

In the last few decades methods and techniques from the field of data science and Natural Language Processing (NLP) in particular, have found their way into social sciences. The most common application of NLP in political science studies is on text analysis. The majority of studies commonly apply NLP in text analysis (Grimmer & Stewart, 2013; Roberts, 2016). However this is not the case when measuring stances towards the USA (Americanism). There are few notable exceptions like Jamal et al. (2015), who use the Hopkins' and King's method (2010) to measure anti-americanism in Arabic tweets. Most of the other studies however use survey data and inferential statistics to measure the phenomenon (Blaydes & Linzer, 2012; Grigoriadis & Aras, 2023; Sokolov et al., 2018; Tokdemir, 2017), as well as ethnographic (Amine, 2008) and experimental methods (Bursztyn et al., 2020). Americanism moreover has barely been examined at the elite political level, with most research studies zooming in public opinion and its perception of the phenomenon. In contrast the present paper, in analyzing Americanism, relies heavily on NLP methods of topic modeling and sentiment analysis (Grimmer & Stewart, 2013) using a variety of texts that include a large volume of party manifesto and parliamentary speeches.

Manifestos

Data and methods

Party manifestos were drawn from the Comparative Manifesto Project (CMP) database that covers the period 1974-2019 and then added the manifestos from the recent parliamentary elections of May and June 2023. To this sample we performed OCR and processing. CMP contains manifestos of parties that have been represented in the parliament after the relevant elections. However a lot of manifestos have not been processed with OCR, and thus they are not available in a .csv format. After we OCRed those ones, we merged them all together and we created a corpus of 102 manifestos from 24 political parties (appendix Table 1). Then we manually coded the manifestos, on the sentence level, using two categories: USA-negative and USA-positive. This facilitated us to later conduct a sentiment analysis on the manifestos. We further coded several other categories (see appendix). Before proceeding to the analysis of the data, we undertook the usual cleaning process in text analysis (Grimmer & Stewart, 2013) which includes removing numbers and punctuation, removing stop words and stemming the words.

We calculated an Americanism score for each manifesto, using the difference between the proportion of positive and negative sentences, so that below zero values indicate anti-americanism and above, pro-americanism. Then we estimated the overall score for each year as a weighted average of the manifesto scores, with the weights being the length of each manifesto (proportion of sentences relative to the same year's overall sentences), in order to account for

the fact that manifestos that are lengthier should contribute more to the overall score.

We also ran structural topic modeling (Roberts et al. 2016), which permits the user to specify prior distributions for the topic proportions of the documents by using several covariates (topic prevalence) and for the word distributions within each topic by using topical content covariates. We used the following topic prevalence covariates party name and date which constitute useful meta-data, and a series of “Framing” variables that we coded (the variables coded are presented in the appendix) which helped us incorporate more information in the model during the inference of the topics regarding the framing (and thus different language and tone) of the USA topic between parties.

We further collected and analyzed data stemming from parliamentary speeches. The parliamentary speeches of the period under study were already processed by iMEDD and uploaded on the zenodo website¹. The dataset contains 1.280.918 speeches and additional metadata such as political party, sitting date etc., and ranges from 1989 to 2020, except for a couple of months during 1996. We further enriched this dataset by performing OCR to the speeches of the period missing (January and February of 1996), and then incorporated them to the dataset, and also by downloading and processing the speeches after 2020, until the 1st of March of 2024, which we incorporated in the dataset too. So our final dataset consists of 1.365.310 speeches from MPs of 24 political parties (appendix Table 2) as well as from independent ones, covering the period from 07-03-1989 until 03-01-2024.

In order to estimate the score for Americanism per year, we conducted sentiment analysis. Prior to the analysis, we cleaned the texts following the same process as described above. Sentiment analysis lexicons have been proven not to always provide useful results, since they are constructed on specific scientific domains and thus they cannot generalize well to other areas (Grimmer & Stewart, 2013; Loughran & McDonald, 2011). For this reason, social scientists tend to construct their own, domain-specific dictionaries (Nyman et al., 2021; Rooduijn & Pauwels, 2011) or use machine learning which have been proven to be more useful than sentiment analysis (Linn et al., 2016). However, for our case the last method could not be applied because we did not have any coded texts as training data in order to train an ML algorithm. So we turned to sentiment analysis, but because many of the existing dictionaries did not work well for our case, we constructed a sentiment lexicon from scratch.

The lexicon contained two tone categories - positive and negative - and we included several n-grams in each (not just single words). In order to construct it, we relied both on our domain knowledge, as well as on the text itself. The process was the following: first we split the text on a sentence level; then we identified

¹ <https://zenodo.org/records/4311577#.Yt-454zMKV5>

sentences containing references to the USA using various keywords²; we further searched for the most frequent words, as well as the most frequent collocations of words in those sentences in order to get a picture about the words that are used more often to describe positive or negative stances towards the USA. The resulting lexicon is of course not exhaustive, but it is constructed using a very large volume of texts and a lot of manual work and so it is very much suitable for our case. In the appendix we include the dictionary, as well as some example sentences classified as positive or negative (appendix Dictionary of positive and negative words and Table 3).

So after running sentiment analysis on the USA sentences we calculated the Americanism score for each party as the difference between the proportion of positive and negative sentences for a given year. Then we used a weighted average (just like in the manifestos) in order to calculate the score for each year, with the weights being the proportion of sentences of each party for a given year relative to the overall sentences for this same year. This allowed us to increase the contribution of parties that talk more in the parliament (for example the governmental ones) to the overall score, as well as the opposite. Finally, values over zero indicate pro-americanism and below the opposite.

Then, we ran a probit regression model on the USA sentences in order to examine which factors explain the sentiment better. First, we constructed a binary variable with the values 0 (negative sentences) and 1 (positive sentences). Then, we decided to include covariates relating to specific historical events and the Government-Opposition divide as dummy variables (1 when the event happened and 0 otherwise, and 1 when the party is in government and 0 when in opposition), as well as the four topics discovered from the topic modeling (Figure 10) as covariates referring to the content of the speeches. Finally, we specified the model as a two-way fixed effects model, including ideology and time fixed effects in order to account for heterogeneity across ideologies and time. Our model specification is the following:

$$\begin{aligned} \Phi^{-1}(\text{US_Sentiment}_{it}) &= \beta_1 \text{Defense}_{it} + \beta_2 \text{EU_US_International_Institutions}_{it} \\ &+ \beta_3 \text{Government_Opposition}_{it} + \beta_4 \text{Imia_Crisis}_{it} + \beta_5 \text{War_in_Iraq}_{it} \\ &+ \beta_6 \text{USSR_Dissolution}_{it} + \beta_7 \text{Bombings of Yugoslavia}_{it} \\ &+ \beta_8 \text{Referendum}_{it} + \beta_9 \text{First_Memorandum}_{it} + \beta_{10} \text{Bases}_{it} \\ &+ \beta_{11} \text{Anti_Imperialism}_{it} + \beta_{12} \text{Economic_Crisis}_{it} + \lambda_t + \nu_i + u_{it} \end{aligned}$$

, where the subscripts *i* and *t* indicate ideology and time respectively, λ indicates ideology fixed effects, ν time (yearly) fixed effects and *u* the errors of the model. Finally, the model's Nagelkerke's R^2 is 0.50, indicating a model with high

² The regular expression that we used is the following "ΗΠΑ |Η\\.\Π\\.\Α\\.\ |ηπα |η\\.\π\\.\α\\.\ |ατλαντική|Ατλαντική| αμερικ| Αμερικ| νατο |NATO|N\\.\Α\\.\Τ\\.\Ο\\.\ |Ηνωμενες|ηνωμενες|Ηνωμενων π|ηνωμενων π"

explanatory power. In Figure 11 we present the regression coefficients of the model, with clustered robust standard errors at the yearly level in order for the confidence intervals to be more accurate by capturing heterogeneity over time.³

Results

Figure 1 shows the evolution of the sentiment in all party manifestos towards the USA from 1974 to 2023. Figure 2 shows the evolution of the salience of the USA for all party manifestos over the same period of time.

