victory after Russia's invasion, whereas Germany was more concerned with possible escalation, while still condemning Russian aggression. Warsaw publicly pushed Berlin to move faster and do more, such as allowing countries to export German Leopard tanks to Ukraine.[34]

As the Franco-German approach to Russia collapsed and the CEE states assumed leadership, many commentators saw the possibility of a fundamental shift in Europe's "center of gravity." Poland specifically has been seen as the head of a newly assertive and influential CEE bloc that would shift Europe's internal balance of power, a role that Poland

[31] Viktor Szep, "New intergovernmentalism meets EU sanctions policy: the European Council orchestrates the restrictive measures imposed against Russia", *Journal of European Integration* 42:6 (2020), 855-856.
[32] *Ibid*, 866-867.
[33] Jacopo Barigazzi, Suzanne Lynch, and Barbara Moens, "Next sanctions round will test EU unity on how hard to hit Russia", *Politico, 16* March 2022, https://www.politico.eu/article/eu-russia-saction-war-ukraine-trade/ (Accessed 23 May 2024); RFE/RL, "Presidents Of Poland, Baltic States Visit Kyiv, Meet With Zelenskiy In Show Of Support", *Radio Free Europe/Radio Liberty,* 13 April 2022, https://www.rferl.org/a/polish-baltic-presidents-visit-kyiv-zelenskiy/31801961.html (Accessed 23 May 2024).
[34] Vladimír Handl, Tomáš Nigrin, and Martin Mejstřík, "Turnabout or continuity? The German Zeitenwende: and the reaction of the V4 countries to it", *Journal of European Integration,* 45:3 (2023), 512-514.

enthusiastically embraced. The failure of Paris and Berlin to respond decisively to Russia's aggression also severely tarnished their reputations in other parts of Europe that resolutely backed Kyiv and therefore undercut their claim to leadership.

The argument that Europe's center of gravity is shifting eastward rests on several contentions. One claim is that the war in Ukraine has reordered the alignment of relationships in CEE, especially tightening the bilateral ties between Warsaw and Kyiv.[35] A second argument is that Poland is becoming a key coalition-builder and leader on European security policy (and potentially other policy areas), and that Poland heads a more united CEE region that is central to European security issues.[36] Thirdly, Franco-German leadership has lost credibility for much of the EU's membership in the wake of Russia's invasion, which vindicated the views of many CEE countries.[37] Finally, CEE countries are fundamentally more serious on the central issues of hard security and risk-taking.[38]

However, the EU's center of gravity is unlikely to fundamentally shift away from the Franco-German engine. Firstly, the CEE region faces cohesion difficulties that the Franco-German

[35] Andrew Michta, "Russia's Invasion Of Ukraine Is Transforming Europe", *19FortyFive*, 8 May 2022, https://www.19fortyfive.com/2022/05/russias-invasion-of-ukraine-is-transforming-europe/ (Accessed 23 May 2024);
Taras Kuzio, "Poland and Ukraine: The emerging alliance that could reshape Europe", *The Atlantic Council*, 13 April 2023, https://www.atlanticcouncil.org/blogs/ukrainealert/poland-and-ukraine-the-emerging-alliance-that-could-reshape-europe/ (Accessed 23 May 2024).
[36] Chels Michta, "NATO's New Center of Gravity", *Politico EU,* 21 February 2023, https://www.politico.eu/article/nato-new-center-gravity-poland-warsaw-central-europe-germany-war-ukraine (Accessed 23 May 2024);
Eoln Drea, "The EU's Balance of Power Is Shifting East", *Foreign Policy,* 21 June 2022, https://foreignpolicy.com/2022/06/ (Accessed 23 May 2024)
[37] Eoln Drea, "The EU's Balance of Power Is Shifting East", *Foreign Policy,* 21 June 2022, https://foreignpolicy.com/2022/06/ (Accessed 23 May 2024);
Ishaan Tharoor, "How Poland became the new 'center of gravity' in Europe", *Washington Post*, April 7 2023, https://www.washingtonpost.com/world/2023/04/07/poland-center-gravity-heart-europe-nato-history/ (Accessed 23 May 2024).
[38] Chels Michta, "NATO's New Center of Gravity", *Politico EU,* 21 February 2023, https://www.politico.eu/article/nato-new-center-gravity-poland-warsaw-central-europe-germany-war-ukraine (Accessed 23 May 2024);
Steven Erlanger, "Ukraine War Accelerates Shift of Power in Europe to the East", *New York Times*, 26 January 2023, https://www.nytimes.com/2023/01/26/world/europe/eu-nato-power-ukraine-war.html (Accessed 23 May 2024).

duo does not. The Visegrad Group (V4), consisting of Hungary, Poland, the Czech Republic, and Slovakia, has traditionally been a forum for regional cooperation in Central Europe and has also functioned as a platform to work with outside states, including Germany, Bulgaria, Romania, and the Baltic states.[39] However, the war in Ukraine has severely damaged the V4's viability given the deep rift between Warsaw and Kremlin-friendly Budapest, as well as Bratislava following the election of Robert Fico. These divisions have largely crippled the V4.[40] The CEE region also faces differences in security perceptions. For example, Romania, CEE's second-largest state, is primarily focused on the Black Sea, whereas Poland and the Baltic states emphasize the Baltic region.[41] Bucharest has also challenged Warsaw for leadership in the CEE region in the past.

