Appendices
Quality of Legislation and Compliance: A Natural Language Processing Approach

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A Legislative Quality in the EU

A long-standing goal of the European Union (EU) is to produce high-quality legislation. The EU institutions have consistently defined high-quality legislation as legislation that is written simply, clearly, concisely and unambiguously. In this section, we provide background on legislative quality in the EU focusing on official documents adopted by the EU institutions (European Commission, 2022).

The European Council adopted the Birmingham declaration in 1992 calling to make legislative texts "simpler and clearer" in light of the Treaty of Maastricht (European Council, 1992, 5). Similarly, the 1993 Council Resolution on the quality of drafting of Community legislation determined that "the wording of the act should be clear, simple, concise and unambiguous; unnecessary abbreviations, 'Community jargon' and excessively long sentences should be avoided" (Council, 1993, 1).

The Intergovernmental Conference on the Amsterdam Treaty adopted a declaration outlining the importance of legislative quality for the implementation of legislation (European Communities, 1997). The declaration calls on the European Commission, European Parliament, and Council to create guidelines and measures to improve legislative quality. As a result, the EU institutions adopted the Inter-institutional agreement in 1998, which sets out 22 guidelines for improving legislative quality. The first guideline is that "Community legislative acts shall be drafted clearly, simply and precisely" (European Parliament et al., 1999, 1). The agreement also states that "provisions of acts shall

be concise and their content should be as homogeneous as possible. Overly long articles and sentences, unnecessarily convoluted wording and excessive use of abbreviations should be avoided" (European Parliament et al., 1999, 2). According to the agreement, legislative quality ensures that citizens, national administrators and other parties understand the law. The institutions agreed to develop a joint practical guide for practitioners, which was completed in 2000 (European Union, 2015).[1]

In the Inter-Institutional Agreement of 2003 on better law-making, the EU institutions set out measures to improve the quality of legislation (European Parliament, Council, Commission, 2003, 1). The institutions agree, amongst others, to improve inter-institutional coordination and the transparency of EU decision-making. The 2012 communication on "EU Regulatory Fitness" outlines multiple measures such as "simplification, codification or recasting" (European Commission, 2012, 12).

Further measures to ensure better law-making are discussed in the 2015 communication of the European Commission on "Better regulation for better results - An EU agenda" and the 2016 Inter-institutional agreement on better law-making (European Commission, 2015; European Parliament, Council, Commission, 2016). These documents also reiterate the EU's commitment "to promote simplicity, clarity, and consistency in the drafting of Union legislation and to promote the utmost transparency of the legislative process" (European Parliament, Council, Commission, 2016, 4).

[1]The second edition of the joint practical guide was published in 2015.

B Infringement Procedure

This section sets out the infringement procedure, which applies to directives. Directives specify a specific result and need to be transposed by the member states into national law before a deadline.[2] Member states can fail to comply either because they miss the deadline or because they implement the directive incorrectly. The Commission is in charge of monitoring member states' compliance with EU law. The Treaty on the Functioning of the European Union (Articles 258-260) specifies the infringement procedure, which ensures compliance.[3] The Commission or a member state can initiate the infringement procedure. First, the Commission sends a letter of formal notice to the member states. If the member state does not clarify the potential infringement, the Commission prepares a reasoned opinion, which is a formal request to comply. If the member state does not comply, the Commission can bring the case to the Court of Justice, which can impose financial sanctions.

C Data

Our analysis focuses on 21 directives. These legal acts were initially identified and analyzed in the Decision-making in the European Union project (DEU) (Thomson et al., 2006), which focused on testing models of EU decision-

[2]The EU institutions can adopt three main types of legislation: regulations, decisions and directives. Regulations and decisions are directly binding. In contrast, member states have flexibility in implementing directives as they are in charge of adopting national law to achieve the result.

[3]Consolidated Version of the Treaty on the Functioning of the European Union. 2016. *Official Journal of the European Union.* C 202, 1-388.

making. The data on actors' positions collected by the DEU project was used in multiple studies including König and Mäder (2014).

Table A1 includes the CELEX identification code and title of the directives.