Figure 1. *Sentiment towards the USA in party manifestos per year, 1974-2023.*

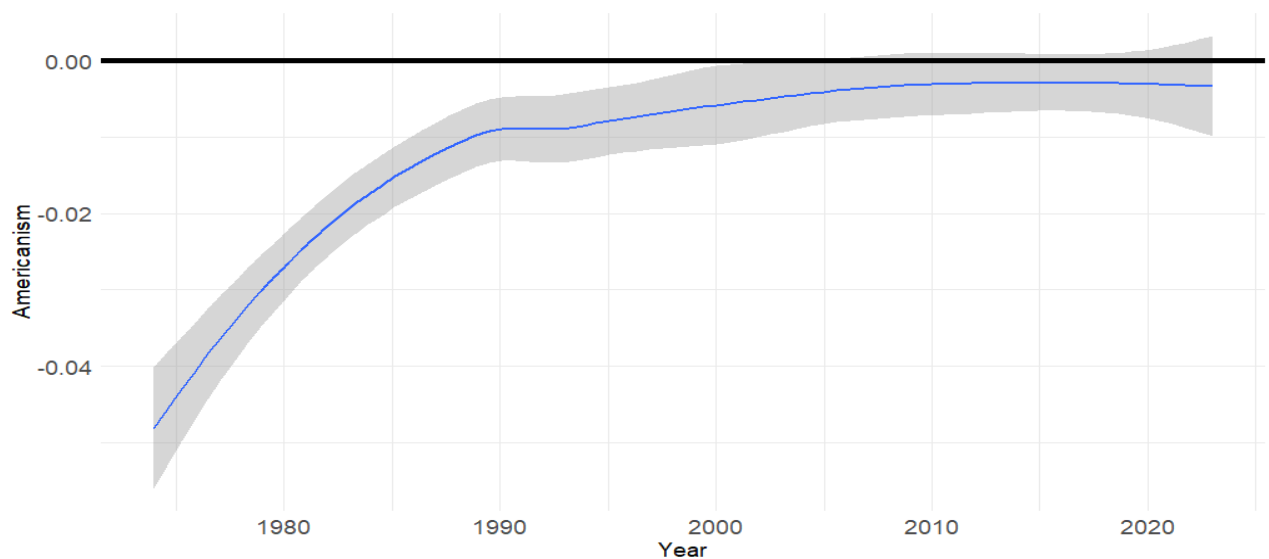
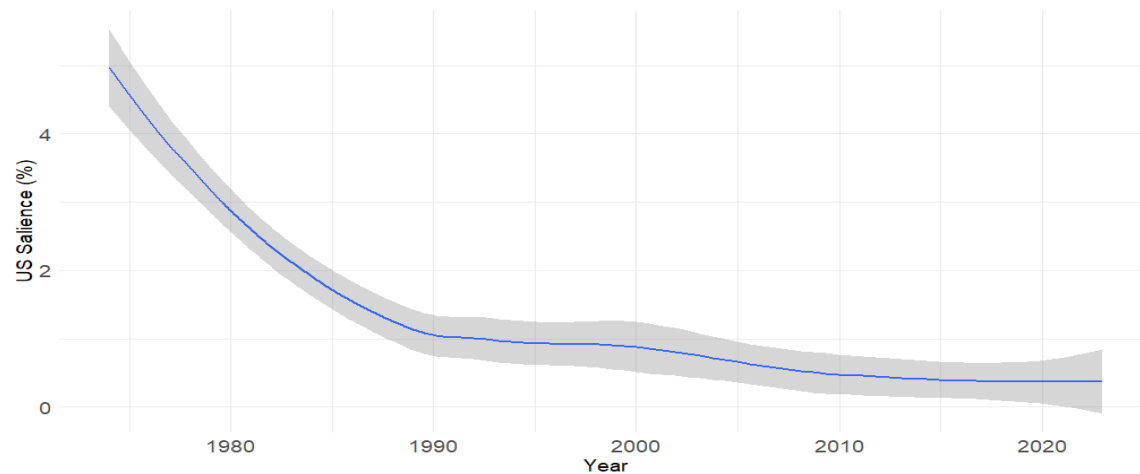


Figure 2. *Salience⁴ of the USA in party manifestos per year, 1974-2023.*

³ For the full model (including the year fixed effects) please see appendix Table 4, as we did not include them in Figure 11 in order for the model not to be cumbersome to visualize.

⁴ Calculated as the percentage of US mentions per year.



It is obvious, from the two graphs above (Figure 1, Figure 2) that the sentiment towards the USA and the salience of the USA topic are highly correlated (we actually found a 0.94 correlation between the two variables), pointing towards an inversely proportional relationship, since the smooth lines seem almost identical. The evolution of the two measures portrays that the less salient the USA becomes in Greek party manifestos over time, the more the negativity in sentiment towards the USA fades away.

Figure 3. *Sentiment towards the USA in party manifestos per year and party ideology, 1974-2023.*

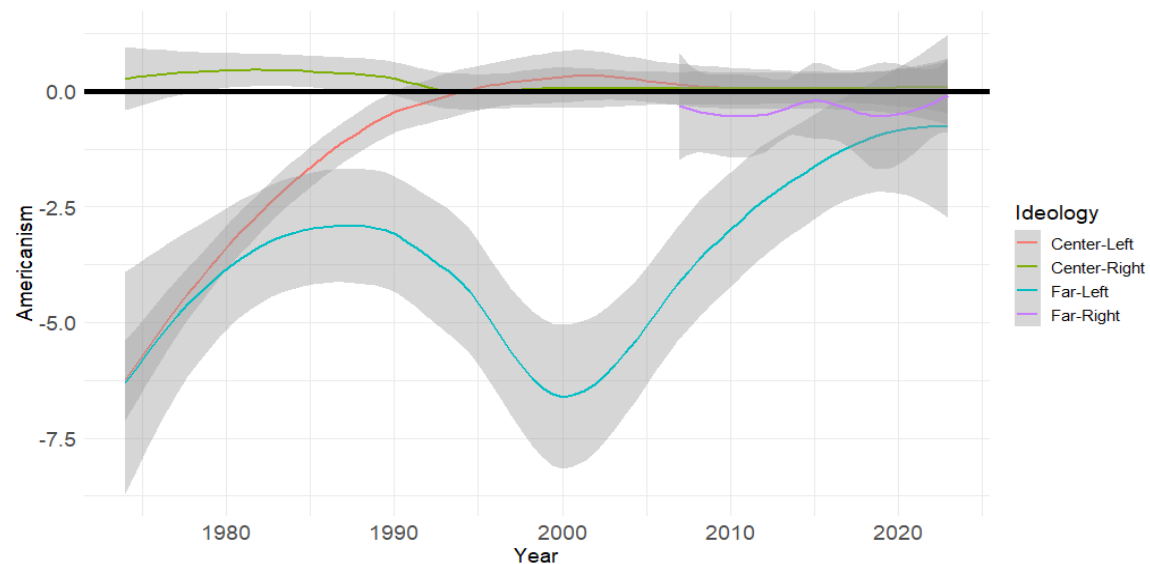
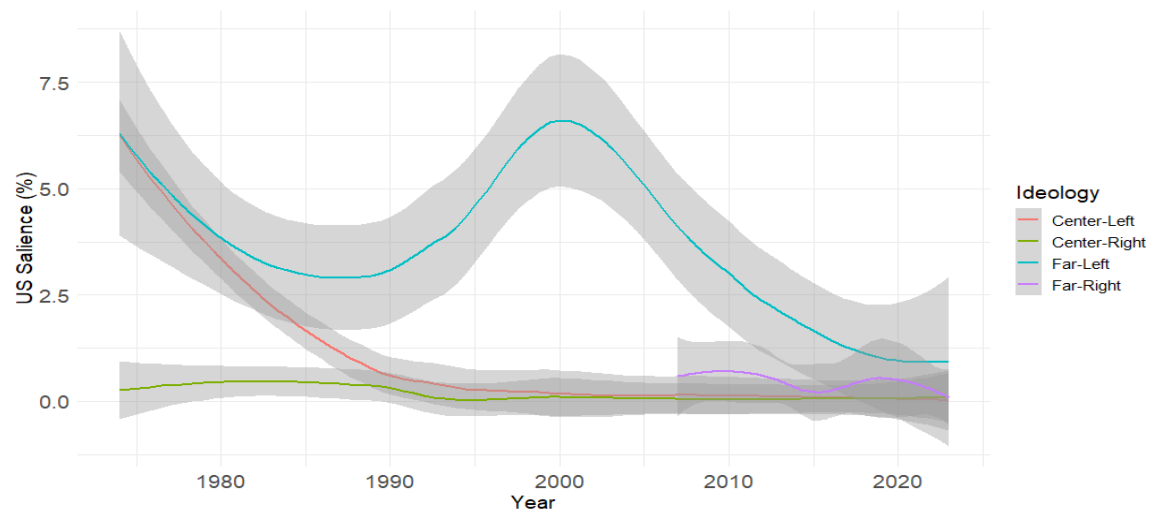