Also unclear is the stability of the link between Poland and Ukraine. In April 2023, then Foreign Minister Zbiegniew Rau outlined a new and closer relationship with Ukraine as one of Poland's strategic priorities, and Poland's post-communist foreign policy has always treated Ukraine as a priority.[42] However, in the two years since Russia's invasion, the Polish-Ukrainian relationship has experienced significant turbulence, such as Poland's ban on Ukrainian agricultural imports to protect Polish farmers and Kyiv's ban on lawmakers from entering Poland.[43] Moreover, PiS harbors enmity towards Ukraine over interpretation of the memory of the Second World War. In 1943 members of the Ukrainian Insurgent Army, the

[39] Kai Olaf-Lang, *Regionale Kooperationsinitiativen im östlichen Teil von EU und NATO* (Stiftung Wissenschaft und Politik, 2022), 2.
[40] Aneta Zachová, "Visegrad leaders meeting would not bring results, says Czech PM", *Euractiv,* 15 January 2024, https://www.euractiv.com/section/politics/news/visegrad-leaders-meeting-would-not-bring-results-says-czech-pm/ (Accessed 23 May 2024).
[41] Zsombor Zeöld, "Crescent Rising? The Baltic, Romanian, and "V3" Reaction to the 2022 Russia-Ukraine war" in *Russia's Imperial Endeavor and Its Geopolitical Consequences,* ed. Bálint Madlovics and Bálint Magyar (Central European University, 2023), 238.
[42] International Institute for Strategic Studies (IISS), "Poland's Foreign-Policy Priorities in the East and in the EU", *Strategic Comments,* 29:3 (2023), iv–vi.
[43] Julia Payne and Alan Charlish, "Poland, Hungary, Slovakia to introduce bans on Ukraine grains", *Reuters,* 15 September 2023, https://www.reuters.com/world/europe/eu-does-not-extend-ban-ukraine-grains-imports-neighbouring-eu-countries-2023-09-15/ (Accessed 23 May 2024);
Aleksandra Krzysztoszek, "Ukrainian MPs banned from Poland amid ongoing grain row", *Euractiv*, 6 September 2023, https://www.euractiv.com/section/politics/news/ukrainian-mps-banned-from-poland-amid-ongoing-grain-row/ (Accessed 23 May 2024).

military branch of the Organization of Ukrainian Nationalists, participated in the massacring of ethnic Poles in the Volhynia region. The Volhynia massacre remains one of the most sensitive issues in the Polish-Ukrainian relations, and PiS has openly provoked conflict with Ukraine over the legacy of Volhynia and the role of Ukrainian nationalism.[44]

Franco-German internal cohesion has also been challenged by the war in Ukraine. However, they still have sixty years of the embedded bilateralism described by Krotz and Schild, giving their relationship a well-proven ability to endure when they find themselves in opposing positions.

Relative material strength also affects the cohesion challenges of these partnerships. In 2023 Germany and France made up over 40% of the EU's economy, with Germany alone making up almost 27%. Poland, the largest CEE economy, accounts for less than 5% of the EU's overall GDP and is the only CEE country in the EU's 10 largest economies.[45] Germany has also historically been seen as the most important country for the Euro, with Berlin playing an integral role in the EU's common currency. In contrast, most CEE countries are not in the eurozone at all, including Poland.

Although CEE countries have indeed focused more on hard security, especially in comparison to Berlin, both France and Germany have increased their focus on military power, and due to their economic heft, they can generate greater military power than Poland. Warsaw's military spending outstrips French and German spending as a percentage of GDP.[46] However, according to the International Institute for Strategic Studies' 2024 Military Balance, Paris' and Berlin's military budgets amount to $64.3 billion and $77.6 billion

[44] Nikolay Koposov, "Populism and Memory: Legislation of the Past in Poland, Ukraine, and Russia", *East European Politics and Societies and Cultures,* 36:1 (2020), 281-283.
[45] Pallavi Rao, "These are the EU countries with the largest economies", *World Economic Forum,* 1 February 2023, https://www.weforum.org/agenda/2023/02/eu-countries-largest-economies-energy-gdp/ (Accessed 23 May 2024).
[46] NATO, "Defence Expenditures of NATO Countries (2014-2023)", 7 July 2023, https://www.nato.int/cps/en/natohq/news_216897.htm.

respectively, while Poland's 2024 defense budget is only $36.6 billion.[47] This does not guarantee France and Germany leadership in Europe, but their sizable advantages weigh the scales. Moreover, military power is not the only type of power. For example, European response to Russia's invasion involved sanctions, where France and Germany wield far more power than any CEE country. Indeed, issues of economic power and sanctions are likely to retain their importance, including in areas like defense industrial policy.

Finally, there is the issue of leadership, and Warsaw might struggle to exert a consistent leadership role in CEE and in the EU. Although the war in Ukraine has largely vindicated Warsaw's approach to Russia, Poland has missed many opportunities to lead inside the EU, such as on financial integration and the EU's Green Deal, and Poland's ongoing rule of law disputes with Brussels sometimes sideline Poland in the EU.[48] While the new government (elected in October 2023) under former EU Council President Donald Tusk has vowed to restore the rule of law in Poland and end Warsaw's conflict with Brussels, the far-right PiS (Law and Justice) party remains politically powerful and a PiS ally still holds Poland's presidency.[49] Moreover, other CEE countries sometimes refused to follow PiS's lead on European policy issues. For example, the Czech Republic agreed with Warsaw on supporting Ukraine, but Prague was unwilling to support PiS's overtly anti-German stance.[50]

