

# NLP in Public Policy Analysis

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# Motivating example

# MORE THAN WORDS? EXPLAINING THE ORIGINS OF THE IRISH PARTY SYSTEM

Liam Weeks (UCC), Slava Mikhaylov (UoE), Alexander Herzog (Clemson),  
Mícheál Ó Fathartaigh (DBS)

# Irish party system – exceptional?

- *Sui generis* because its origins are *sui generis*
- Politics without social bases
- Fine Gael and Fianna Fáil = Tweedledum and Tweedledee?
- O'Malley and Byrne (2012): roots date back to the twelfth century
- But most agree ‘in the beginning was the treaty ...’
- Party system created from split over the treaty
- But few have examined why it split

# Data and methodology

- Analysis of the Dáil debates over the treaty (December 14 1921 – January 10 1922)
- Data:
  - ▶ text of parliamentary speeches
  - ▶ Background of speakers (TDs)
- Wordscores to estimate speakers' positions, with speeches of de Valera and Collins as anchor texts
- Other aim is to use social backgrounds to predict speakers' positions
- Two research questions:
  - ▶ Does TDs' position in Dáil debates explain the split?
  - ▶ Does TDs' background explain the split?

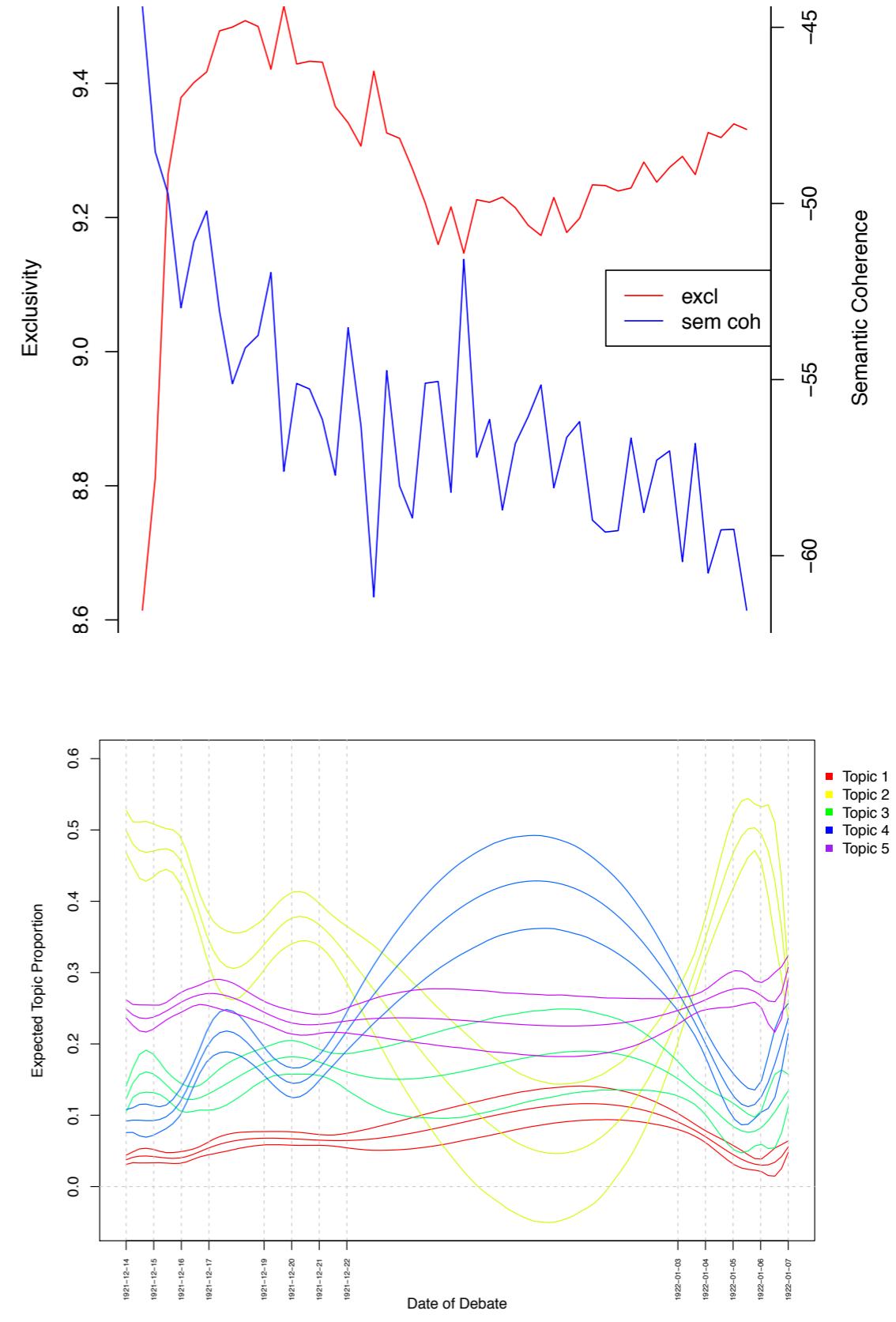
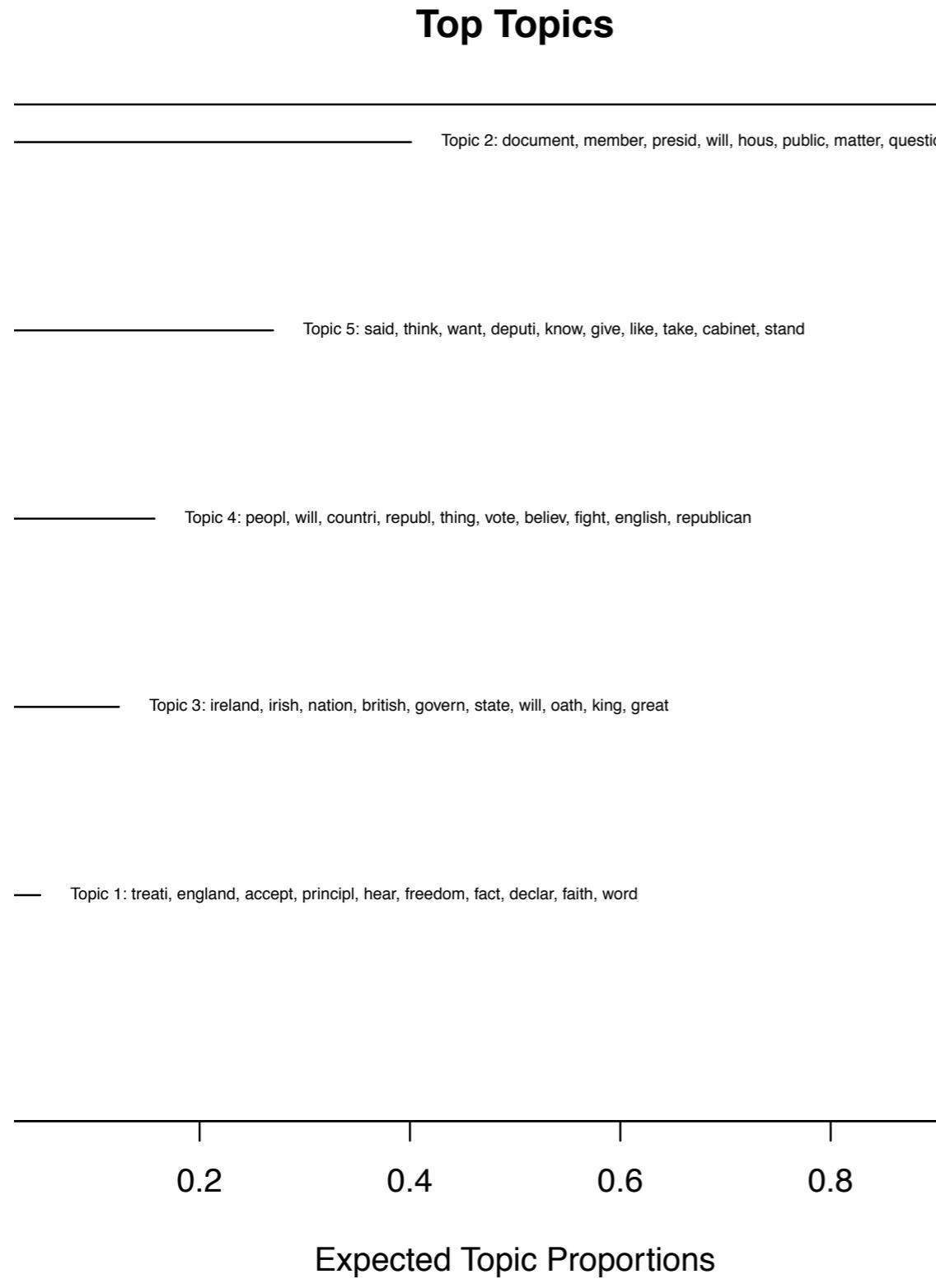
# Treaty debates – background

- 1919-21 War of Independence
- Second Dáil elected unopposed 1921: just one party taking seats
- Discussions between British government and Irish plenipotentiaries October-December 1921
- Treaty signed December 6 1921
- 15 days of debates: December 14 1921-January 10 1922
- Private sessions: December 15-17 and January 6, not released until 1970s
- Vote on treaty January 7
- Almost every TD spoke – 258,000 words in total



# Debates: what was discussed?

- Ulster ‘the great non-issue of the debates’ (Knirck: 44): 79 mentions and unionists 35
- Most commonly used words:
  - Treaty (1,704)
  - People (1,404)
  - Ireland (1,247)
  - Irish (1,112)
  - Country (1043)
  - Republic (956)
  - British (872)
  - Economic/economical/economies (52)