Figure 4. *Salience⁵ of the USA in party manifestos per year, per party ideology, 1974-2023.*

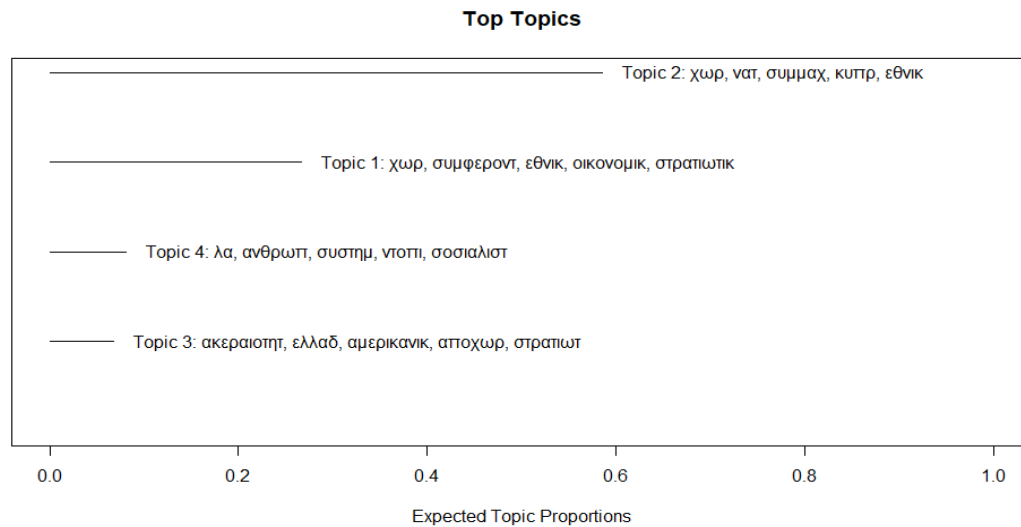
⁵ Calculated as the percentage of US mentions in each party ideology (relative to their overall sentences).



On the same note, USA salience and Americanism seem to take almost identical forms in Figures 3 and 4, when measuring the phenomena per party ideology. Whereas variation existed between political parties until 1989-1990, with far left and center left parties positioning themselves against and center right parties in favor of the USA, since the end of the Cold War any variation stems from changes in the manifestos of the far left. Center right and center left parties remain pro-american in the post-Cold War context - albeit marginally - and the resurgence of far right parties in the end of the 2000s, despite adding up to the anti-american reservoir, does not display any variation. Likewise, whenever the USA topic is salient, so is the anti-american sentiment. This leads us to conclude that anti-, instead of pro-, Americanism is the main tendency in the manifesto discourse, with the left (in both its communist and socialist sub-variants) being the main driving force behind it after the transition to democracy, whereas after the end of the Cold War the phenomenon is by and large fuelled by the far left. This is evident from the fact that there are only 51 pro-USA sentences compared to 417 anti-USA ones (eight times more). Additionally, most of the calculated Americanism scores in the manifestos are zero or below. Specifically, 49 manifestos have a negative score, 41 a zero score, and only 12 have a positive score.

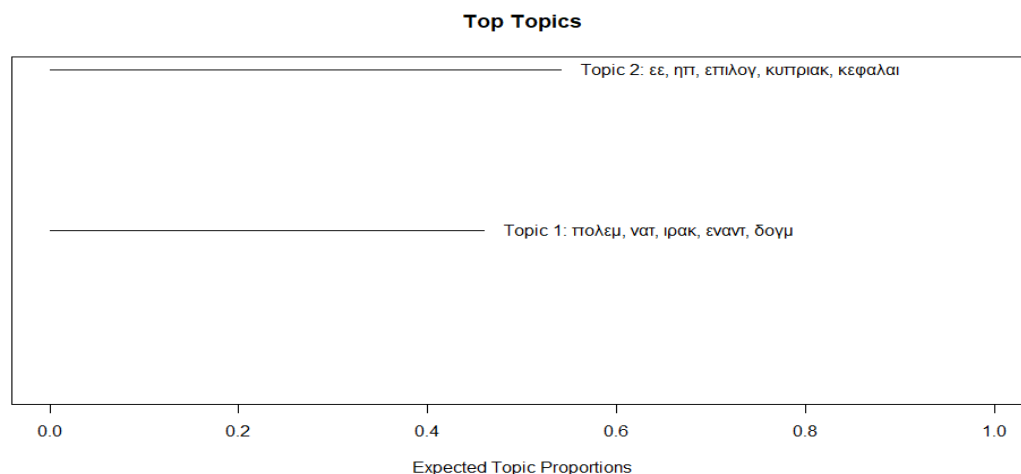
We next tried to discover the major topics that came up during the peaks in anti-americanism, namely in the years 1974 and 2004. This helped us explain which events contributed most in the rise of anti-americanism (and thus on the salience of the USA issue). Figure 5 and 6 show the results of the USA topic distribution between far left parties in two different time-points.

Figure 5. *The proportions of topics in party manifestos of 1974.*



As expected, the most frequent topic in 1974 was the invasion of Cyprus. The second most frequent refers to the national, economic and military sovereignty of Greece, the third to socialism and the fourth to the NATO bases.

Figure 6. *The proportions of topics in party manifestos of 2004.*



In 2004, we mainly see the war in Iraq as a salient topic, which as expected increases anti-americanism. The most frequent one mainly refers to the opposition of the left towards the EU, NATO and the capitalists. Overall, the USA topic is not salient for most of the parties' manifestos except from the far left ones, which are thus the driving force behind anti-americanism. Also, it seems that the USA becomes salient when there is an event relating the USA influence either indirectly (the invasion of Cyprus) or directly (the war in Iraq), which leads the far left to hold anti-imperialistic stances. One question that remains unanswered is why mainstream parties do not talk much about the USA in their manifestos, but answering this is beyond the purposes of this paper.

Insofar as manifestos are necessary for understanding the parties' blueprint over time, they are not sufficient for discovering the attitudes of political elites towards the USA. - WHY? IS THAT THE CASE WITH OTHER RESEARCH TOPICS THAT USES MANIFESTOS?

Since manifestos were not wholly representing party discourse regarding stances towards the USA, we decided to collect and analyze parliamentary speeches for the post-Cold War period, namely 1989-2024, since prior to 1989 anti-americanism was prevalent and there was little variation over time.

