# **Auto-EPU**

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#### **Outline**

Chat With PDF

Generation Analysis of Self-Consistency

Word Cloud

Accuracy

Prompt For Different Categories/Paradigms

Query Analysis

Entropy

Similarity

References

#### **Chat With PDF**

#### ChatGPT-4

Upload the QJE version of the paper, Baker et al. (2016)

You are a Taiwanese Economist and plan to construct the EPU index of Taiwan. Define keywords in each E, P, U set

#### Assistant:

(1)	(2)	(3)
Economy	Policy	Uncertainty
經濟	政策	不確定
成長	法規	風險
發展	立法	擔憂
投資	財政	不穩定
消費	金融	變數
生產	稅務	
貿易	預算	

#### Cluade.ai-beta

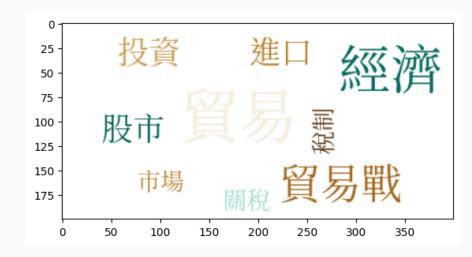
Note: only use the first 25 page of pdf from QJE

(1)	(2)	(3)
Economy	Policy	Uncertainty
經濟	 政府	不確定
商業	總統	風險
工業	行政院	動蕩
貿易	立法院	
金融	法規	
投資	稅收	
	關稅	
	財政	
	貨幣	