Neither Paris nor Berlin seems ready to cede their historical leadership roles, and both have sought to reorient their approaches to Russia to better match the era of the Zeitenwende. Although Berlin struggled to show leadership in the wake of Russia's full-scale invasion, it has emerged as Kyiv's largest European backer by a wide margin, and when American aid stalled in Congress, German Chancellor Scholz began urging other European states to

[47] International Institute for Strategic Studies (IISS), "Chapter 4: Europe", *The Military Balance,* 124:1 (2024), 90, 96, 124, https://www.tandfonline.com/toc/tmib20/current.
[48] Piotr Buras, "East side story: Poland's new role in the European Union", *European Council on Foreign Relations* (2023), https://ecfr.eu/article/east-side-story-polands-new-role-in-the-european-union/.
[49] Jan Cienski and Laura Hülsemann, "Donald Tusk sworn in as Polish PM", *Politico EU,* 13 December 2023, https://www.politico.eu/article/donald-tusk-poland-sworn-in-prime-minister/ (Accessed 23 May 2024).
[50] Vladimír Handl, Tomáš Nigrin, and Martin Mejstřík, "Turnabout or continuity? The German Zeitenwende: and the reaction of the V4 countries to it", *Journal of European Integration,* 45:3 (2023), 514-515.

increase their aid to Kyiv.[51] Other leading German politicians such as Defense Minister Boris Pistorius have also claimed a leadership role for Berlin in European security.[52]

France likewise continues to claim a leadership role in Europe. Although Paris has not exhibited a foreign policy rethink like in Berlin, Paris has historically seen itself as Europe's strategic leader and French President Emmanuel Macron has reoriented French foreign policy towards maintaining French leadership in Europe in the post-February 2022 world.[53] Although France's overall aid to Ukraine has been comparatively small, Paris has provided high-end capabilities like Scalp missiles, and Macron has shifted France's rhetoric on the EU's future relations with both Ukraine and Russia.[54]

Poland's ability to lead in opposition to France and Germany or to significantly reduce their role is thus questionable. However, Warsaw may yet take on a leadership role in the EU as the new government under Prime Minister Donald Tusk has sought to reinvigorate the Weimar Triangle format with France and Germany, and Poland's response to Ukraine has raised its standing on security and defense issues.

Moreover, even if Europe's "center of gravity" doesn't fundamentally shift, the war in Ukraine is altering Europe's security environment and affects how Paris and Berlin approach their CEE partners. The policy preferences of states like Poland and the Baltic states will matter more in EU foreign and security policy, especially regarding Russia and regional security. This

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[51] Claudia Chiappa, "Germany's Scholz urges US, EU to ramp up Ukraine aid", *Politico EU,* 8 February 2024, https://www.politico.eu/article/olaf-scholz-ukraine-war-aid-military-joe-biden-russia/ (Accessed 23 May 2024).

[52] Deutschlandfunk, "NATO-Treffen - Pistorius: Deutschland Will Führungsrolle Einnehmen", *Deutschlandfunk* 15 February 2024, https://www.deutschlandfunk.de/pistorius-deutschland-will-fuehrungsrolle-einnehmen-102.html (Accessed 23 May 2024).

[53] Joseph de Weck, "No Zeitenwende in Paris", *Internationale Politik Quarterly,* 4 January 2023, https://ip-quarterly.com/en/no-zeitenwende-paris (Accessed 23 May 2024).

[54] Le Monde with AFP, "France to send SCALP long-range missiles to Ukraine", *Le Monde*, 11 July 2023, https://www.lemonde.fr/en/international/article/2023/07/11/france-to-send-scalp-long-range-missiles-to-ukraine_6049285_4.html (Accessed 23 May 2024);
Clea Calcutt, "Macron's slow but bold U-turn on Ukraine", *Politico EU*, 12 September 2023, https://www.politico.eu/article/france-emmanuel-macron-ukraine-war-russia-uturn-vladimir-putin/ (Accessed 23 May 2024).

will have major ramifications for a concept that has long been under discussion in the EU: European Strategic Autonomy. Going forward, CEE states will have more influence on ESA's prospects and potential form.

3. The History and Importance of ESA

The term ESA first appeared in an EU document in 2013, and the concept has evolved repeatedly, leaving its overall meaning blurry and disputed.[55] However, in recent years two general ideas of ESA have emerged: one from Paris and one from Berlin. President Macron unveiled his concept of ESA at the Sorbonne in 2017, including implicit separation of the United States from European security.[56] If Washington retreats from Europe, as Macron predicts, Europe will have to be able to secure its own interests and defend itself without the United States. Following Russia's full-scale invasion, Macron moderated this rhetoric. During a speech in Bratislava, he emphasized the importance of NATO and the United States for Europe but continued to include America's inevitable disengagement and Europe's need to defend itself without the United States.[57]

Historically, Germany has been critical of ESA. Compared to Paris, Berlin has a much stronger connection with Washington in security and defense, and Germany has tended to privilege U.S. centrality in European security.[58] In 2020 Annagrete Kramp Karrenbauer, Germany's Defense Minister, even called for an end to "illusions of strategic autonomy."[59] However, in June 2022, Olaf Scholz outlined his own concept of ESA as part of Germany's

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[55] Damien Mario, "EU strategic autonomy 2013-2023: From concept to capacity", *European Parliament Research Service,* 8 July 2022, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2022)733589.