The results for the evolution of the sentiment towards the USA in parliamentary debates are shown in Figure 7. Figure 8 shows the evolution of sentiment towards the USA per MPs ideology.

Figure 7. *Sentiment towards the USA in parliamentary debates per Year, 1989-2024.*

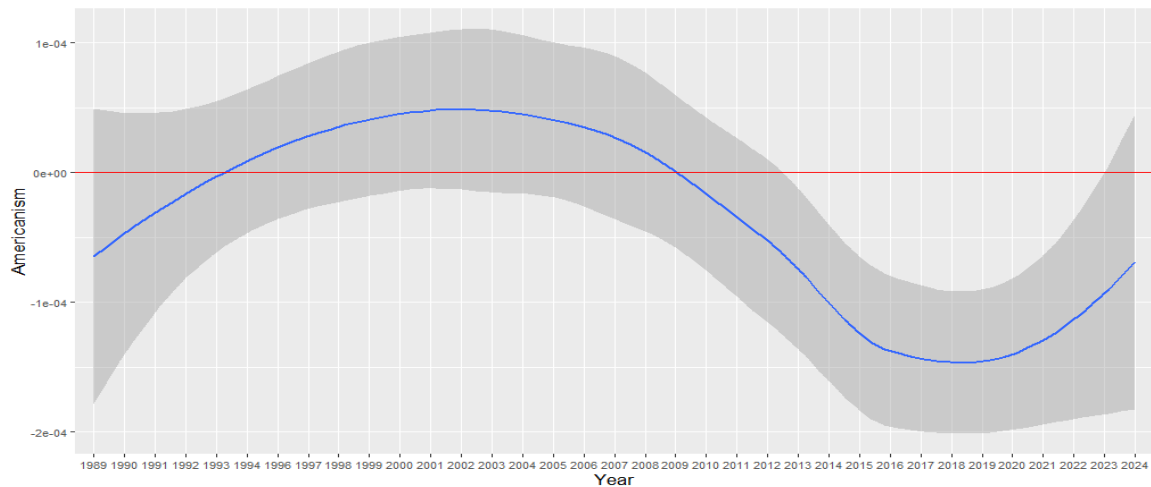
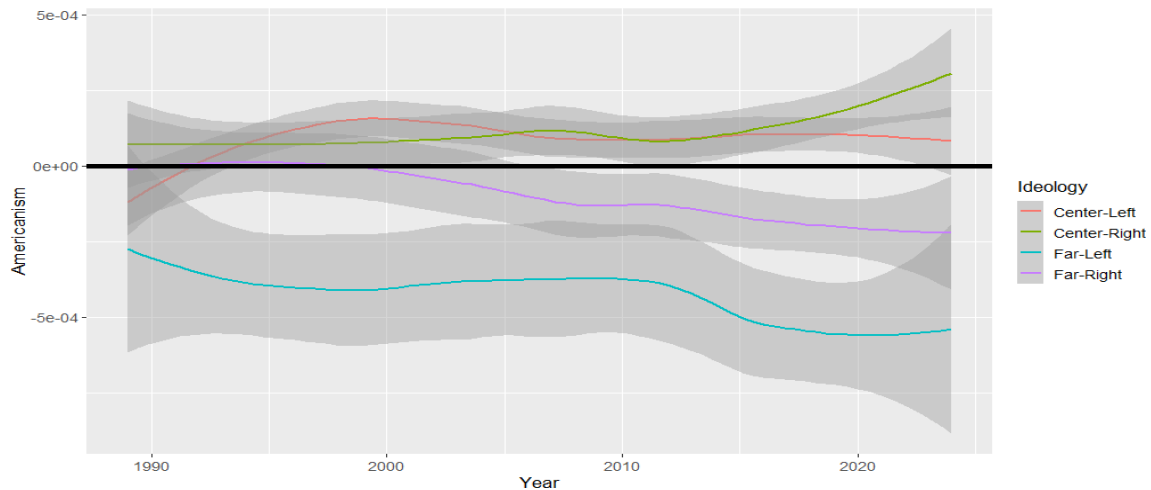
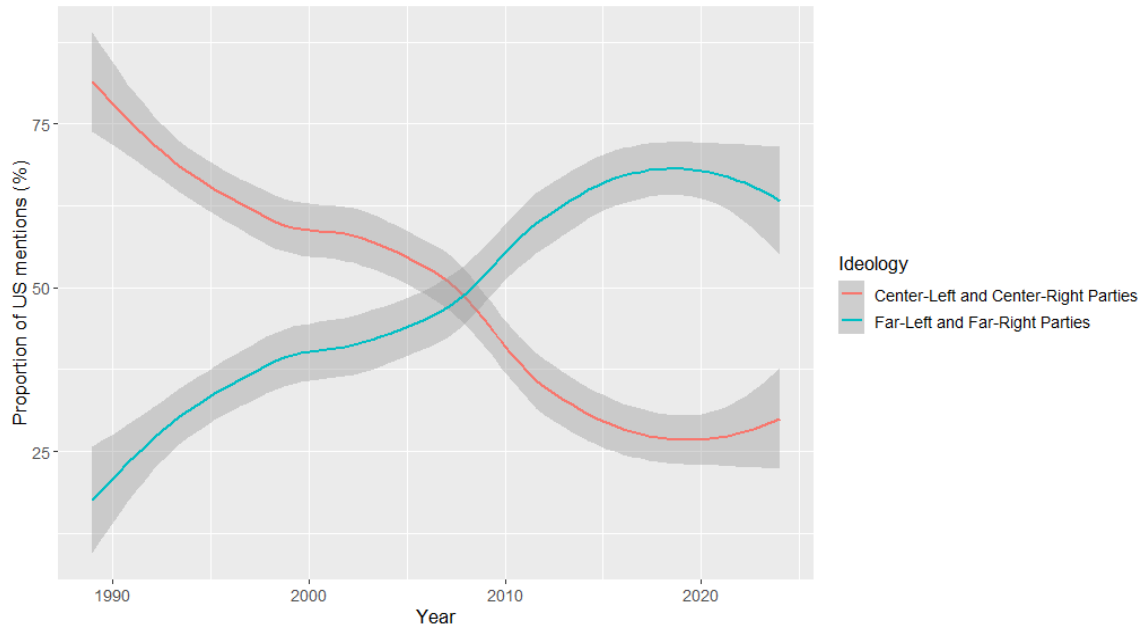


Figure 8. *Sentiment towards the USA in parliamentary debates per year and party ideology, 1989-2024.*



The pro-american sentiment increased from 1989 to 2008 and then started picking up again at the end of the financial crisis in 2019, after having turned negative at the beginning of the economic crisis and having stabilized since 2015. On the other hand, in Figure 8 the ideology scores indicate that the center right and center left parties from 1990 onwards follow a clearly pro-US path while the far-left and far-right parties an anti-US one. Finally, in Figure 9 we see the proportion of the US mentions from center right and center left parties and far-left and far-right parties, calculated as the proportion of the US mentions of each Ideology divided by the overall US mentions of each year. While center left and center right parties have the largest share of the US mentions in their members' speeches, this pattern changes after the 2008 economic crisis with the far-left and far-right parties now having the largest share. This means that during the period of economic crisis the US issue became less significant for mainstream parties, in contrast to the far-left and far-right parties that prioritized it. This switch explains the overall negative US sentiment (Figure 7) after 2008, since far-left and far-right parties have more negative stances towards the US.

Figure 9. *Proportion of the US mentions in parliamentary debates per party ideology, 1989-2024.*



After calculating the sentiment, we ran a supervised topic model on the US sentences (Blei & McAuliffe, 2010) in order to find which topics better explain sentiment towards the USA (our dependent variable). This happens as long as the dependent variable is incorporated into the data generating process of the model, and thus the model infers topics that explain the words as well as the dependent variable. So we ended up with four topics (Figure 10) that better explain sentiment and capture a large part of the variation, after trying several k configurations.