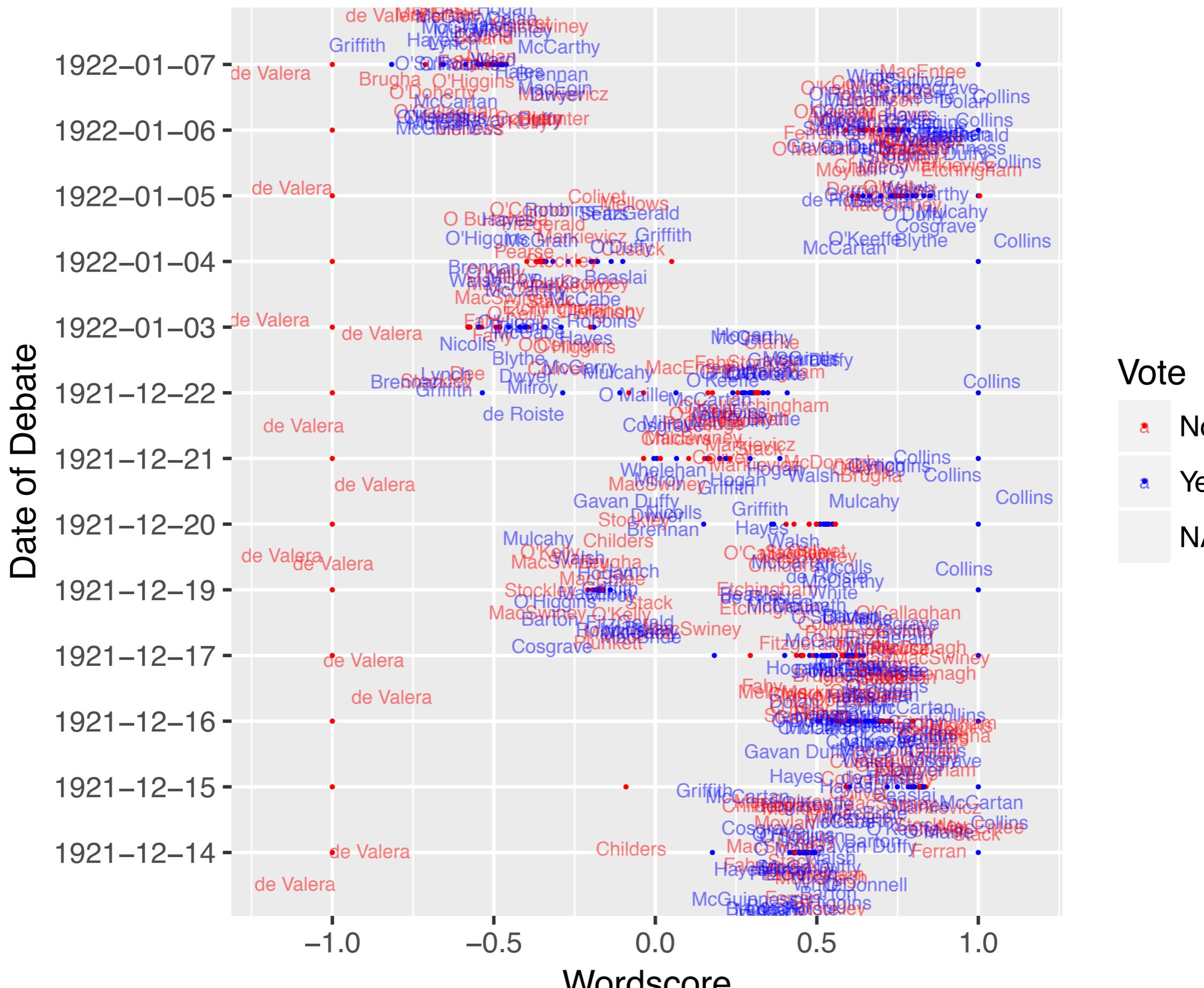
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