Table A1: Directives in the Data

CELEX	**Title**
31999L0044	Directive 1999/44/EC of the European Parliament and of the Council of 25 May 1999 on certain aspects of the sale of consumer goods and associated guarantees
31999L0074	Council Directive 1999/74/EC of 19 July 1999 laying down minimum standards for the protection of laying hens
31999L0093	Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures
31999L0105	Council Directive 1999/105/EC of 22 December 1999 on the marketing of forest reproductive material
32000L0026	Directive 2000/26/EC of the European Parliament and of the Council of 16 May 2000 on the approximation of the laws of the Member States relating to insurance against civil liability in respect of the use of motor vehicles and amending Council Directives 73/239/EEC and 88/357/EEC (Fourth motor insurance Directive)
32000L0031	Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market ('Directive on electronic commerce')
32000L0036	Directive 2000/36/EC of the European Parliament and of the Council of 23 June 2000 relating to cocoa and chocolate products intended for human consumption
32000L0046	Directive 2000/46/EC of the European Parliament and of the Council of 18 September 2000 on the taking up, pursuit of and prudential supervision of the business of electronic money institutions
32000L0055	Directive 2000/55/EC of the European Parliament and of the Council of 18 September 2000 on energy efficiency requirements for ballasts for fluorescent lighting

32000L0078	Council Directive 2000/78/EC of 27 November 2000 establishing a general framework for equal treatment in employment and occupation
32001L0005	Directive 2001/5/EC of the European Parliament and of the Council of 12 February 2001 amending Directive 95/2/EC on food additives other than colours and sweeteners
32001L0016	Directive 2001/16/EC of the European Parliament and of the Council of 19 March 2001 on the interoperability of the trans-European conventional rail system
32001L0029	Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society
32001L0037	Directive 2001/37/EC of the European Parliament and of the Council of 5 June 2001 on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco products
32001L0055	Council Directive 2001/55/EC of 20 July 2001 on minimum standards for giving temporary protection in the event of a mass influx of displaced persons and on measures promoting a balance of efforts between Member States in receiving such persons and bearing the consequences thereof
32001L0084	Directive 2001/84/EC of the European Parliament and of the Council of 27 September 2001 on the resale right for the benefit of the author of an original work of art
32001L0110	Council Directive 2001/110/EC of 20 December 2001 relating to honey
32001L0112	Council Directive 2001/112/EC of 20 December 2001 relating to fruit juices and certain similar products intended for human consumption
32002L0007	Directive 2002/7/EC of the European Parliament and of the Council of 18 February 2002 amending Council Directive 96/53/EC laying down for certain road vehicles circulating within the Community the maximum authorised dimensions in national and international traffic and the maximum authorised weights in international traffic

32002L0021	Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive)
32003L0049	Council Directive 2003/49/EC of 3 June 2003 on a common system of taxation applicable to interest and royalty payments made between associated companies of different Member States

D Construct Validity of Measures

In this section, we assess the construct validity of our measures using two approaches. First, we apply our methods to two directives, commonly known in the literature for their low quality. Second, we illustrate sentences with high and low levels of quality. Note that the LIWC has been extensively validated using a variety of corpora (Pennebaker et al., 2015, 8).

D.1 Case Study

We start by focusing on the Working Time Directive (1993) and the Parental Leave Directive (1996).[4] Experts agree that these directives lack quality and, hence, created interpretation problems, with the result of delayed or even erroneous implementation (e.g., Falkner et al., 2005).

We apply our methods to these two directives. The percentage of adjectival

[4]Council Directive 93/104/EC of 23 November 1993 concerning certain aspects of the organization of working time. *Official Journal of the European Communities* L 307, 19-24. Council Directive 96/34/EC of 3 June 1996 on the framework agreement on parental leave concluded by UNICE, CEEP and the ETUC. *Official Journal of the European Communities* L 145, 4-9

modifiers is 7.52 in the Working Time Directive and 9.15 in the Parental Leave Directive. Second, we compute the vagueness of the two directives: the Working Time Directive has a vagueness score of 2.21 and the Parental Leave Directive has a score of 2.53. These scores are higher than the mean and median values in our sample of directives.

We continue by inspecting the directives' text in more detail. Consider the Working Time Directive. Article 17 specifies derogations and includes the following text: "Member States may derogate from Article 3, 4, 5, 6, 8 or 16 when, on account of the specific characteristics of the activity concerned, the duration of the working time is not measured and/or predetermined or can be determined by the workers themselves". Here, the use of words such as "may" and "or" increases vagueness.

Take the following sentence in the Parental Leave Directive: "Member States and/or management and labour shall take the necessary measures to entitle workers to time off from work, in accordance with national legislation, collective agreements and/or practice, on grounds of force majeure for urgent family reasons in cases of sickness or accident making the immediate presence of the worker indispensable." This is a syntactically complex sentence. It mandates that national legislation has to guarantee a *force majeure* leave. In this sentence, 10 percent of the words are adjectival modifiers, which is higher than the average and median values in our sample.

These results show that two poorly written directives, according to the literature, score relatively low in our measures.