[56] Emmanuel Macron, "Sorbonne Speech of Emmanuel Macron", *Ouest France*, 26 September 2017, https://international.blogs.ouest-france.fr/archive/2017/09/29/macron-sorbonne-verbatim-europe-18583.html (Accessed 23 May 2024).

[57] Emmanuel Macron, "Globsec Summit in Bratislava", *Elysee*, 31 May 2023, https://www.elysee.fr/en/emmanuel-macron/2023/06/01/globsec-summit-in-bratislava (Accessed 23 May 2024).

[58] Delphine Deschaux-Dutard, "European defence in an interpolar context: explaining the limitations of French-German contribution to European strategic autonomy", *Defence Studies* 22:4 (2022), 602.

[59] Jules Darmanin, Joshua Posaner, and Hans von der Burchard, "Berlin stresses US ties after Macron knocks minister's pro-American op-ed", *Politico EU*, 16 November 2022, https://www.politico.eu/article/emmanuel-macron-annegret-kramp-karrenbauer-defense-europe-strategic-autonomy/ (Accessed 23 May 2024).

Zeitenwende. While Scholz's vision of ESA also involves the EU becoming a more developed military actor that is less reliant on the United States, the hard security aspects are embedded within a much broader conception of the West's autonomy from potentially hostile authoritarian states that includes areas like critical minerals and supply chains.[60]

Moreover, given the EU's deteriorating security environment and its location inside a "ring of fire" of different crisis hotspots, ESA will remain on the EU agenda for several reasons. Firstly, although the United States immediately took leadership in the transatlantic community's response to Russia's full-scale invasion, Washington's attention will be focused on the Indo-Pacific and the growing challenge from China, as indicated by the Biden administration's National Security Strategy's focus on China as the United States' "pacing challenge."[61] The United States will, therefore, provide less leadership in future European crises.

Secondly, NATO is less likely to serve as the primary vehicle for tackling all of Europe's security concerns. Since Russia's invasion of Ukraine, NATO has emphasized territorial defense and deterrence against Russia rather than areas like crisis management.[62] NATO's membership and decision-making structures could also be problematic, largely due to Turkey. Istanbul's goals have diverged significantly from the EU, and the requirement for consensus allows Turkey to freeze decision-making in exchange for concessions on other, unrelated issues, as demonstrated by delays on Swedish and Finnish NATO accession.[63]

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[60] Olaf Scholz, "Rede von Bundeskanzler Scholz an der Karls-Universität am 29 August 2022 in Prag", *Die Bundesregierung* , 29 August 2022, https://www.bundesregierung.de/breg-de/aktuelles/rede-von-bundeskanzler-scholz-an-der-karls-universitaet-am-29-august-2022-in-prag-2079534 (Accessed 23 May 2024).

[61] The White House, *National Security Strategy* (The White House, 2022), 8, 20.

[62] NATO, "NATO 2022 Strategic Concept", 3 March 2023, https://www.nato.int/cps/en/natohq/topics_210907.htm;
NATO, "Vilnius Summit Communique", 11 July 2023, https://www.nato.int/cps/en/natohq/official_texts_217320.htm.

[63] Marc Pierini and Francesco Siccardi, "Why the EU and the United States Should Rethink Their Turkey Policies in 2021", *Carnegie Endowment for International Peace*, 21 January 2021, https://carnegieendowment.org/sada/83662;
Lili Bayer, "No NATO yet, Turkey Tells Sweden and Finland", *Politico EU*, 9 March 2023, https://www.politico.eu/article/turkey-block-nato-accession-sweden-finland-erdogan-ukraine-war/ (Accessed 23 May 2024).

Finally, the EU's periphery remains unstable, and even when EU states have been willing to respond to regional crises with force (e.g., Libya during the Arab Spring), they have relied on the United States for key capabilities.[64] The war in Ukraine has demonstrated that the weakness of the European Defense Technology Industrial Base (EDTIB) leaves the EU dependent on the United States and in a weak position to support partner states like Ukraine.[65]

4. How Can ESA Be Viable?

Clearly the EU must become able to act in regional crises without leadership and support from Washington. Additionally, greater EU capacity to handle its own regional security would remove a long-standing source of tension in the transatlantic relationship: Europe's lack of "burden-sharing on defense and security issues." Moreover, an EU that can act without US support would also be better situated to ride out turbulence in American domestic politics without accepting undue risks to Europe's security.

However, ESA has been hampered by CEE skepticism and confusion over what "strategic autonomy" means, so ESA needs a clear conceptual vision that is acceptable to CEE states. According to Nathalie Tocci, "autonomy" does not mean independence but rather the ability to "live by its own laws" and pursue its own strategic interests. This simply requires the ability to act alone when needed to defend strategic interests.[66] Likewise, Daniel Fiott contends that strategic autonomy is not a binary choice but rather a spectrum reflecting favorable and unfavorable dependencies. Therefore, the EU can establish an appropriate level of strategic autonomy in security and defense without challenging the transatlantic relationship.[67]

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[64] Hugo Meijer and Stephen Brooks, "Illusions of Autonomy", *International Security,* 45:4 (2021), 23-26.
[65] Sebastian Clapp, "Act in support of ammunition production (ASAP)", *European Parliament Research Service*, 9 April 2023, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2023)749782.
[66] Nathalie Tocci, "European Strategic Autonomy: What It Is, Why We Need It, How to Achieve It", *Instituto Affari Internazionali*, 26 February 2021, 8-9, https://www.iai.it/en/pubblicazioni/european-strategic-autonomy-what-it-why-we-need-it-how-achieve-it.
[67] Daniel Fiott, *Strategic Autonomy: Towards 'European Sovereignty in Defence?* (European Union Institute for Strategic Studies, 2018), 7.