Figure 10. *Topics explaining the sentiment towards the USA (10 most probable words for each topic), 1989-2024.*

Defense	EU-US- International Relations	Bases	Imperialism
αμυν υπουργει δημοκρατ ι	ηνωμεν ευρωπαϊκ πολιτει	αμερικανι κ βασ	νατ λα
εθνικ ελληνικ συμφωνι ηνωμεν κυβερνησ	ευρωπ χωρ πολιτικ ενωσ σχεσ	αμερικαν ελλην προεδρ καν εκ υπαρχ	ενωσ ευρωπαϊκ επεμβασ ιμπεριαλιστικ περιοχ χωρ
υπουργ κυρωσ πολιτει	θεσμ διεθν αμερικ	ζητ γιατ κυρι	συμφεροντ αμερικαν ιμπεριαλ

νομ	αγορ	προγράμ μ	σχεδιασμ
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Sentiment for the USA was running high over the country's national defense, a highly salient issue drawing from historical conflicts with Turkey, but also current tensions in the period under study. The second topic explaining the sentiment towards the USA pertains to the state of international relations of the country with the EU and the USA. The third topic refers to the American bases in Greece, while the fourth topic is a more ideological one, that is imperialism. Hence, three out of four topics dominant in the sentiment towards the USA constitute real issues in national or foreign policy.

In Figure 11 we see that the topic of Defense and EU-International Institutions predict pro-American sentiment. The same fact holds for the Imia crisis, when the party is in government and when the Ideology is centre right or centre left. However, the last one, although positive, is not statistically significant. Hence, pro-american sentiment in the post-cold war era is driven by parties being in government as well as center-right and center-left parties; it is fuelled by realistic issues and crises of national and foreign policy. All the other coefficients predict anti-american sentiment, and mainly the economic crisis, which is the strongest of all predictors overall. Contrary to the pro-american sentiment, anti-americanism is driven by both national and international critical events. Among the national ones, to the exception of the negotiation and agreement on the US bases, all predictors pertain to the most recent economic crisis starting in 2010, with the signature of the first bailout agreement and the 2015 referendum explaining the negative sentiment. Among the international events, the dissolution of the USSR and the NATO bombings of Yugoslavia drive the anti-american sentiment in parliamentary debates. In terms of ideology, anti-american sentiment is driven by anti-imperialism, far-right and far-left parties.

Figure 11. *Regression Coefficients of the Probit Model (DV: US Sentiment).*⁶

⁶ With clustered robust standard errors at the yearly level and 95% confidence intervals.

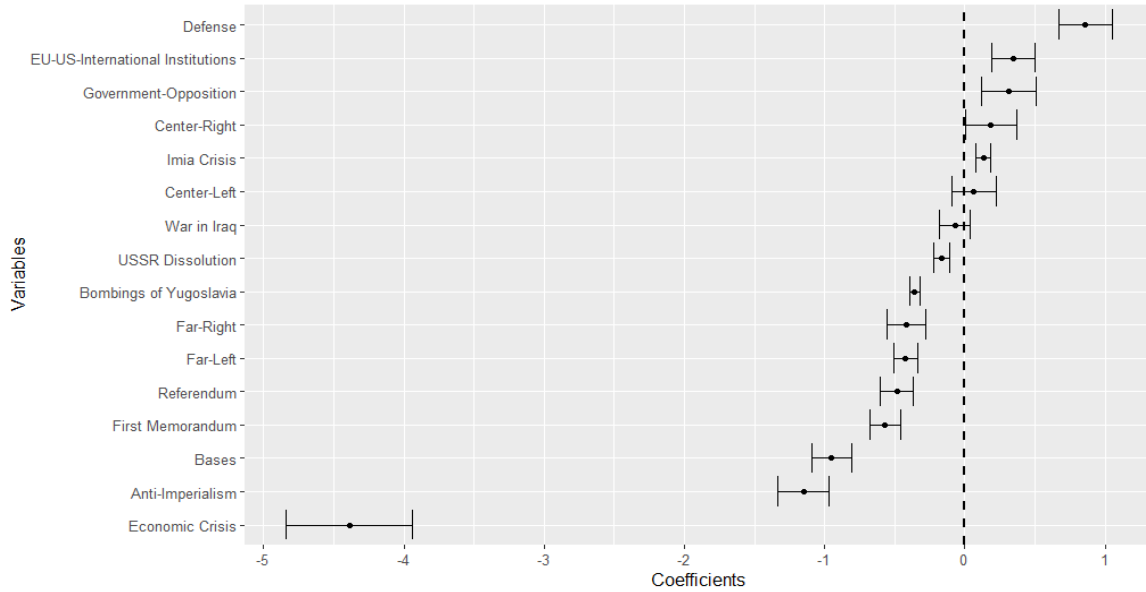
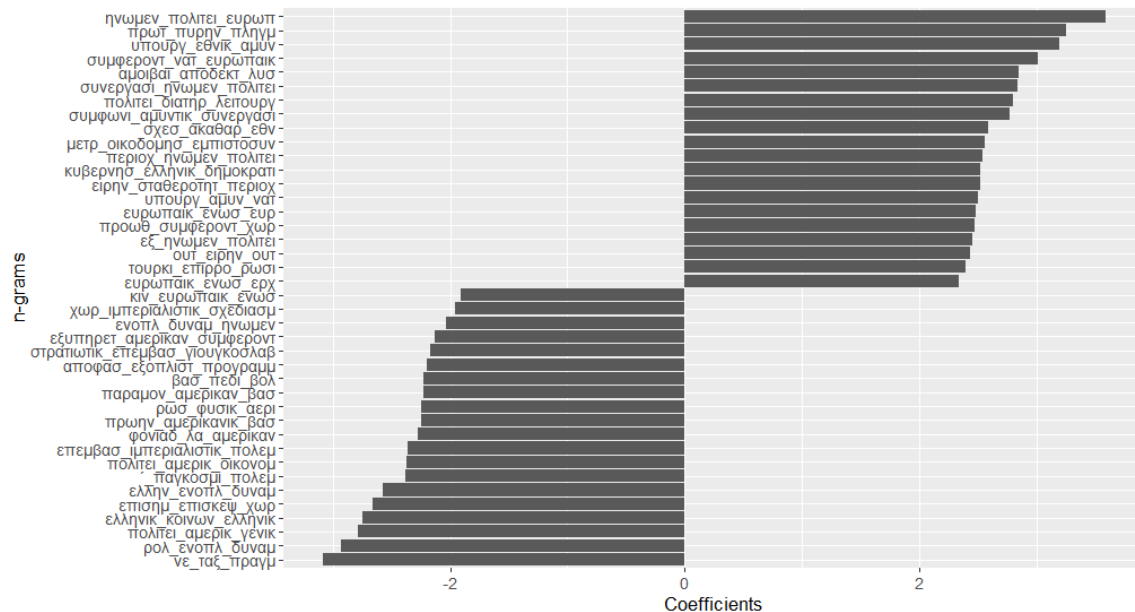


Figure 12. *Highest Predicting Words of sentiment in parliamentary debates, 1989-2024 (LASSO Regression).*

Finally, in Figure 12 we present the results from a LASSO model that we ran on the texts, with the sentiment as dependent variable, in order to see which n-grams better predict positive or negative sentiment towards the US. We plot the 20 most predicting n-grams of each category. We see tri-grams relating to national defense and the EU as predicting positive sentiment and tri-grams relating to bases and Imperialism as predicting the opposite.