D.2 Example Sentences

We continue the assessment by illustrating example sentences and their corresponding levels of syntactic complexity and vagueness. Table A2 summarizes examples and the corresponding percentage of modifiers. Table A3 provides example sentences and their level of vagueness. A closer inspection of the sentences suggests that our measures capture our concepts of interest. Note that, in the paper, we compute the measure at the legislative act rather than the sentence level.

Table A2: Sentences with high and low levels of syntactic complexity

Sentence	Complexity
Particularly cruel actions, even if committed with an allegedly political objective, may be classified as serious non-political crimes.	33.33
However, if the phonogram has been lawfully published within this period, the said rights shall expire 50 years from the date of the first lawful publication.	11.54
For a nonautochthonous stand or seed source, the origin is the place from which the seed or plants were originally introduced.	4.48
When this Article is applied in the context of Directives 92/100/EEC and 96/9/EC, this paragraph shall apply mutatis mutandis.	0

Table A3: Sentences with high and low levels of vagueness

Sentence	Vagueness
The origin of a stand or seed source may be unknown.	27.27
Such sharing or coordination arrangements may include rules for apportioning the costs of facility or property sharing.	17.65
This technical file must contain all the necessary documents relating to the characteristics of the subsystem and, where appropriate, all the documents certifying conformity of the interoperability constituents.	-14.29
All conditions related to such schemes must be objective, transparent, proportionate and non-discriminatory.	-15.38

E LIWC Dictionary

We list in the following the ten most frequently occurring words of the LIWC dictionary that appear in our sample (Pennebaker et al., 2015):

The most frequently occurring vague words in our sample are: or, may, any, if, tempora*, possib*, question, opinion, indirect*, most

The most frequently occuring concrete words are: necessary, all, must, specific, defined, essential, prove*, certain*, clearly, total.

F Descriptive Statistics

Table A4 summarizes the descriptive statistics of the variables used in the analysis.[5] Figure A1 shows the correlations between our measures and some traditional text-as-data measures used in the literature. We focus on the number of words, the number of provisions, the Flesch-Kincaid readability

[5]In contrast to König and Mäder (2014), we do not z-transform the variables.

score (FRE), and the type-token ratio (TTR) (e.g., Gratton et al., 2021; Hurka and Haag, 2020; Zhelyazkova, 2013).

The figure illustrates that our syntactic complexity measure, namely the percentage of modifiers, is positively correlated with the number of words and provisions. Instead, the vagueness measure is not highly correlated with the syntactic complexity measure, the number of words or the number of provisions. This suggests that our two measures refer to two different dimensions of the language: the syntactic and the lexical dimensions.

We also examine the correlation between our measures and the TTR and FRE score. As Figure A1 shows, the correlation between the TTR and our measures is negative and low. The correlation between our measures and the FRE score is moderate and negative. This pattern makes sense and implies that higher readability scores are linked to lower levels of syntactic complexity and vagueness.

Figures A2 and A3 summarize the average level of syntactic complexity and vagueness by policy area. Figure A2 shows that complexity is high in Justice and in Economy/Internal Market. Figure A3 shows that vagueness is high in Justice and low in Agriculture.

Table A4: Summary Statistics

Variable	N	Mean	Std. Dev.	Min	Pctl. 25	Pctl. 75	Max
Implementation	299	0.652	-	0	0	1	1
Syntactic Complexity	299	6.609	1.778	3.766	5.032	7.827	9.978
Vagueness	299	1.921	1.187	0	1.445	2.42	4.57
Bureaucratic Performance	299	1.721	0.448	0.38	1.57	2.07	2.29
Interest Group Pluralism	299	2.019	1.139	0.05	1.12	3	3.5
Directive Type	299	0.669	-	0	0	1	1
Number of Words	299	2586.291	1666.748	300	1252	3092	6648
Amending Legislation	299	0.244	-	0	0	0	1
Member State's Disagreement	299	64.445	66.843	0	20	90	334
Diversity of Member States' Interests	299	66.888	49.056	0	28.395	87.648	194.436
Government Change	299	0.281	-	0	0	1	1
Discretion Index	299	0.254	0.121	0	0.167	0.349	0.5
Delegation Ratio	299	0.201	0.08	0.056	0.126	0.257	0.348