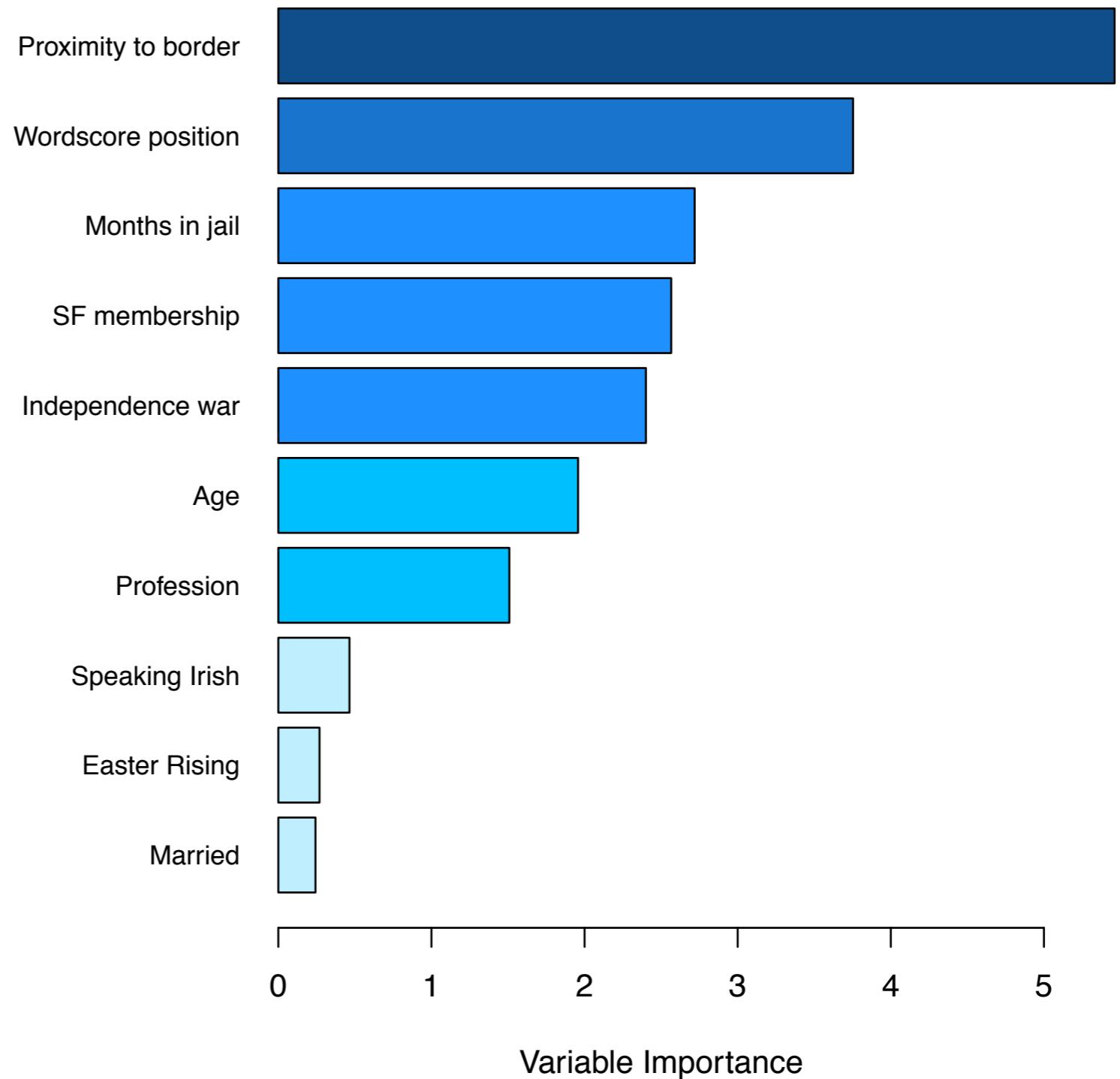
# Collins vs. de Valera