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Appendix

Table 1. *Manifestos, Dates and Parties.*

Party Name	Date
Centre Union	1974-11
Communist Party of Greece	1974-11
New Democracy	1974-11
Panhellenic Socialist Movement	1974-11
Communist Party of Greece	1977-11
National Alignment	1977-11
New Democracy	1977-11
Panhellenic Socialist Movement	1977-11
Union of the Democratic Centre	1977-11
Communist Party of Greece	1981-10
New Democracy	1981-10
Panhellenic Socialist Movement	1981-10
Communist Party of Greece	1985-06
New Democracy	1985-06
Panhellenic Socialist Movement	1985-06
New Democracy	1989-06
Panhellenic Socialist Movement	1989-06
Progressive Left Coalition	1989-06
New Democracy	1989-11
Panhellenic Socialist Movement	1989-11
Progressive Left Coalition	1989-11
New Democracy	1990-04
Panhellenic Socialist Movement	1990-04

Progressive Left Coalition	1990-04
Communist Party of Greece	1993-10
New Democracy	1993-10
Panhellenic Socialist Movement	1993-10
Political Spring	1993-10
Communist Party of Greece	1996-09
Democratic Social Movement	1996-09
New Democracy	1996-09
Panhellenic Socialist Movement	1996-09
Political Spring	1996-09
Progressive Left Coalition	1996-09
Communist Party of Greece	2000-04
New Democracy	2000-04
Panhellenic Socialist Movement	2000-04
Progressive Left Coalition	2000-04
Coalition of the Radical Left	2004-03
Communist Party of Greece	2004-03
New Democracy	2004-03
Panhellenic Socialist Movement	2004-03
Coalition of the Radical Left	2007-09
Communist Party of Greece	2007-09
New Democracy	2007-09
Panhellenic Socialist Movement	2007-09
Popular Orthodox Rally	2007-09
Coalition of the Radical Left	2009-10
Communist Party of Greece	2009-10
New Democracy	2009-10
Panhellenic Socialist Movement	2009-10
Coalition of the Radical Left	2012-05
Communist Party of Greece	2012-05
Democratic Left	2012-05
Golden Dawn	2012-05
Independent Greeks	2012-05
New Democracy	2012-05
Panhellenic Socialist Movement	2012-05
Popular Orthodox Rally	2012-05
Coalition of the Radical Left - Unionist Social Front	2012-06

Communist Party of Greece	2012-06
Democratic Left	2012-06
Golden Dawn	2012-06
Independent Greeks	2012-06
New Democracy	2012-06
Panhellenic Socialist Movement	2012-06
Coalition of the Radical Left	2015-01
Communist Party of Greece	2015-01
Golden Dawn	2015-01
Independent Greeks	2015-01
New Democracy	2015-01
Panhellenic Socialist Movement	2015-01
The River	2015-01
Coalition of the Radical Left	2015-09
Communist Party of Greece	2015-09
Golden Dawn	2015-09
Independent Greeks	2015-09
New Democracy	2015-09
Panhellenic Socialist Movement	2015-09
Popular Unity	2015-09
The River	2015-09
Union of Centrists	2015-09
Coalition of the Radical Left	2019-07
Communist Party of Greece	2019-07
European Realistic Disobedience Front	2019-07
Golden Dawn	2019-07
Greek Solution	2019-07
Movement for Change	2019-07
New Democracy	2019-07
Coalition of the Radical Left	2023-05
Communist Party of Greece	2023-05
Greek Solution	2023-05
New Democracy	2023-05
Panhellenic Socialist Movement	2023-05
Coalition of the Radical Left	2023-06
Communist Party of Greece	2023-06
Greek Solution	2023-06

New Democracy	2023-06
Niki	2023-06
Panhellenic Socialist Movement	2023-06
Plefsi Eleftherias	2023-06
Spartiates	2023-06

Table 2. *Number of speeches per party.*

Party Name	Number of Speeches
Independent	6445
Independent Greeks	30289
Dimokratiki Ananeosi	102
Dimokratiki Aristera	4490
Dimokratiki Simparatksi	27023
DIKKI	6056
NIKI	470
Elliniki Lisi	13707
Enosi Kentroon	12247
Kinima Allagis	13936
KKE	95388
LAE	12
LAOS	24875
HA	15463
MeRA25	7228
Nea Aristera	124
ND	444100
Oikologoi Enallaktikoi	307
PASOK	380813
PE	954
POLAN	3658
SPARTIATES	437
SYRIZA	158139
SYN	33090
THE RIVER	16536

Dictionary of positive and negative words

Negative n-grams

"αμερικανικ_οικονομικ_κυριαρχ", "αμερικαν_συμφερον", "χωρ_αμερικανονατοικ_ι

μπεριαλιστικ", "ιμπεριαλιστικ_συμμαχι", "σχεδ_νατ", "κερδοφορι_κεφαλαι", "εξοπλιστ_σχεδιασμ", "στρατιωτικοποιησ", "αστ_ταξ", "εκβιαστ", "αμερικανοπνευστ", "ιμπεριαλιστικ_οργαν", "συμφεροντ_αστ_ταξ", "αστικ_ταξ", "ιμπεριαλιστικ_σχεδιασμ", "σχεδιασμ_νατ_ευρωπαϊκ_ενωσ", "απεξαρτησ_ρωσ_φυσικ_αερι", "βαρ_κυριαρχ_δικαιωμ_χωρ", "αποδεσμευσ_νατ_ευρωπαϊκ_ενω", "φιλ_αμερικαν", "αμερικαν_συμφεροντ", "αντιγραψτ_αμερικαν_μοντελ", "χρυσ_αυγ", "ξεν_δυναμ", "αμερικανικ_πολυεθνικ", "γη_υδωρ", "παγκοσμι_πολεμ", "φονιαδ_λα", "αμερικαν_σχεδιασμ", "ορεξη_αμερικαν", "φιλοσ_αμερικαν", "φιλοι_αμερικαν", "παρακολουθημ", "ιμπεριαλιστ_οργαν", "πρωθησ_συμφεροντ_ηπ", "χατιρ", "αγαπημενοσ_φιλ", "φιλοσ_σ", "φιλοσ_των_αμερικαν", "θεραπαινιδ", "μιζ", "νεοφιλελευθερ", "αμερικανοκρατουμεν", "αμερικανοκινητ", "ξενο_παραγοντ", "εξοπλιστ_προγραμμ", "στρατιωτικ_επεμβασ", "επεμβασ_αμερικαν", "χωρ_ιμπεριαλιστικ_οργαν", "αμερικαν_ευρωπαϊκ_ιμπεριαλ", "παραμον_αμερικαν_βασ", "αμερικανικ_βασ", "απαγορευσ_πυρην_δοκιμ", "νε_ταξ_πραγμ", "επεμβασ", "στρατηγικ_σχεδιασμ_νατ", "ενοπλ_δυναμ", "στρατηγικ_σχεδιασμ", "συνεργο", "εξαρτω", "παραβ", "εξαρτ", "εξαρτησ", "φιλοιμπεριαλ", "βομβαρδιστ", "μονοπωλ", "αμερικανονατοικ", "ιμπεριαλ", "ιμπεριαλιστικ", "ολιγαρχ"