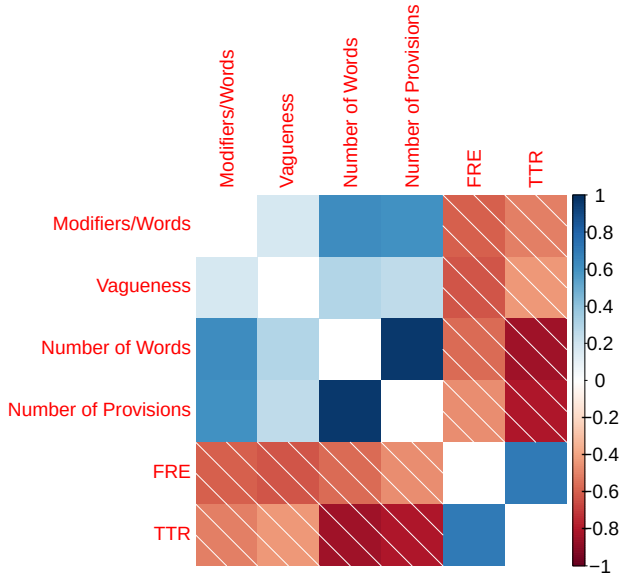


Figure A1: Correlation Plot
Note: This figure shows the correlations between different measures.

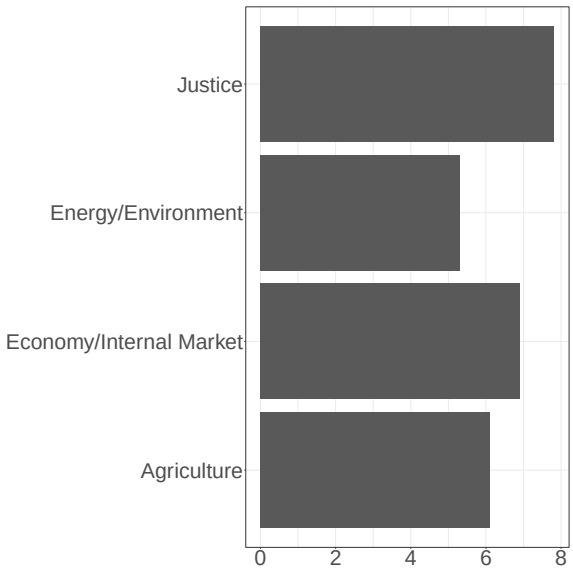


Figure A2: Syntactic Complexity by Policy Area
Note: This figure shows the average syntactic complexity by policy area.

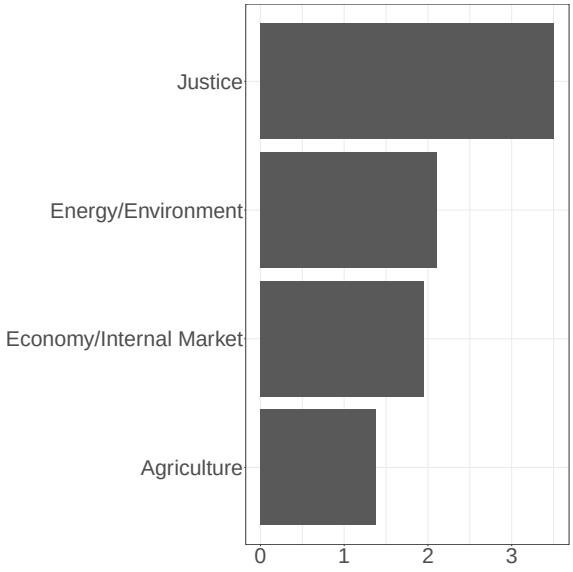


Figure A3: Vagueness by Policy Area
Note: This figure shows the average vagueness by policy area.

G Regression Outputs

Our analysis proceeds in multiple steps. First, we analyze the effect of syntactic complexity and vagueness using a logistic regression model incorporating both explanatory variables. Second, we re-run these models adding a set of control variables.

Table A5 presents our main results. Model 1 only includes the explanatory variables and Model 2 adds control variables (excluding the number of words). Model 3 also includes a variable on the number of words as a control variable. In Models 2 and 3, we use as a control variable the discretion index of Anastasopoulos and Bertelli (2020), which takes into account both the degree of delegation and constraints. As an alternative, in Model 4, we use a delegation measure (Thomson et al., 2007).

By looking at Table A5, we find that the effect of syntactic complexity is statistically significant at the 0.05 level in Models 1 and 2. However, the effect of syntactic complexity is not robust to controlling for the number of words (see Models 3 and 4). The results also suggest that vagueness is negatively associated with the correct and timely implementation of directives. The coefficients in Models 2 and 3 in Table A5 are statistically significant at the 0.01 level when controlling for alternative explanations. We find in Model 4 that the results are robust to applying the delegation measure (Thomson et al., 2007).

A closer inspection of the results reveals further factors increasing the probability of compliance. First, the distance between the member state's

ideal point and the outcome of the decision-making is negatively related to compliance, which is in line with the strategic approach (König and Mäder, 2014; Thomson et al., 2007). This effect is statistically significant at the 0.01 level. Unsurprisingly, the variable on the length of the legislative texts is also negatively related to compliance and is statistically significant. The variable on administrative efficiency has a positive coefficient but is not statistically significant.