# Predicting the final vote

## Predicting the vote

- Random Forest model
- Out-of-bag error rate 21.74%
- Confusion table:

	0	1	class. error
0	24	4	0.14
1	6	12	0.33

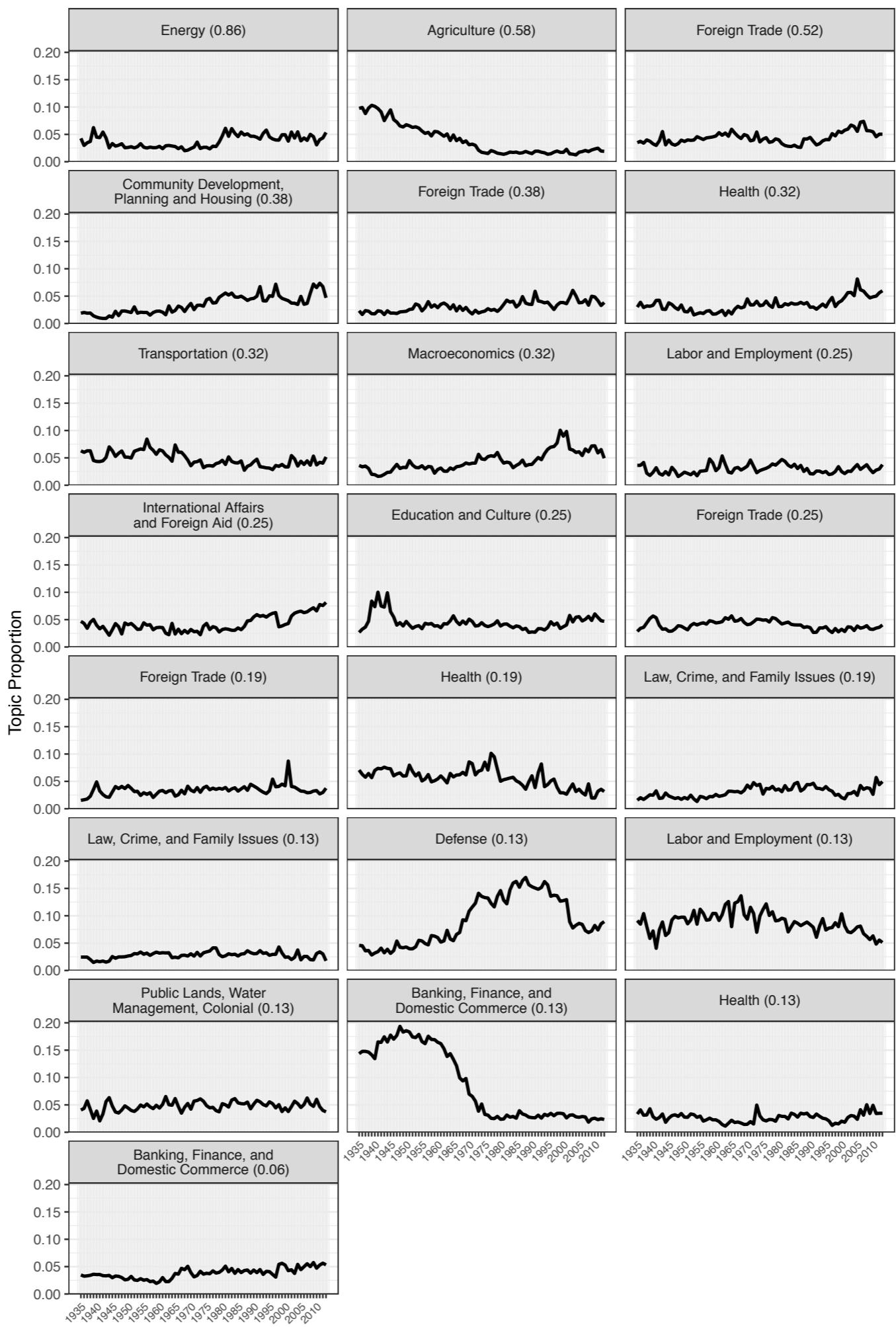


# Summary of results

- Lot of clustering of TDs
- Very little difference between the two sides
- The contemporary argument that there is very little difference between Fianna Fáil and Fine Gael is consistent all the way back to their origins
- The main source of division seems to be the vote over the treaty, as distinct from the treaty itself
- Little else divided TDs
- Sinn Féin was a monolithic movement
- Backbench TDs were primarily ‘sheeple’, who followed leaders
- Does this mean that the split was elite driven?

