# Narratives of FinTech: The Political Economy of Disruptive Discourse

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## IMPORTANT:

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# Abstract

The proliferation of financial technologies has sparked intense debate about their capacity to disrupt existing political, regulatory, and geopolitical arrangements. In policy discourse, FinTech is commonly framed as a balancing act between fostering innovation and safeguarding financial stability. This article examines how monetary authorities in the Global North and Global South construct this balance in their public discourse. Using a corpus of speeches collected from the Bank for International Settlements, I identify seven core themes through qualitative analysis and classify sentences across the full corpus using zero-shot classification. Contrary to expectations of ideational contestation, the analysis reveals a high degree of thematic homogeneity across regulators, suggesting the presence of a shared policy narrative that endorses a circumscribed and managed form of financial disruption. At the same time, regulators emphasise certain themes within this narrative in ways that reflect the political, economic, and institutional characteristics of the countries they represent. These patterns of variation are examined using descriptive statistics and cross-sectional regression models applied to the classified text data.

**Keywords:** central banks; zero-shot classification; FinTech; policy narratives

# Introduction

The proliferation of new financial technologies (FinTech) has been called revolutionary (Caruana 2016), an opportunity (Philippon 2017), and a paradigm shift (Pereira da Silva 2018). Debates on its impact on the future of finance have centred not only on how these technologies are changing how financial services are provided, but also on who provides them (Eichengreen 2021). FinTech has been acknowledged as a disruptive force by several actors including industry, media, policy, and academia. The disruption that financial innovation exerts on incumbent economic structures and processes is widely considered one of the fundamental elements of capitalism, what Schumpeter (2006) famously dubbed *creative destruction*.

To what extent the financial system should be transformed by new actors and technologies is what sets competing narratives of FinTech apart. Among its most extreme examples are calls to fundamentally replace the international monetary system with a Bitcoin standard (Ammous 2021) or to significantly erode the role of traditional financial institutions. These views have influenced policy, as in the case of El Salvador's brief experiment with making the cryptocurrency legal tender despite the lack of popular support for the move (Reuters 2021). Nevertheless, the mainstream view among financial regulators is that FinTech is a double-edged sword and that the challenge for policy-makers is balancing innovation with curtailing systemic risk and market failures.

In this paper, I analysed a sample of 675 speeches on FinTech collected from the Bank for International Settlements (BIS) portal. These speeches were delivered by central bankers, BIS staff, and senior monetary authorities participating in events related to FinTech. I found that speeches throughout the corpus displayed a striking degree of homogeneity in terms of the themes, policy prescriptions, and assumptions espoused by regulators. Issues such as promoting financial innovation, efficiency and

economic growth dominate the corpus, though mitigating systemic risks, strengthening financial inclusion and deepening regulatory cooperation were also widespread throughout.

The adherence to a single narrative, with recurring themes and policy prescriptions, is puzzling given the heterogeneity in the financial infrastructures and stances towards finance and technology platforms of the countries that the speakers represent. Against this backdrop, the main research aim of this paper is to determine to what extent and why central banks converge on similar FinTech narratives despite divergent national contexts. I argue that the highly technical subject matter of the speeches and the specialised epistemic community to which the speakers belong partly explains the high degree of similarity between the documents. Nevertheless, I also find evidence that regulators emphasise certain themes strategically to draw attention to the issues that they deemed more salient despite operating within a shared policy narrative.

This paper contributes to the growing literature on the quantitative analysis of central bank speeches. Prior studies (Priola et al. 2022; Alonso-Robisco and Carbó 2023; Pfeifer and Marohl 2023; Fraccaroli, Arel-Bundock, and Blyth 2025) have focused on identifying competing narratives on issues such as inflation, central bank digital currencies, and changes in economic paradigms over time. These approaches have generally centred on measuring narrative elements using natural language processing. I expand on this scholarship by modelling how speaker characteristics correlate with thematic emphasis. In addition, this article offers a novel way of operationalising policy persistence, a central but predominantly qualitative concept in the epistemic communities literature (Verdun 1999).