Note that we computed the variance inflation factors of all variables considered in Models 1, 2, 3 and 4. The tests suggest that multicollinearity is not a concern.

We also perform the same analysis as in the main text but with different pre-processing procedures. More specifically, we measure the syntactic complexity and vagueness of the legal texts including the preamble, which includes recitals and citations. As Table A6 shows, the results are robust.

Table A5: Results: Logistic Regression Analysis of Implementation (without Recitals and Citations)

	(1)	(2)	(3)	(4)
Syntactic Complexity	-0.170**	-0.172**	0.054	0.042
	(0.071)	(0.078)	(0.103)	(0.106)
Vagueness	-0.315***	-0.491***	-0.439***	-0.435***
	(0.107)	(0.156)	(0.156)	(0.169)
Bureaucratic Performance		0.423	0.408	0.412
		(0.390)	(0.398)	(0.399)
Interest Group Pluralism		-0.146	-0.162	-0.160
		(0.156)	(0.160)	(0.160)
Directive Type		-0.737**	-0.922**	-0.878***
		(0.347)	(0.371)	(0.325)
Number of Words			-0.0004***	-0.0004***
			(0.0001)	(0.0001)
Amending Legislation		0.051	-0.374	-0.337
		(0.342)	(0.373)	(0.375)
Member State's Disagreement		-0.014***	-0.012***	-0.011***
		(0.003)	(0.003)	(0.003)
Diversity of Member States' Interests		0.014***	0.010*	0.010*
		(0.005)	(0.005)	(0.005)
Government Change		-0.047	-0.023	-0.018
		(0.298)	(0.304)	(0.304)
Discretion Index		0.295	-0.558	
		(1.615)	(1.710)	
Delegation Ratio				-0.697
				(2.525)
Constant	2.398***	2.772**	2.837**	2.810**
	(0.522)	(1.227)	(1.295)	(1.284)
Observations	299	299	299	299
Log Likelihood	-184.501	-169.063	-163.206	-163.221
Akaike Inf. Crit.	375.002	360.125	350.412	350.443

Note: *p<0.1; **p<0.05; ***p<0.01

Table A6: Results: Logistic Regression Analysis of Implementation (with Recitals and Citations)

	(5)	(6)	(7)	(8)
Syntactic Complexity	-0.229***	-0.228***	-0.034	-0.030
	(0.072)	(0.080)	(0.105)	(0.105)
Vagueness	-0.335***	-0.562***	-0.494***	-0.515**
	(0.126)	(0.183)	(0.188)	(0.205)
Bureaucratic Performance		0.438	0.449	0.446
		(0.392)	(0.396)	(0.397)
Interest Group Pluralism		-0.136	-0.143	-0.145
		(0.156)	(0.159)	(0.159)
Directive Type		-0.658*	-0.609	-0.597*
		(0.359)	(0.373)	(0.337)
Number of Words			-0.0002***	-0.0002***
			(0.0001)	(0.0001)
Amending Legislation		0.176	-0.288	-0.296
		(0.335)	(0.376)	(0.369)
Member State's Disagreement		-0.014***	-0.012***	-0.012***
		(0.003)	(0.003)	(0.003)
Diversity of Member States' Interests		0.014***	0.010**	0.010**
		(0.005)	(0.005)	(0.005)
Government Change		-0.068	-0.053	-0.056
		(0.299)	(0.304)	(0.304)
Discretion Index		0.530	-0.006	
		(1.601)	(1.647)	
Delegation Ratio				0.454
				(2.593)
Constant	2.773***	2.924**	2.681**	2.627**
	(0.568)	(1.236)	(1.284)	(1.289)
Observations	299	299	299	299
Log Likelihood	-183.514	-168.598	-164.217	-164.202
Akaike Inf. Crit.	373.028	359.196	352.435	352.404