Positive n-grams

"συνεργασι_κυβερνησ_ελληνικ_δημοκρατι_κυβερνησ", "συμφωνι_αμοιβαι_αμυντικ", "συνεργασι_ηνωμεν_πολιτει", "αμυντικ_συνεργασι_ηνωμεν", "αμερικ_παραρτημ_δυ_επιστολ", "πολιτει_αμερικ_βελτιωσ_διεθν", "εθνικ_αμυν_ελληνικ_δημοκρατι", "παρατασ_μνημον_συνεργασι", "συνεργασι_κυβερνησ_ελληνικ_δημοκρατι_κυβερνησ", "κυρωσ_μνημον_συνεννοησ", "συμμαχ_δυναμ_ευρωπ", "φιλοξενουσ_χωρ_επιχειρησ", "συμφωνι_συναντιληψ_κυβερνησ", "υποστηριξ_φιλοξενουσ_χωρ", "επιχειρησ_αν_συμμαχ", "συμμαχ_δυναμ_ευρωπ", "ηνωμεν_πολιτει_ευρωπ", "ηγεσι_συμμαχικ_διοικησ", "ομοσπονδιακ_υπουργει_αμυν_ομοσπονδιακ_δημοκρατι", "συμβασ_αμοιβαι_δικαστικ", "επιστημονικ_τεχνολογικ_συνεργασι", "λειτουργ_σταθμ_αναμεταδοσ", "συνεργασι_κυβερνησ_ελληνικ_δημοκρατι_ηνωμεν_πολιτει", "αμοιβαι_διοικητικ_συνδρομ", "συμφεροντ_χωρ", "αφοσιωσ_διατηρησ_ειρην_δεσμευσ", "αμοιβαι_αμυντικ_συνεργασι", "βελτιωσ", "διμερ", "θετικ", "εμπιστοσυν", "συνεργασι", "σεβασμ", "θεσμ", "σταθεροτητ", "πρωθησ", "αρμονικ", "δεσμ", "αμυν", "φιλικ", "αμοιβαι", "οφελ", "ευχαρ", "παραδοσιακ"

Table 3. *Examples of positive and negative US sentences as classified from sentiment analysis.*

Positive Sentences	Negative Sentences
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αυτα ειναι δεσμοι που μας δενουν με τους αμερικανους και δεν μπορουμε να τους παραβλεψουμε.	οτι ψηφισαμε στην ουσια υπερ της επεμβασεως των αμερικανων.
δεν ειναι λοιπον εκτος των πλαισιων αυτων η διατηρηση αυτης της φιλικης, αν θελετε, συνεργασιας με την αμερικη.	ξεκαθαρη λοιπον τοποθετηση εναντιον της στρατιωτικης επεμβασης της αμερικης στον παναμα.
και οταν μιλαμε για ευρωπαικη αμυνα δεν υπαρχει αμφιβολια οτι εννοουμε αμυνα, η οποια παραλληλα να συνυπαρξει με την ατλαντικη συμμαχια.	σημιτη ως διεκπεραιωτης των αμερικανικων συμφεροντων.
με τον προεδρο των η.π.α. εχω σχεση προσωπικης φιλιας και υπαρχει μεταξυ μας εμπιστοσυνη.	να φυγουν οι αμερικανικες βασεις.
ποτε δεν αποκρυψαμε οτι θελουμε να εχουμε φιλικες σχεσεις με τις ηνωμενες πολιτειες.	τη συμμετοχη και την εξαρτηση της χωρας μας απο τους ιμπεριαλιστικους σχηματισμους, νατο και δυτικοευρωπαικη ενωση την υποστηριζετε.
αν η παρουσια των ηνωμενων πολιτειων στα βαλκανια φερνει μαζι της τη σταθεροτητα και την ασφαλεια στην περιοχη, προκειται για θετικη εξελιξη.	επομενως, να μην περιμενετε απο μενα να γινω απολογητης των οποιων πραξεων των ηνωμενων πολιτειων, οι οποιες πραγματι εκαναν μια στρατιωτικη επεμβαση.
η συμφωνια αμοιβαιας αμυντικης συνεργασιας με τις ηνωμενες πολιτειες, που εμβαθυνει, επεκτεινει και διευρυνει τη διμερη συνεργασια.	ξηλωστε τις αμερικανικες βασεις.
επιστεγασμα αυτων των προσπαθειων και οροσημο στον τομεα της αμυντικης συνεργασιας ηταν οι προσφατα υπογραφεισες συμφωνιες, στρατηγικου χαρακτηρα μαλιστα, αμυντικης συνεργασιας με τις ηνωμενες πολιτειες αμερικης και τη γαλλια.	υιοθεтите πρακτικα τα προσχηματα των αμερικανονατοικων.
ταυτοχρονα, η ατλαντικη συμμαχια παραμενει το θεμελιο της συλλογικης τους αμυνας.	μη μου πειτε οτι ειναι φιλοι μας οι αμερικανοι.

οι διμερεις σχεσεις ελλαδας και ηνωμενων πολιτειων εδραζονται σε μακρα περιοδο συνεργασιας, μας ενδιαferουν απολυτα ως χωρα.	με καθε τροπο η κυβερνηση δινει τα διαπιστευτηρια της στους αμερικανονατοικους ιμπεριαλιστες.
ειμαστε ανοιχτοι στο συγχρονο κοσμο, στην αναβαθμιση της συνεργασιας μας με τις ηνωμενες πολιτειες στη βαση αμοιβαιου σεβασμου και ισοτιμιας, που να εξυπηρετει τα εθνικα μας συμφεροντα	οι αμερικανοι ειναι αδιστακτοι και το γνωριζουμε ολοι μας, οπως συνολικα οι νατοικοι ιμπεριαλιστες.
χρειαζομαστε και το νατο και την ευρωπη της αμυνας.	αι βεβαιως, να μην εχουν καμια σχεση και εξαρτηση απο τον αμερικανο.

Table 4. *Regression Coefficients of the Probit Model (DV: US Sentiment, Full Model).*

Variables	Estimates
Defense	0.858813*** (0.098067)
EU-US-International Relations	0.345064*** (0.078270)
Bases	-0.951882*** (0.072601)
Anti-Imperialism	-1.150301*** (0.092207)
Imia Crisis	0.132947*** (0.026169)
Bombings of Yugoslavia	-0.357512*** (0.017269)
Referendum	-0.485133*** (0.058635)

Government - Opposition	0.314880** (0.100256)
First Memorandum	-0.568141*** (0.056710)
War in Iraq	-0.069523 (0.056353)
Economic Crisis	-4.387868*** (0.229608)
USSR Dissolution	-0.166159*** (0.029116)
Ideology: Independent	5.059695*** (0.218277)
Ideology: Center-Right	0.186328* (0.092065)
Ideology: Center-Left	0.063745 (0.080846)
Ideology: Far-Left	-0.423426*** (0.043862)
Ideology: Far-Right	-0.416601*** (0.069692)
Date 1990	-0.038028 (0.047289)
Date 1991	0.447526*** (0.050819)
Date 1992	0.105874 (0.071579)
Date 1993	0.213540*** (0.062378)

Date 1994	0.043302 (0.055976)
Date 1996	0.496272*** (0.066309)
Date 1997	0.579637*** (0.068734)
Date 1998	-0.064827 (0.065589)
Date 1999	0.477553*** (0.061480)
Date 2000	0.308144 *** (0.056979)
Date 2001	0.674770*** (0.056081)
Date 2002	0.337376*** (0.058216)
Date 2003	0.491481*** (0.061831)
Date 2004	0.503542*** (0.064859)
Date 2005	0.502510 *** (0.069133)
Date 2006	0.348550*** (0.051474)
Date 2007	0.595007*** (0.061724)
Date 2008	0.188093** (0.062748)

Date 2009	0.427214*** (0.067536)
Date 2010	0.344507*** (0.067671)
Date 2011	0.517377*** (0.067416)
Date 2012	0.316939*** (0.065451)
Date 2013	0.332936*** (0.073989)
Date 2014	0.496048*** (0.072129)
Date 2015	0.155071* (0.067616)
Date 2016	0.490308*** (0.071181)
Date 2017	0.570416*** (0.071556)
Date 2018	0.148335* (0.071976)
Date 2019	0.586308*** (0.077636)
Date 2020	0.396249*** (0.060069)
Date 2021	0.279007 *** (0.065320)
Date 2022	0.419639*** (0.066708)