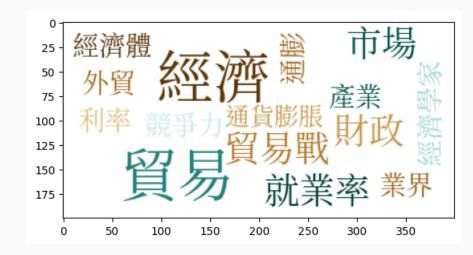
# **Generation Analysis of**

**Self-Consistency** 

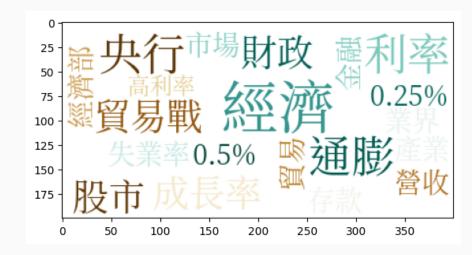
# **Economy Category, ChatGPT-3.5**



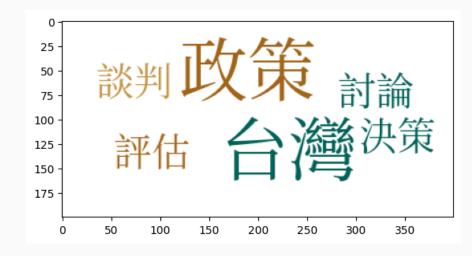
# **Economy Category, ChatGPT-4**



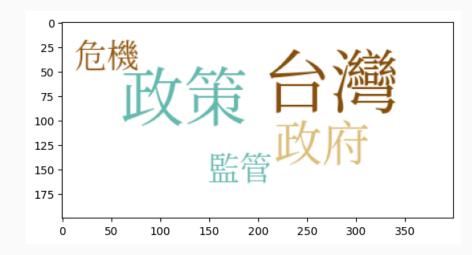
## **Economy Category, Claude.ai-beta**



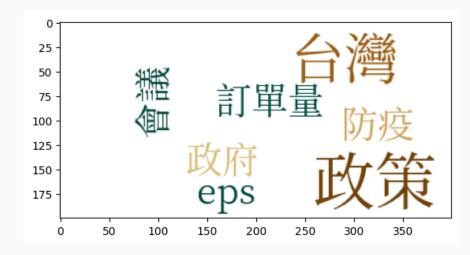
# Policy Category, ChatGPT-3.5



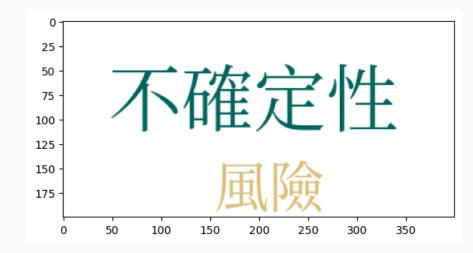
# Policy Category, ChatGPT-4



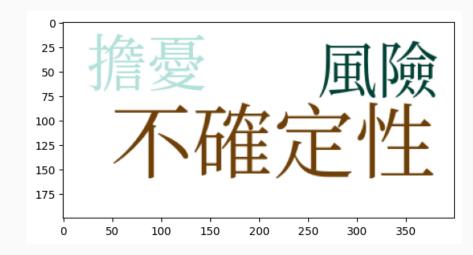
# Policy Category, Claude.ai-beta



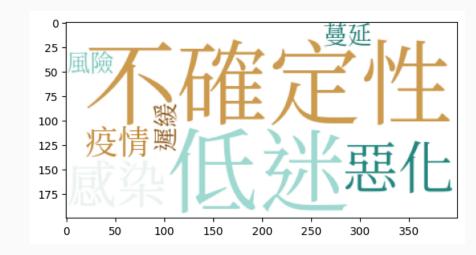
#### **Uncertainty Category, ChatGPT-3.5**



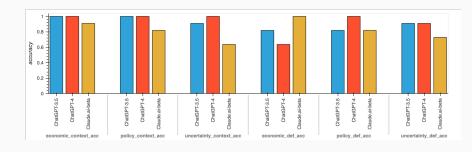
## **Uncertainty Category, ChatGPT-4**



## Uncertainty Category, Claude.ai-beta



## **Accuracy**



# **Prompt For Different**

Categories/Paradigms

- notebook
- colab

#### **Categories**

- Economy
  - the most common vocabularies that are related to economy
- Policy
  - the most common vocabularies that are related to policy
- Uncertainty
  - the most common vocabularies describing economic-relevant uncertainty

#### **Categoty-Level Paradigms**

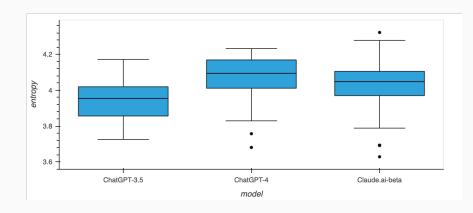
- talent
- newspaper copora
  - newspaper reader
  - newspaper editor
  - economist
- add definition
- definition with SC

#### **Policy Relation**

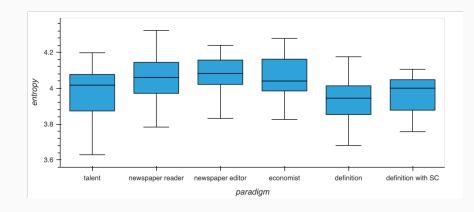
- synonymous vocabularies which are nouns and related to "policy"
- 2. "government occupations" which are highly related to "national policy"
- 3. "government agency" which are highly related to "national policy"
- synonymous vocabularies which are verbs and related to "policy"

# **Query Analysis**

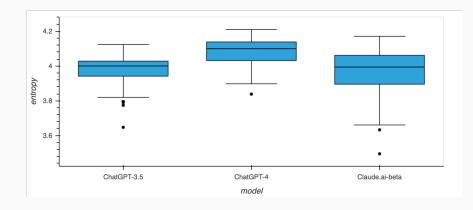
# Policy Entropy, Among Models



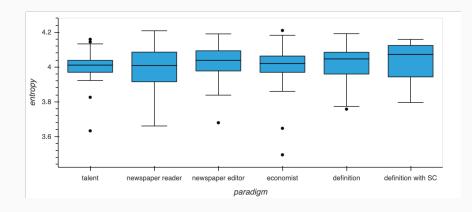
# Policy Entropy, Among Paradigms



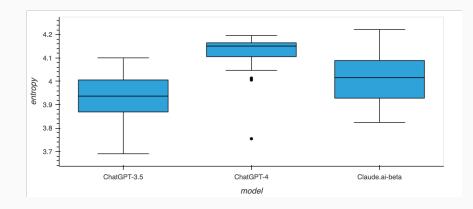
# **Uncertainty Entropy, Among Models**



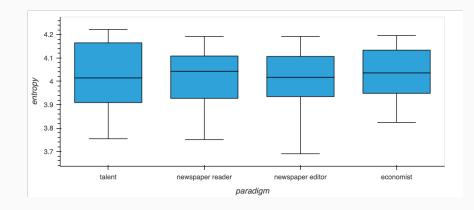
## **Uncertainty Entropy, Among Paradigms**