Note: *p<0.1; **p<0.05; ***p<0.01

H Further Analysis and Robustness Checks

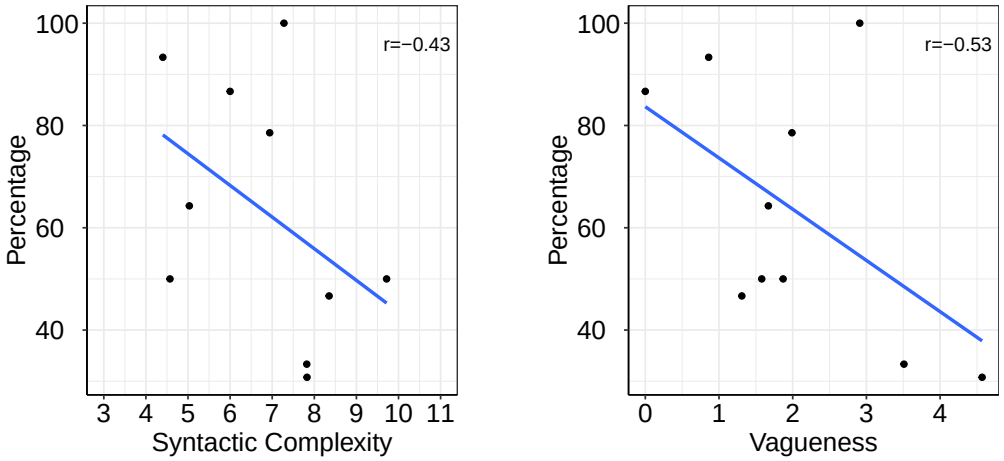
We perform further analysis and robustness checks in this section. First, we analyze how far the effect of legislative quality varies by different levels of disagreement with the directive. More specifically, we add interaction terms between our two measures of legislative quality and member state's disagreement with the legislation to our main model in Table A7. We find that in all specifications the effects of our measures are consistent with the main model, even when we add the interaction terms. The interaction terms are not statistically significant at the 0.05 level. These findings provide evidence that member states' disagreement does not affect the relationship between quality of legislation and compliance.

We also show descriptive evidence to support these findings. More specifically, we split the sample by member state's disagreement and study the correlation between our measures and the percentage of countries correctly implementing the directive. Figures A4 and A5 show that there is a negative relationship between the syntactic complexity and compliance both when disagreement is high and low. The same is true for vagueness.

Table A7: Results: Interacting Syntactic Complexity and Vagueness with Disagreement

	(9)	(10)	(11)	(12)
Syntactic Complexity	-0.300**	-0.355***	-0.054	-0.043
	(0.122)	(0.135)	(0.165)	(0.166)
Vagueness	-0.322**	-0.420**	-0.474**	-0.521**
	(0.141)	(0.212)	(0.208)	(0.245)
Bureaucratic Performance		0.346	0.377	0.381
		(0.397)	(0.405)	(0.405)
Interest Group Pluralism		-0.157	-0.159	-0.160
		(0.157)	(0.161)	(0.161)
Directive Type		-0.770**	-0.982**	-0.900***
		(0.360)	(0.388)	(0.342)
Number of Words			-0.0004***	-0.0004***
			(0.0001)	(0.0001)
Amending Legislation		-0.042	-0.444	-0.423
		(0.346)	(0.380)	(0.391)
Member State's Disagreement	-0.013	-0.034***	-0.024*	-0.023*
	(0.010)	(0.013)	(0.013)	(0.013)
Diversity of Member States' Interests		0.018***	0.012**	0.011**
		(0.006)	(0.006)	(0.006)
Government Change		-0.010	-0.005	-0.005
		(0.299)	(0.306)	(0.306)
Discretion Index		-0.367	-0.820	
		(1.691)	(1.777)	
Delegation Ratio				0.095
				(2.789)
Syntactic Complexity*Disagreement	0.001	0.003*	0.002	0.002
	(0.002)	(0.002)	(0.002)	(0.002)
Vagueness*Disagreement	-0.001	-0.001	0.001	0.001
	(0.002)	(0.002)	(0.002)	(0.002)
Constant	3.700***	4.100***	3.681**	3.424**
	(0.872)	(1.493)	(1.574)	(1.483)
Observations	299	299	299	299
Log Likelihood	-179.183	-167.662	-162.610	-162.716
Akaike Inf. Crit.	370.366	361.325	353.221	353.432