To this end, the EU can develop a version of ESA that focuses on two areas: defense industrial policy and military crisis management. President Macron's vision of ESA is perceived by CEE states as too anti-American, while Olaf Scholz's vision is so broad that the military and hard security aspects risk getting lost and leaving the EU critically underdeveloped in military and defense. Reducing dependencies and increasing resilience is important, and those policy areas should be part of the EU's larger-scale efforts to become a more geopolitically active and capable entity. However, traditional security and defense–an area where Europe is weak–must be a core element of ESA which is fully defined both conceptually and practically.

There are some areas of security and defense policy where any form of "autonomy" is unrealistic. For example, the EU cannot replace the American nuclear umbrella. Although Paris has offered in the past to "Europeanize" its nuclear deterrent, France would likely insist on retaining full decision-making authority, and other EU states would likely only be involved in secondary roles.[68] France's nuclear arsenal is also significantly less diversified than Russia's or the United States', and operationalizing France's arsenal to serve as Europe's deterrent would require significant investments by France and changes to doctrine that are unlikely to occur.

Furthermore, although Macron has advocated for a version of ESA that includes autonomy in territorial defense, this is unrealistic. Many European states have let their militaries atrophy badly since the end of the Cold War, resulting in critical shortfalls of material capacity in areas like tanks and artillery.[69] Even if European militaries rebuilt their conventional capabilities, they would still suffer from severe readiness deficiencies and lack the specialized personnel needed to operate modern weapons systems.

[68] Liviu Horovitz and Lydia Wachs, *France's Nuclear Weapons and Europe: Options for a Better Coordinated Deterrence Policy* (Stiftung Wissenschaft und Politik, 2023), 2-4.
[69] Hugo Meijer and Stephen Brooks, "Illusions of Autonomy", *International Security,* 45:4 (2021), 26-28.

Of course, EU members cannot neglect conventional defense. Russia's aggression has returned territorial defense and conventional military capacity to center stage, and EU members must contribute more to deterring Russia and providing the capabilities necessary for a potential conflict. One option would be for the European members of NATO to provide half the forces and capabilities needed.[70] This would still leave Europe reliant on Washington for the other half, because neither France nor Germany is going to maintain a mass military or radically upgrade its capabilities.[71] In contrast, defense industrial policy and military crisis management are potential areas of compromise where progress is both possible and necessary.

5. Central and Eastern Europe and ESA

Despite support for some version of ESA in Paris and increasingly Berlin, CEE states have typically rejected the concept, primarily due to its connection with France and the implicit separation of European security from the United States. ESA has also often been seen as an attempt by the Franco-German duo to strengthen their own position inside the EU and to favor their own domestic arms industries, rather than as a genuine effort to make the EU a more capable defense and security actor.[72] CEE capitals have expressed discontent with French rhetoric against reliance on the United States, such as President Macron's statement in April 2023 that Europe needed to avoid becoming a "vassal" of the United States.[73]

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[70] It should be noted that this would also include the military capabilities provided by non-EU members such as the United Kingdom;
Hans Binnendijk, Daniel S. Hamilton, and Alexander Vershbow, *Strategic Responsibility* (Brookings Institute, 2022).

[71] Michael Shurkin, "How the Bundeswehr Should Spend its Money", *War on the Rocks*, 21 March 2022, https://warontherocks.com/2022/03/how-the-bundeswehr-should-spend-its-money/ (Accessed 23 May 2024);
Michael Shurkin, "Why the French Army Will Continue to Prioritize Quality Over Mass", *War on the Rocks*, 18 April 2023, https://warontherocks.com/2023/04/why-the-french-army-will-continue-to-prioritize-quality-over-mass/ (Accessed 23 May 2024).

[72] Tomáš Valášek, "In Select Areas the Case for Strategic Autonomy is Strong for CEE" in *EU Strategic Autonomy: Central and Eastern European Perspectives*, ed. Damir Marusic and Kinga Brudzinska (GLOBSEC, 2021), 22-23.

[73] Jacopo Barigazzi, "Europe's eastern half claps back at Macron: We need the US", *Politico EU,* 11 April 2023, https://www.politico.eu/article/europe-france-emmanuel-macron-united-states-eastern-europe-strategic-autonomy/ (Accessed 23 May 2024).

The connection between Washington and CEE states has deep roots, and across the entire region Washington is perceived as the most important partner. Ahead of the Iraq War, when France and Germany joined Russia in openly objecting to the Bush administration's plans, many CEE countries sided with Washington against Paris and Berlin.[74] Moreover, in Poland, distrust of Paris and Germany goes back decades, with Warsaw still remembering France's failure to come to Poland's aid in 1939, and relations with the United States serve as the center of Poland's foreign policy.[75] Similarly, Romania and the Baltic states prioritize the relationship with the United States in security policy and have resisted efforts to reduce the American role in European security.[76] In general, CEE states look across the Atlantic for leadership in security and defense and see NATO as the primary forum for European security.

However, despite past skepticism of ESA, CEE states also recognize the strategic challenges that face the EU.[77] This recognition has been sharpened by the war in Ukraine and the EU's dependence on Washington to fully support Ukraine's military efforts against Russia. In early 2023 the EU promised to provide Kyiv with 1 million rounds of 155mm ammunition within one year by using pre-existing stocks, buying rounds, and building out the EU's defense industrial capacity.[78] However, the EU failed to meet its own goal, due in great part to continued problems with production capacity.