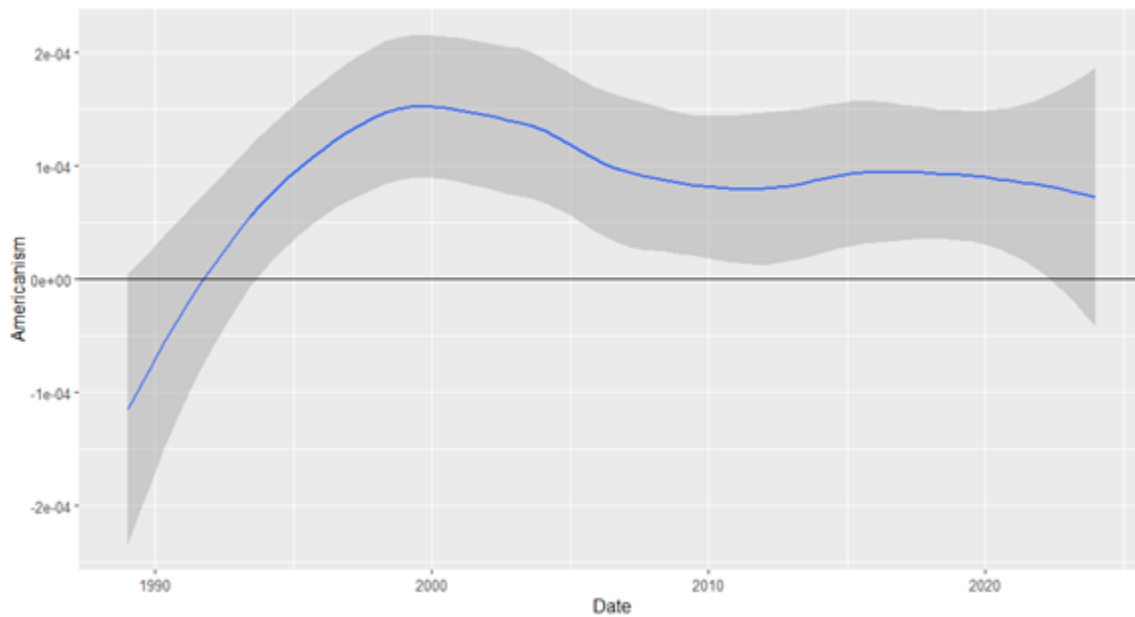
Date 2023	0.446307 *** (0.071260)
Date 2024	0.702426 *** (0.068527)
<i>Nagelkerke's R2</i>	0.503
<i>Number of Observations</i>	4906

Table 5: Parties per Ideology

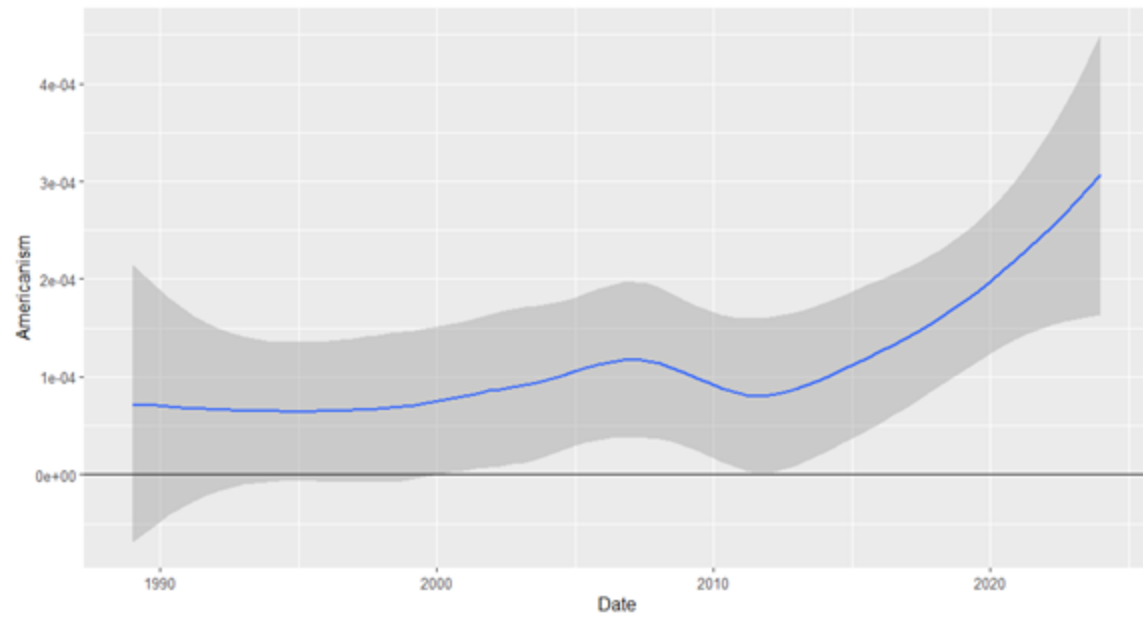
Party	Ideology
Democratic Renewal	Center-Right
Democratic Socialist Movement	Far-Left
Communist Party of Greece	Far-Left
Popular Orthodox Rally	Far-Right
New Democracy	Center-Right
Alternative Ecologists	Far-Left
Panhellenic Socialist Movement	Center-Left
Political Spring	Center-Right
Coalition of the Radical Left	Far-Left
Synaspismos	Far-Left
Independent Greeks	Far-Right
Democratic Left	Center-Left
Golden Dawn	Far-Right
Democratic Alliance	Center-Left
Greek Solution	Far-Right
Enosi Kentroon	Center-Right
Kinima Allagis	Center-Left
Popular Unity	Far-Left

MeRA25	Far-Left
The River	Center-Left
New Left	Far-Left
Plefsi Eleftherias	Far-Left
Spartiates	Far-Right
NIKI	Far-Right

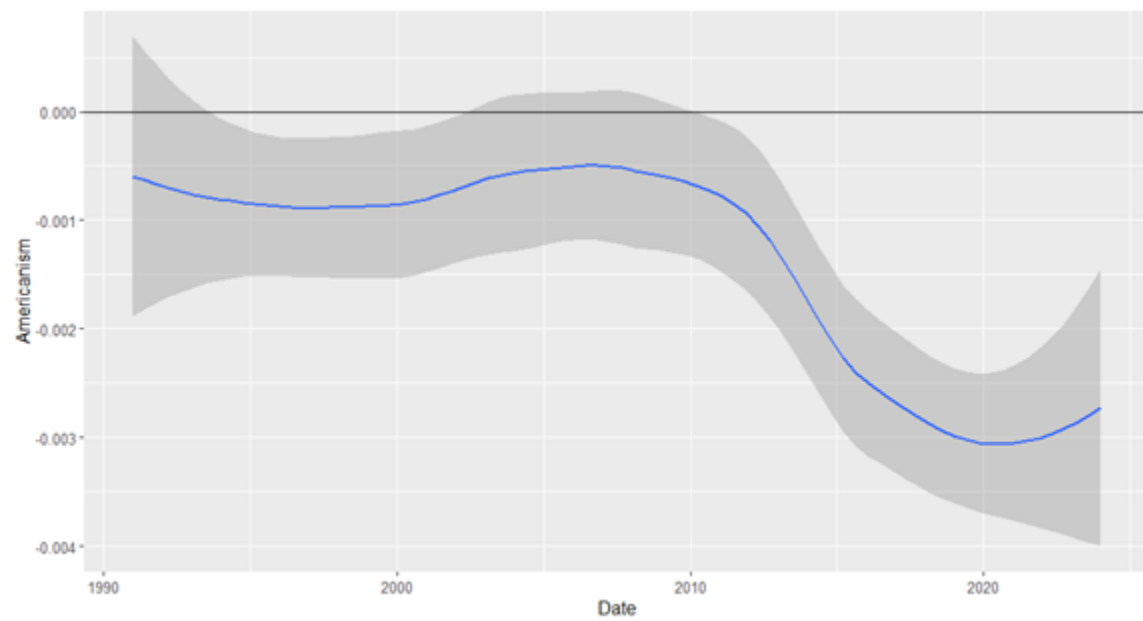
PASOK/KINAL SENTIMENT



ND SENTIMENT



KKE SENTIMENT



SYRIZA SENTIMENT