Note: *p<0.1; **p<0.05; ***p<0.01

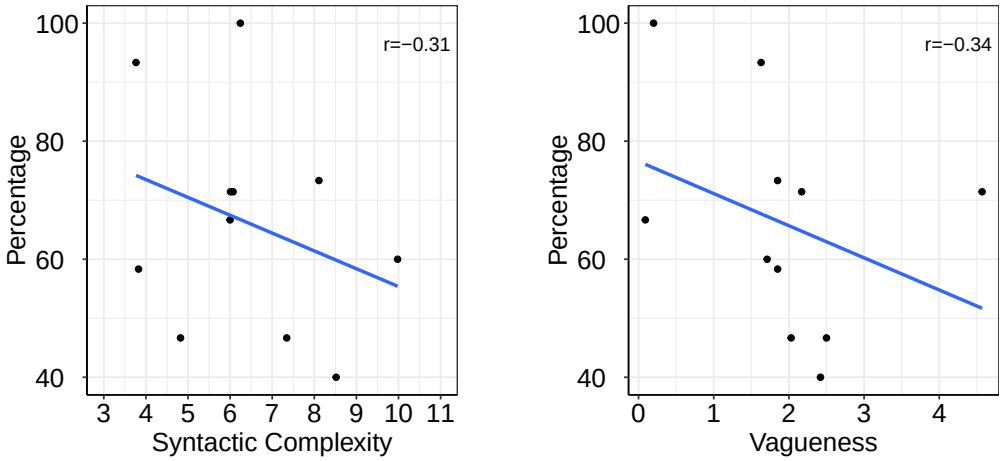


(a) Syntactic Complexity - Low Disagreement

(b) Vagueness - Low Disagreement

Figure A4: Percentage of countries that implemented the directive and legislative quality

Notes: The figures show the correlation between the measures of legislative quality (x-axis) and the percentage of countries complying with a legislation (y-axis). Lines of best fit are computed based on OLS regression models. The analysis uses the sub-sample of directives with low disagreement.



(a) Syntactic Complexity - High Disagreement

(b) Vagueness - High Disagreement

Figure A5: Percentage of countries that implemented the directive and legislative quality

Notes: The figures show the correlation between the measures of legislative quality (x-axis) and the percentage of countries complying with a legislation (y-axis). Lines of best fit are computed based on OLS regression models. The analysis uses the sub-sample of directives with high disagreement.

Furthermore, we re-run our analysis focusing on the ten least controversial legislation in our sample (see Table A8), where the level of controversy is measured as the average disagreement with the legislation. This evidence shows that our results are robust to focusing on less controversial legislation and thus not driven by the most controversial legislation.

Next, we assess potential alternative explanations varying over time. First, we re-run our models including time-fixed effects in Table A9. In Table A10, we control for two important time-varying factors: the European Parliament cycle and public support for their country's EU membership. The former

Table A8: Results: Focusing on the Least Controversial Legislation

	(13)	(14)	(15)	(16)
Syntactic Complexity	-0.193*	-0.301*	0.054	0.594
	(0.117)	(0.177)	(0.495)	(0.511)
Vagueness	-0.358**	-0.582**	-0.732**	-2.074**
	(0.158)	(0.291)	(0.347)	(0.896)
Bureaucratic Performance		0.251	0.255	0.131
		(0.598)	(0.601)	(0.607)
Interest Group Pluralism		-0.243	-0.237	-0.269
		(0.234)	(0.234)	(0.236)
Directive Type		-0.363	-0.523	1.020
		(0.677)	(0.707)	(1.140)
Number of Words			-0.0003	-0.001**
			(0.0003)	(0.0005)
Amending Legislation		0.877	0.357	-2.991
		(0.612)	(0.914)	(1.898)
Member State's Disagreement		-0.010	-0.009	-0.008
		(0.009)	(0.009)	(0.009)
Diversity of Member States' Interests		0.056**	0.023	-0.0003
		(0.025)	(0.049)	(0.045)
Government Change		0.147	0.105	0.014
		(0.443)	(0.447)	(0.454)
Discretion Index		6.627**	5.285	
		(3.139)	(3.594)	
Delegation Ratio				26.107*
				(14.126)
Constant	2.634***	1.120	1.257	-0.745
	(0.809)	(2.004)	(2.026)	(2.523)
Observations	139	139	139	139
Log Likelihood	-84.787	-74.335	-74.040	-72.091
Akaike Inf. Crit.	175.573	170.669	172.080	168.183

Note: *p<0.1; **p<0.05; ***p<0.01

measures the distance between the date of adoption and the last parliamentary elections following Crombez and Hix (2015). The latter measure is computed based on Eurobarometer data and is equal to the percentage of respondents who think that their countries' EU membership is a good thing (e.g., Gabel, 1998; Hobolt and de Vries, 2016). The results are robust and consistent with the main model.

Finally, Table A11 presents our main results from Table A5 using robust clustered standard errors. Note that we cluster by legislation and thus the number of clusters is relatively small.