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[74] Eugen Tomiuc, "Eastern Europe: Do Citizens Of Vilnius 10 Support Action Against Iraq, Or Only Their Governments?", *Radio Free Europe/Radio Liberty*, 7 February 2003, https://www.rferl.org/a/1102167.html (Accessed 23 May 2024).
[75] Hans-Joachim Spanger, "Polen und die Stärkung der Ostflanke" in *Atlantische Zukünfte: Eine vergleichende Analyse nationaler Debatten über die Reform der NATO*, ed. Matthias Dembinski and Caroline Fehl (Friederich Ebert Stiftung, 2021), 66.
[76] Matthias Dembinski, "Die Rümanische Debatte Über die Zukunft der NATO" in *Atlantische Zukünfte: Eine vergleichende Analyse nationaler Debatten über die Reform der NATO*, ed. Matthias Dembinski and Caroline Fehl (Friederich Ebert Stiftung, 2021), 74;
Andris Banka, "Reclaiming a good ally status: Baltic Coping Strategies in the America First World", *European Security,* 30:2 (2020), 171-172.
[77] Tomáš Valášek, "In Select Areas the Case for Strategic Autonomy is Strong for CEE" in *EU Strategic Autonomy: Central and Eastern European Perspectives*, ed. Damir Marusic and Kinga Brudzinska (GLOBSEC, 2021), 22.
[78] Sebastian Clapp, "Act in support of ammunition production (ASAP)", *European Parliament Research Service,* 9 April 2023, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2023)749782.

For some CEE states, specifically Poland, Slovakia, and the Czech Republic, their approach to defense industrial policy since Russia's full-scale invasion has been primarily nationally oriented. These countries are the least integrated into the EU's defense industrial initiatives and they are less interlinked with each other than are defense industries in Western Europe.[79] However, in response to the EU's failure to meet its commitments to Ukraine, there is potentially more openness to building the EU's defense industrial cooperation. For example, Estonia's Prime Minister, Kaja Kallas, has strongly supported the EU's evolution as a defense actor and has argued that Europe needs to invest more in its own defense and its defense industrial capacity.[80] Likewise, Czech President Petr Pavel has stated that Europe cannot neglect its defense obligations and that "reducing reliance on the U.S. and developing European strategic enablers is to be seen as our contribution to our transatlantic partnership."[81] The transition to a more EU-friendly government in Poland under Donald Tusk, a former President of the European Council, also opens up a potential role for Poland as a driver of EU defense initiatives.[82]

While the war in Ukraine has made some CEE capitals more open to developing defense industrial policy (there has been a surge of defense industrial initiatives since Russia's full-scale invasion), CEE states have always supported increasing the EU's ability to act alone in crisis management. For example, a report by the European Council on Foreign Relations in 2019 showed that for most of the European Union, crisis management and post-conflict

[79] Martin Chovančík, "Cloaked disintegration – Ukraine war and European defence-industrial co-operation in Central and Eastern Europe", *Defense & Security Analysis,* 39:3 (2023), 369-370.
[80] Kaja Kallas, "Let's build a combat-effective Europe", *Politico EU,* 29 June 2023, https://www.politico.eu/article/europe-nato-defense-spending-ammunition-combat-effective/ (Accessed 23 May 2024).
[81] Ketrin Jochecova and Stuar Lau, "It's time Europe reduced its defense reliance on the US, Czech president says", *Politico EU*, 3 October 2023, https://www.politico.eu/article/europe-reduce-defense-reliance-us-nato-czech-president-petr-pavel/ (Accessed 23 May 2024).
[82] Max Bergmann, "Poland's Election Could Transform the European Union", *Center for Strategic and International Studies*, 19 October 2023, https://www.csis.org/analysis/polands-election-could-transform-european-union (Accessed 23 May 2024)..

stabilization were already seen as acceptable levels of ambition for ESA.[83] Moreover, since Russia's full-scale invasion, the EU has started building its own crisis response capability: the Rapid Deployment Capacity.[84]

Any viable version of ESA will also need to consider Washington's past skepticism of the idea, which has nudged CEE states away from ESA. In 1998, Secretary of State Madeline Albright declared that efforts to create a European Security and Defense Identity (ESDI) must avoid "delinking ESDI from NATO" and that the EU needed to avoid discriminating against non-EU members and creating duplication with NATO.[85] Every administration since has reflected this attitude, even as Washington has pushed for greater burden-sharing from European allies.

Moreover, American concerns have often also extended to the defense industry, where Washington has feared that greater European defense industrial policy could disadvantage American defense companies in Europe.[86] Indeed, CEE governments have always pushed to ensure that Washington be included in the EU's defense industrial initiatives.[87]

However, Washington may also have turned a corner on ESA. As early as November 2021, State Department officials in the Biden administration were expressing support for the EU's development of greater independent military capacity. State Department Counsellor Derek Chollet stated that the primary worry from Washington wasn't the potential for duplication with NATO, but rather that EU members would once again fail to take responsibility for their