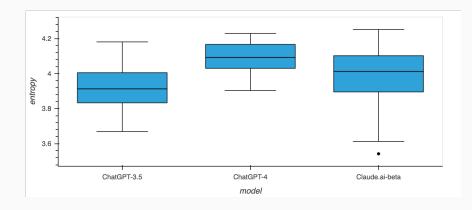
# **Entropy Of Policy Relation 1, Among Models**



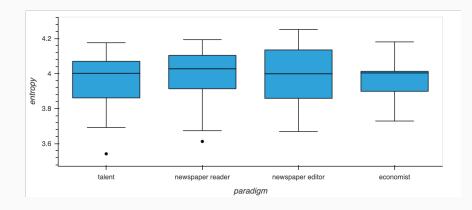
# **Entropy Of Policy Relation 1, Among Paradigms**



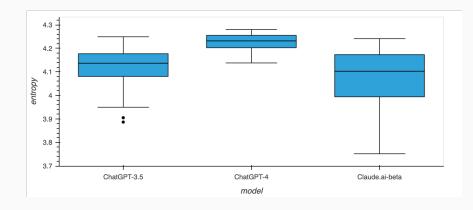
# **Entropy Of Policy Relation 2, Among Models**



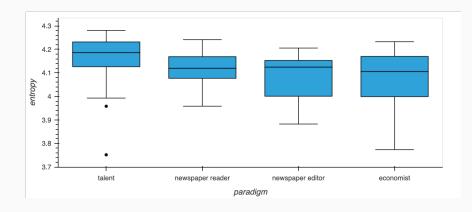
# **Entropy Of Policy Relation 2, Among Paradigms**



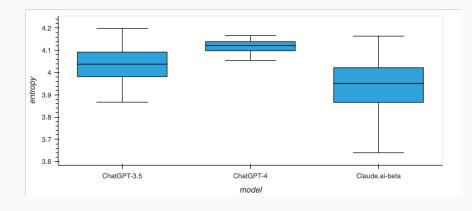
# **Entropy Of Policy Relation 3, Among Models**



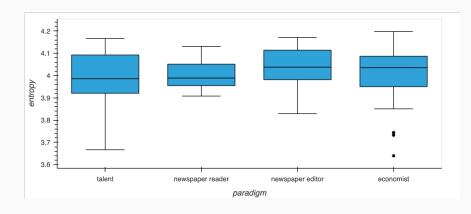
## **Entropy Of Policy Relation 3, Among Paradigms**



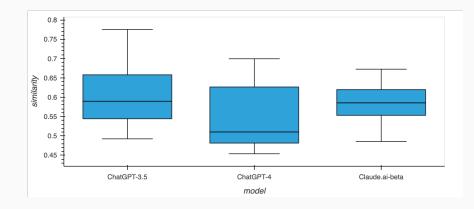
# **Entropy Of Policy Relation 4, Among Models**



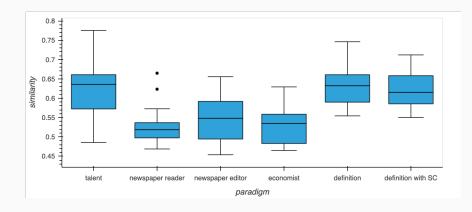
# **Entropy Of Policy Relation 4, Among Paradigms**



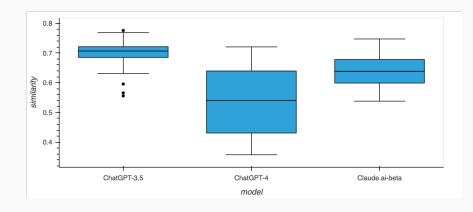
## **Policy Similarity Among Models**



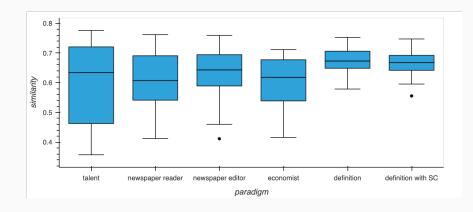
# Policy Similarity Among Paradigms



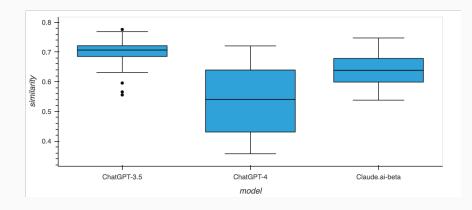
## **Uncertainty Similarity Among Models**