Table A9: Results: Time Fixed Effects

	(17)	(18)	(19)	(20)
Syntactic Complexity	-0.147*	-0.168**	0.032	0.040
	(0.079)	(0.084)	(0.105)	(0.115)
Vagueness	-0.458***	-0.660***	-0.526**	-0.503**
	(0.134)	(0.254)	(0.255)	(0.238)
Bureaucratic Performance		0.499	0.497	0.489
		(0.399)	(0.407)	(0.406)
Interest Group Pluralism		-0.132	-0.144	-0.147
		(0.159)	(0.162)	(0.162)
Directive Type		-0.629	-0.893*	-0.965***
		(0.457)	(0.492)	(0.373)
Number of Words			-0.0004***	-0.0004***
			(0.0001)	(0.0001)
Amending Legislation		0.081	-0.383	-0.450
		(0.382)	(0.430)	(0.395)
Member State's Disagreement		-0.013***	-0.011***	-0.011***
		(0.003)	(0.003)	(0.003)
Diversity of Member States' Interests		0.013**	0.009	0.010*
		(0.006)	(0.006)	(0.006)
Government Change		-0.016	0.026	0.027
		(0.305)	(0.312)	(0.312)
Discretion Index		2.592	0.867	
		(3.061)	(3.241)	
Delegation Ratio				0.519
				(3.129)
Constant	2.089***	1.597	2.043	2.245
	(0.601)	(1.581)	(1.670)	(1.381)
Observations	299	299	299	299
Time FE	Yes	Yes	Yes	Yes
Log Likelihood	-180.841	-166.234	-161.045	-161.067
Akaike Inf. Crit.	375.682	362.467	354.090	354.134

Note: *p<0.1; **p<0.05; ***p<0.01

Table A10: Results: Controlling for Time-varying Variables

	(21)	(22)	(23)	(24)
Syntactic Complexity	-0.170**	-0.182**	0.037	0.027
	(0.071)	(0.083)	(0.107)	(0.112)
Vagueness	-0.315***	-0.480***	-0.414**	-0.439**
	(0.107)	(0.174)	(0.171)	(0.185)
Bureaucratic Performance		0.363	0.342	0.347
		(0.401)	(0.407)	(0.408)
Interest Group Pluralism		-0.096	-0.117	-0.117
		(0.165)	(0.168)	(0.168)
Directive Type		-0.774**	-0.950**	-0.860***
		(0.351)	(0.374)	(0.329)
Number of Words			-0.0004***	-0.0004***
			(0.0001)	(0.0001)
Amending Legislation		0.013	-0.435	-0.379
		(0.353)	(0.389)	(0.385)
Member State's Disagreement		-0.014***	-0.012***	-0.012***
		(0.003)	(0.003)	(0.003)
Diversity of Member States' Interests		0.015***	0.011**	0.011**
		(0.005)	(0.005)	(0.005)
Government Change		-0.061	-0.039	-0.031
		(0.301)	(0.307)	(0.307)
Discretion Index		-0.078	-1.010	
		(1.705)	(1.789)	
Delegation Ratio				-0.587
				(2.651)
EP Cycle		-0.008	-0.023	-0.016
		(0.070)	(0.070)	(0.070)
Public Opinion		-0.024**	-0.023**	-0.023**
		(0.010)	(0.010)	(0.010)
Constant	2.398***	4.317***	4.423***	4.219***
	(0.522)	(1.495)	(1.565)	(1.523)
Observations	299	299	299	299
Log Likelihood	-184.501	-166.085	-160.563	-160.698
Akaike Inf. Crit.	375.002	358.169	349.126	349.396

Note: *p<0.1; **p<0.05; ***p<0.01

Table A11: Results: Robust Clustered Standard Errors

	(25)	(26)	(27)	(28)
Syntactic Complexity	-0.170*	-0.172**	0.054	0.042
	(0.089)	(0.073)	(0.083)	(0.102)
Vagueness	-0.315**	-0.491***	-0.439**	-0.435**
	(0.156)	(0.181)	(0.157)	(0.178)
Bureaucratic Performance		0.423	0.408	0.412
		(0.455)	(0.478)	(0.480)
Interest Group Pluralism		-0.146	-0.162	-0.160
		(0.200)	(0.204)	(0.204)
Directive Type		-0.737*	-0.922**	-0.878***
		(0.392)	(0.340)	(0.340)
Number of Words			-0.0004***	-0.0004***
			(0.0001)	(0.0001)
Amending Legislation		0.051	-0.374	-0.337
		(0.384)	(0.290)	(0.356)
Member State's Disagreement		-0.014***	-0.012***	-0.011***
		(0.003)	(0.003)	(0.003)
Diversity of Member States' Interests		0.014**	0.010*	0.010**
		(0.006)	(0.005)	(0.005)
Government Change		-0.047	-0.023	-0.018
		(0.364)	(0.365)	(0.361)
Discretion Index		0.295	-0.558	
		(2.176)	(1.777)	
Delegation Ratio				-0.697
				(3.335)
Constant	2.398***	2.772**	2.837**	2.810**
	(0.708)	(1.225)	(1.249)	(1.342)
Observations	299	299	299	299
Log Likelihood	-184.501	-169.063	-163.206	-163.221
Akaike Inf. Crit.	375.002	360.125	350.412	350.443

Note: *p<0.1; **p<0.05; ***p<0.01

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