[83] Ulrike Franke and Tara Varma, *Independence play: Europe's pursuit of strategic autonomy* (European Council on Foreign Affairs, 2019), 14.
[84] Sebastian Clapp, "Establishing an EU rapid deployment capacity", *European Parliament Research Service*, 4 November 2023, https://www.europarl.europa.eu/thinktank/en/document/EPRS_ATA(2023)747090.
[85] Max Bergmann, James Lamond, and Siena Cicarelli, *The Case for EU Defense: A New Way Forward for Trans-Atlantic Security Relations* (Center for American Progress, 2021), 8-15.
[86] *Ibid.*
[87] Martin Chovančík, "Cloaked disintegration – Ukraine war and European defence-industrial co-operation in Central and Eastern Europe", *Defense & Security Analysis,* 39:3 (2023), 370.

own defense.[88] Although the Biden administration still balks at the EU developing defense initiatives that could exclude American companies, the U.S. Department of Defense and the European Defense Agency reached a deal to establish consultative forums for defense issues; the statement released with the deal included the "importance of a stronger and more capable European defense that is compatible with NATO."[89] Even though no agreement was reached on R&D issues, this still represents progress on U.S. acceptance of EU initiatives in the defense industry.

Altogether, these signal a unique moment for the EU to move towards realization of a vision of ESA that is acceptable to both CEE countries and to Western European capitals like Paris and Berlin. However, the EU will need to take certain steps to achieve the vision of strategic autonomy outlined above, focused on crisis management and defense industrial policy.

6. Developing a Roadmap

The EU has undertaken a variety of new defense initiatives in recent years, even more so after Russia's full-scale invasion. During the Trump administration, the EU created the Permanent Structured Cooperation (PESCO), a framework for EU members to cooperate on research and development in military technology, and the European Defense Fund, which helps fund European defense projects.[90] Both were designed to strengthen and reduce fragmentation in the EU's defense industry.

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[88] David M. Herszenhorn, "Biden's team wants EU allies to get real on 'strategic autonomy'", *Politico EU*, 19 November 2021, https://www.politico.eu/article/joe-biden-us-eu-strategic-autonomy-brussels-g20/.

[89] Max Bergmann and Sophia Besch, "Why European Defense Still Depends on America: Don't Believe the Hype—the War in Ukraine Has Led to Little Change", *Foreign Affairs*, 7 March 2023, https://www.foreignaffairs.com/ukraine/why-european-defense-still-depends-america(Accessed 23 May 2024);
Aurélie Pugnet, "US strikes cooperation deal with European Defence Agency, but not on R&D", *Euractiv*, 26 April 2023, https://www.euractiv.com/section/defence-and-security/news/us-strikes-cooperation-deal-with-european-defence-agency-but-not-on-rd/ (Accessed 23 May 2024)..

[90] EEAS Press Team, "Permanent Structured Cooperation (PESCO) – factsheet", *European External Action Service*, 23 May 2023, https://www.eeas.europa.eu/eeas/permanent-structured-cooperation-pesco-factsheet-0_en (Accessed 23 May 2024); Bruno Bilquin, "European Peace Facility: State of play as of 31 March 2023", *European Parliament Research Service,* 4 November 2023, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2023)747089 (Accessed 23 May 2024).

Since February 2022, the EU has developed new defense initiatives: the Act in Support of Ammunition Production (ASAP) provides a budget of €500 million to expand and optimize existing production capacities and establish new production capacities, and the European Defense Industry Reinforcement Through Common Procurement Act (EDIRPA) is designed to incentivize and facilitate joint procurement between different national defense ministries.[91] The EU also successfully conducted its first ever military exercise with the Rapid Deployment Capacity (RDC) in October 2023. Overall defense spending in Europe has risen, with NATO assessing large jumps in spending in 2023.[92]

While these new initiatives represent progress, much work remains in both crisis management and defense industrial policy. For example, the RDC is currently sized at 5,000 personnel, but given its potential use in different operational scenarios and the need to maintain readiness, 7000-10000 personnel may be a better target.[93] The EU will also need to redesign and simplify the RDC's funding and decision-making structures for its deployment to be viable.

Prior to the RDC, the EU operated "battlegroups" that were supposed to provide the EU with its own military capability. However, the battlegroups operated on the principle of "costs lie where they fall," meaning that whichever country provided troops or capabilities had to foot the bill, which severely reduced the battlegroups' political viability.[94] The EU will need a method for common funding to ensure that countries are willing to deploy the RDC.

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[91] Sebastian Clapp, "Act in support of ammunition production (ASAP)", *European Parliament Research Service*, 9 April 2023, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2023)749782l; Sebastian Clapp, "European defence industry reinforcement through common procurement act (EDIRPA)", *European Parliament Research Service*, 21 November 2023, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2023)739294.
[92] NATO, "Defence Expenditures of NATO Countries (2014-2023)", 7 July 2023, https://www.nato.int/cps/en/natohq/news_216897.htm (Accessed 23 May 2024).
[93] Sebastian Clapp, "Establishing an EU Rapid Deployment Capacity", *European Parliament Research Service*, 4 November 2023, https://www.europarl.europa.eu/thinktank/en/document/EPRS_ATA(2023)747090.
[94] *Ibid*.