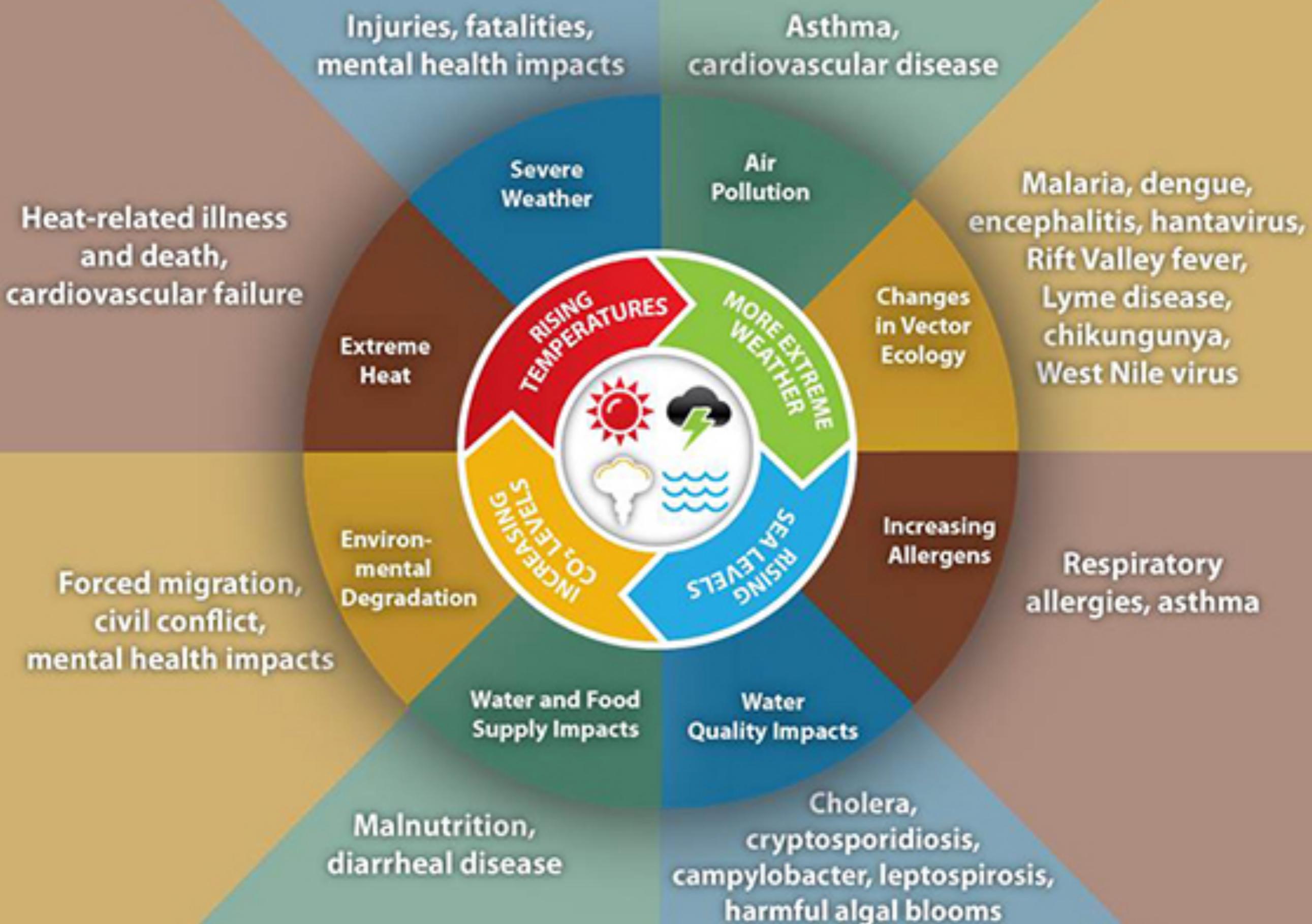


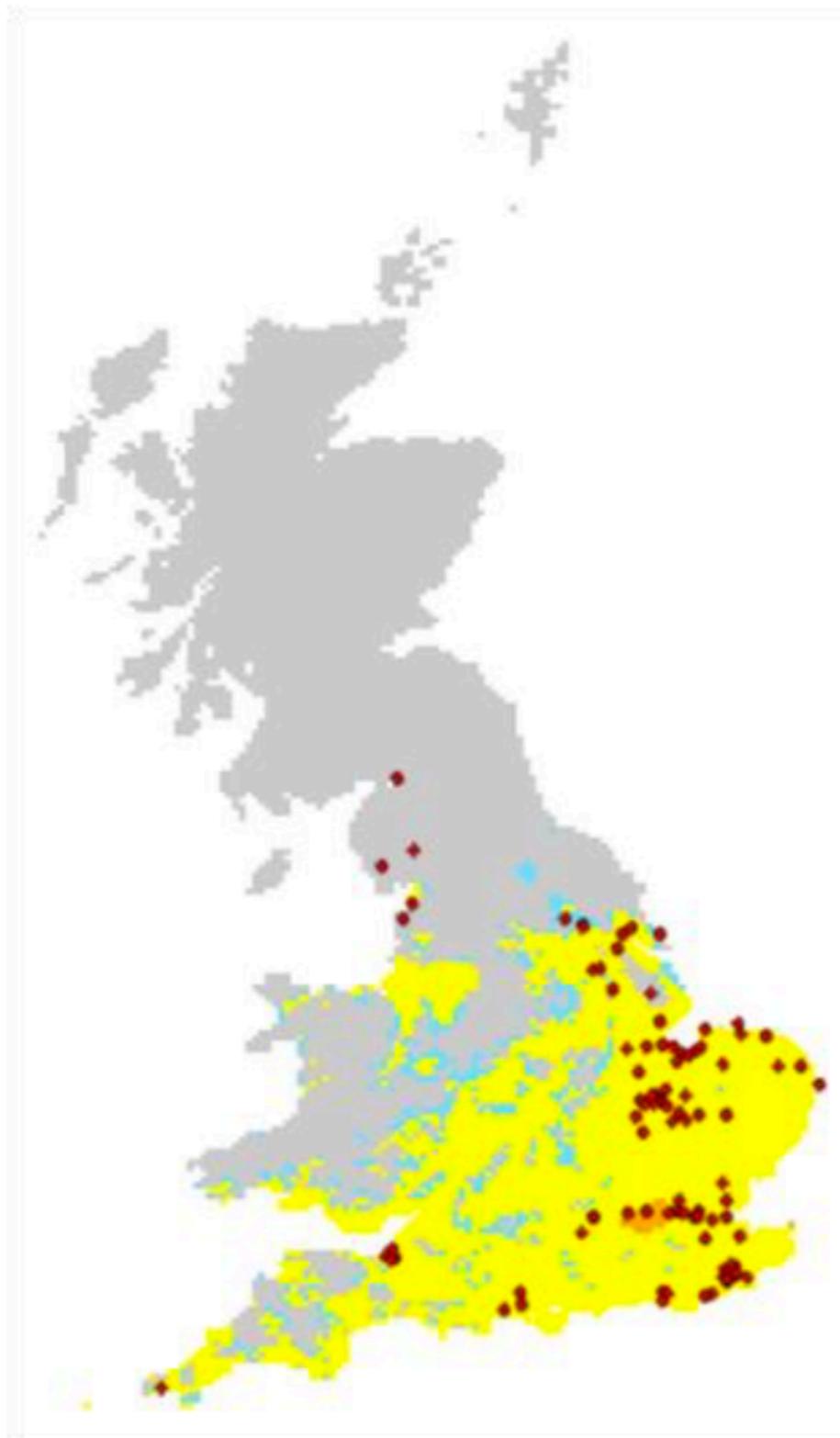
# UK Parliamentary Debates



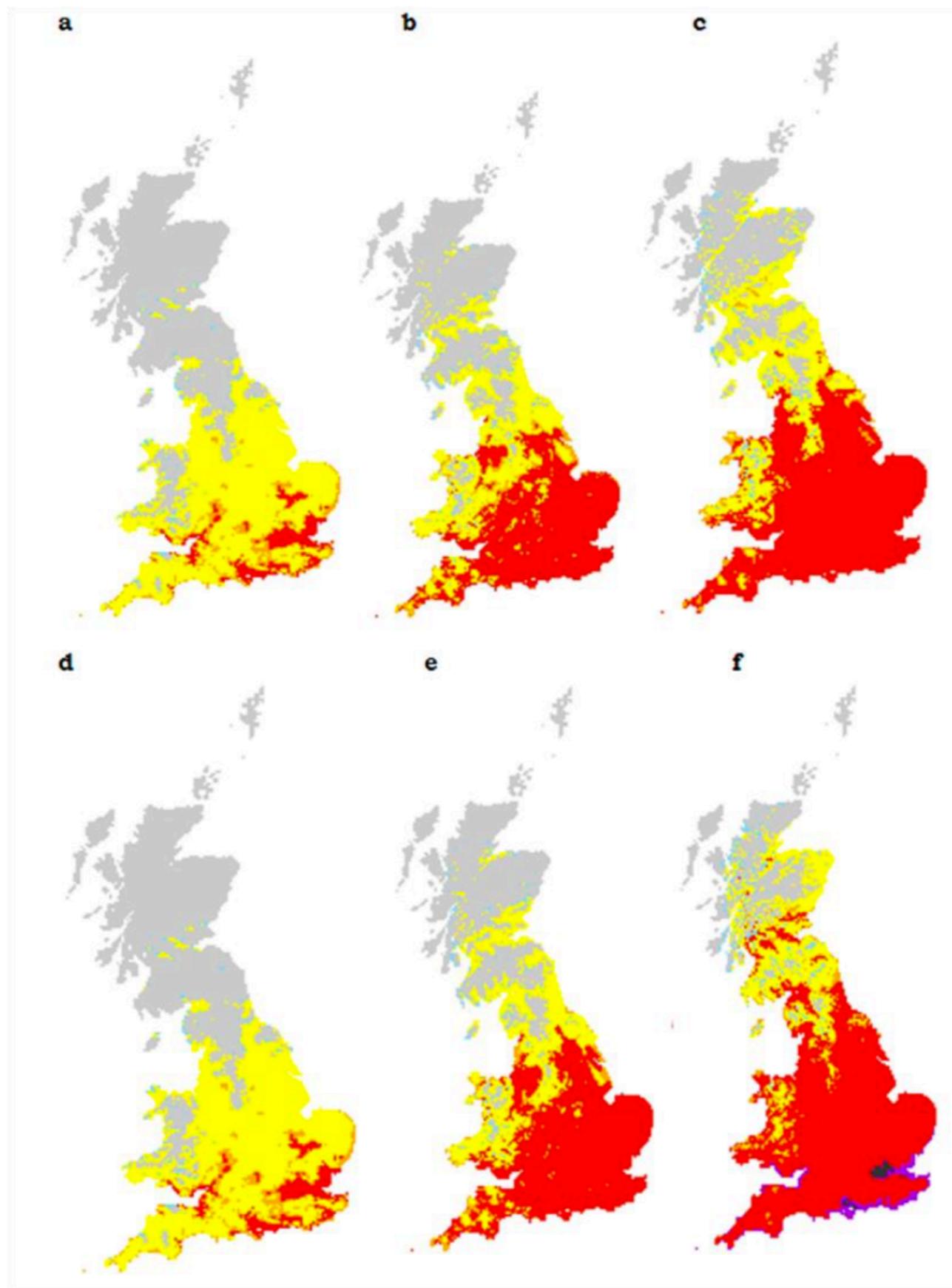
# **Case study**

# Impact of Climate Change on Human Health





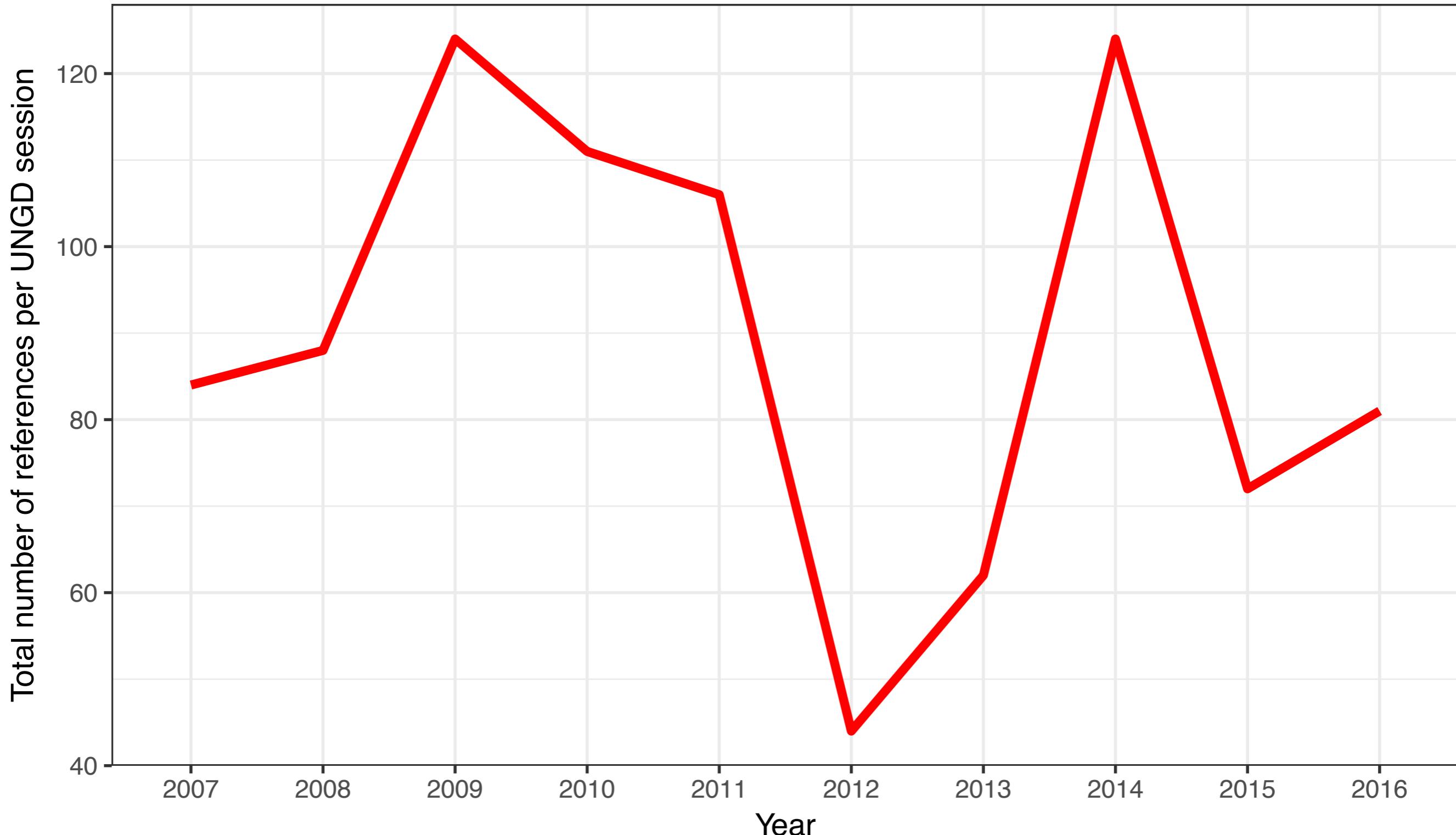
**Figure 8.4. Areas of the UK where the climate could support vivax malaria. Shading represents the number of months where vivax malaria could be transmitted (grey =0, blue =1, yellow =2, orange =3). Red circles show malaria cases in the 19<sup>th</sup> Century. Based on the UKCIP for 1961-90.**



**Figure 8.5. Projected future risk maps for vivax malarial transmission under a medium-low (a, b and c) and a medium-high (d, e and f) climate change scenario. Maps show risk for the period 2020s (a and d), 2050s (b and e) and 2080s (c and f). Based on UKCIP02.**



## Political engagement with the intersection of climate change and health



# Political engagement with the intersection of climate change and health