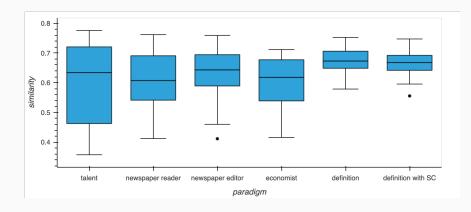
## **Uncertainty Similarity Among Paradigms**



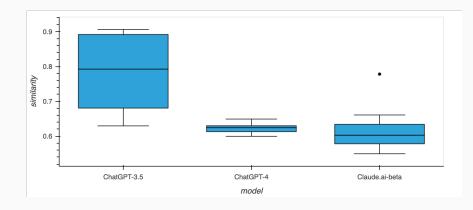
#### **Uncertainty Similarity Among Models**



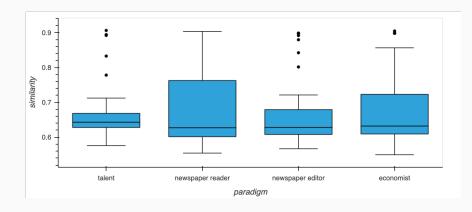
## **Uncertainty Similarity Among Paradigms**



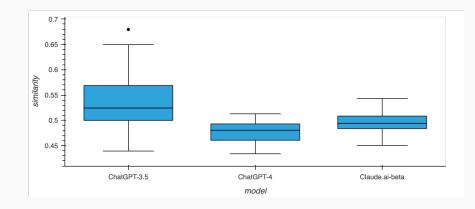
## Similarity Of Policy Relation 1 Among Models



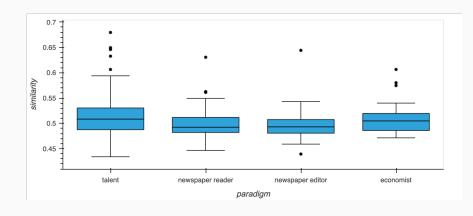
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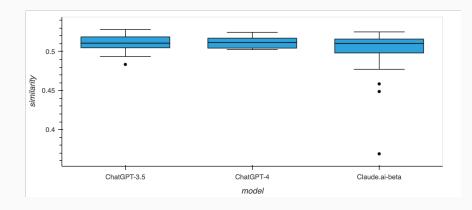
## Similarity Of Policy Relation 2 Among Models



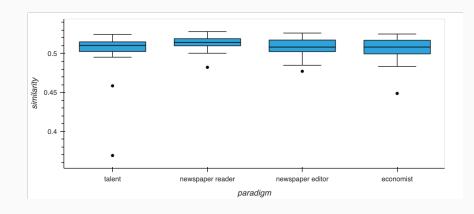
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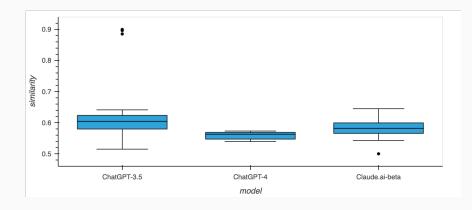
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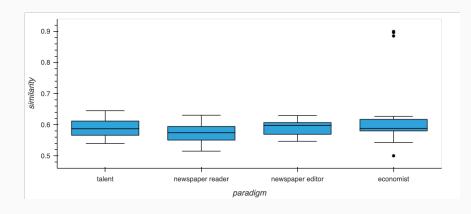
## Similarity Of Policy Relation 3 Among Paradigms



## Similarity Of Policy Relation 4 Among Models



## Similarity Of Policy Relation 4 Among Paradigms



# Country-Level Comprehension, Literature

- Taiwan LLM
- LLM-Eval

#### References

Baker, Scott R., Nicholas Bloom, and Steven J. Davis, "Measuring Economic Policy Uncertainty\*," *The Quarterly Journal of Economics*, November 2016, *131* (4), 1593–1636.