Finally, according to analysis by CSIS, the EU still lacks many key air domain enablers, such as airlift capacity, tactical command and control (C2), operational C2, and aerial refueling.[95] During the Libyan crisis, for example, European militaries were completely dependent on the United States for a range of key enablers for offensive military operations.[96] The EU will need to procure these enabling capabilities if the RDC is going to be operational. Luckily, since EU members can cooperate and share capabilities and equipment, no member must field all necessary enablers.[97]

In defense industrial policy, the EU must overcome the fragmented and weak European Defense Technology Industrial Base (EDTIB) so it can better supply itself and its partners. Lack of cooperation in the EDTIB, where different national defense structures prioritize their own national providers and processes, causes significant waste and prevents economies of scale.[98] The EU can help correct this if states meet their PESCO commitment to spend 30% of procurement funds on joint procurement. EU states have largely failed to meet this commitment, and in fact joint procurement has trended downwards in recent years.[99]

Brussels must also increase the funds directed towards defense industrial issues to stimulate long-term investment. While the EU's ASAP and EDIRPA are steps forward, their budgets are insufficient given the massive investment requirements EU members face; without more funding these initiatives cannot seriously influence member states' behavior.[100] Together these two steps can promote a more coherent approach to defense

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[95] Colin Wall and John Christianson, *The Case for Air Domain Enablers* (Center for Strategic and International Studies, 2023), https://www.csis.org/analysis/europes-missing-piece-case-air-domain-enablers.
[96] Hugo Meijer and Stephen Brooks, "Illusions of Autonomy", *International Security,* 45:4 (2021), 23.
[97] Max Bergmann, Sean Monoghan, Pierre Morcos, and Colin Wall, *Transforming European Defense,* (Center for Strategic and International Studies, 2022), https://www.csis.org/analysis/transforming-european-defense.
[98] Sebastian Clapp, "Reinforcing the European defence industry", *European Parliament Research Service*, 28 June 2023, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2023)749805.
[99] Sebastian Clapp, "European defence industry reinforcement through common procurement act (EDIRPA)", *European Parliament Research Service*, 21 November 2023, https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2023)739294.
[100] Jean Belin et al. "Collective defence investment: Europe must do more and at a faster pace", *Euractiv*, 2 November 2022, https://www.euractiv.com/section/defence-and-security/opinion/collective-defence-investment-europe-must-do-more-and-at-a-faster-pace/ (Accessed 23 May 2024).

procurement and planning in defense ministries. Although implementation is ultimately up to national governments, Brussels can offer incentives.[101]

Simultaneously, the EU must avoid challenging NATO's place in European security, even inside the areas of focus for ESA. During a speech at the Sorbonne in April 2024, Macron seemingly pushed for the EU to develop its own standards for weapons, although that role has traditionally fallen to NATO.[102] These types of proposals are likely counterproductive, in that they are almost certainly red lines for many CEE states.

The ultimate goal in military crisis management should be for the EU to develop the capacity to handle regional security crises, e.g., in the Balkans or the Sahel, without relying on American leadership and military capacity. Moreover, the EU should maintain the ability to conduct longer-term out-of-area crisis management operations. In defense industrial policy, the war in Ukraine has brought the requirements of industrial warfare to the fore again. Therefore, the goal should be the capacity to supply both itself and partners with munitions and weaponry without having to rely on Washington.

These two branches of ESA are not interdependent; the EU can achieve one without the other. However, if it fails to achieve either, it will not be an autonomous actor; it will rely on the United States either to solve regional crises or to secure access to defense production capacity. Ultimately, the version of ESA outlined above will leave the EU less dependent on the United States than it was previously, but Europe's security will remain tightly tied to American politics and Washington's willingness to accept leadership in Europe's crises.

Conclusion

Russia's full-scale invasion has upended Europe's regional security order and many of its underlying assumptions. However, the evidence so far does not indicate that CEE is

[101] Nathalie Tocci, "The Paradox of Europe's Defense Moment", *Texas National Security Review,* 6:2 (2022/2023), 105.

[102] Kathryn Carlson, Giorgio Leali, and Laura Kayali, "More cash, less screen time: 5 policy takeaways from Macron's Sorbonne speech", *Politico EU*, 25 April 2024, https://www.politico.eu/article/takeaways-france-emmanuel-macron-sorbonne-university-speech-cash-eu-ecb-nato-tiktok/ (Accessed 23 May 2024)..

emerging as the EU's new "center of gravity" and replacing the traditional Franco-German duo. It is unclear whether CEE states will be able to speak with a unified voice and develop their own common vision of the EU's role in security and defense policy, and it is also questionable whether Poland will be able to exert a leadership role in the EU. Moreover, France and Germany are clearly unwilling to relinquish their traditional leadership positions.

Despite that, CEE capitals will exert more influence on security and defense issues and regional security going forward, which Paris and Berlin will have to recognize. Realizing ESA will require more buy-in from CEE countries. Moreover, recent research by Daniel Fiott shows that the EU's defense and security initiatives since Russia's invasion have largely conformed to the theory of New Intergovernmentalism, and that the national governments of the member states have largely controlled and defined these new initiatives.[103] Therefore, ESA should focus on a concept that can be acceptable to all sides: military crisis management and defense industrial policy. While other areas (e.g., supply chains, energy, and technology) will also be critical to the EU's development as a geopolitical actor, the military and defense aspect of ESA represents a core challenge for the EU that must be developed both conceptually and practically.

While achieving this version of ESA will require more involvement by Brussels in defense and security policy and the acceleration of the EU's transformation into a serious defense actor, it can be accomplished. Moreover, it is necessary for preserving and protecting the transatlantic relationship going forward. The time is seemingly right for the EU to emerge as a more muscular geopolitical and security actor; all that is needed is a framework that EU members can agree on, which this paper seeks to provide.

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[103] Daniel Fiott, "In every crisis an opportunity? European Union integration in defence and the war on Ukraine", *Journal of European Integration,* 45:3 (2023), 458-459.

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