The paper is organised as follows. Section 2 presents an overview of the literature on central bank speeches and financial policy narratives. Section 3 describes the mixed-methods approach adopted by combining inductive qualitative coding with the use of natural language inference. Section 4 outlines the qualitative analysis of

the themes identified using a sample of documents. Section 5 describes the results of the sentence-level algorithmic classification and describes the variation in the themes emphasised by different groups of speakers. In Section 6, I model this variation using country-level characteristics as explanatory variables in cross-sectional OLS models.

## FinTech Policy Narratives and Epistemic Communities

Following the ideational turn in International Political Economy (IPE) (Blyth 1997; Schmidt 2008), the question of whether narratives influence political and economic behaviour is nowadays far less pertinent than *how* and *when* they do so. However, measurement and operationalisation remain key challenges given the latent, fluid, and highly complex nature of narratives (Roos and Reccius 2024). This paper draws on the growing literature on central bank speeches and natural language processing, as well as on the insights from the Narrative Policy Framework (NPF) to identify key elements in the BIS FinTech corpus and operationalise its thematic structure. However, while NPF offers a formal grammar of policy narratives, I rely on the literature on epistemic communities to analyse the social conditions under which certain narrative configurations become authoritative, persistent, and bounded.

Based on advances in psychology, narratology, and related disciplines, the NPF conceptualises policy narratives as comprising four formal elements: settings, characters, plots, and a moral or policy solution (Jones and McBeth, n.d.; Shanahan, Jones, and McBeth 2011). Within this framework, the policy moral serves as the normative anchor which transforms a descriptive account into a *prescriptive* policy narrative. However, within epistemic communities, policy morals do not merely express individual values or preferences. Rather, they reflect shared criteria of what counts as a responsible, credible, and professionally legitimate policy response. Drawing on Haas

(1992a), epistemic communities are here understood as 'a network of professionals with recognised expertise and competence' (Haas 1992b, 3) who share notions of validity as well as causal and normative beliefs.

The epistemic communities literature provides a complementary perspective to the NPF by shedding light on the social foundations of narrative authority. As Verdun notes, *policy persistence*, or 'the continuation of consensus of ideas, beliefs and goals over time among the members of the epistemic communities, contributes to their credibility, and hence their authority' (Verdun 1999, 314). From this perspective, epistemic communities are expected not only to impact the content of policy narratives, but also their structure. They delimit the range of legitimate policy alternatives, define acceptable causal stories, and stabilise policy morals over time, particularly under conditions of uncertainty. Insofar as central bankers constitute a transnational epistemic community, then regulatory discourse is expected to display a high degree of narrative homogeneity at the level of core themes and policy solutions. Policy narrative convergence, however, should not be interpreted as an absence of politics or competing ideas, but rather as an outcome of the shared causal beliefs, professional norms, and standards of validity that govern what can be credibly said within expert fora.

Central bankers provide a paradigmatic case of such an epistemic community. Their discourse has long been shown to reflect shared normative beliefs, including the view that monetary and financial stability are public goods and that political independence is necessary to safeguard them (Verdun 1999; King 2005; James and Quaglia 2023). This shared professional orientation tends to circumscribe the range of legitimate alternatives that can be articulated in official discourse. Policy debates are typically framed in technical and depoliticised language, presenting regulatory challenges as matters of sound management, expertise, and shared causal understandings rather than ideological conflict. As a result, disagreement within the community is expected to occur within a bounded consensus. Disputes may arise over timing, se-

quencing, or implementation, but not over core principles or the *hinge propositions* (Steininger 2025) underpinning the policy paradigm. Nevertheless, even within a congruent narrative, different frames may be strategically emphasised by speakers in order to redirect attention without changing the core message.

The emergence of narratives is often tied to the rise of new concepts (Patterson and Monroe 1998), FinTech is such an example. In a seminal paper, Arner, Barberis, and Buckley (2015) defined it as 'the new marriage of financial services and information technology' (Arner, Barberis, and Buckley 2015, 1) distinguishing three eras of its evolution, the last of which began in the aftermath of the 2008 global financial crisis. For private actors, regulators, and consumers alike, FinTech is understood as a force of disruption – both positive and negative – though there are different perspectives on how much the financial systems should be disrupted by new technologies and actors.

The uncertainty not regarding the effects of FinTech disruption but also the extent to which such disruption is desirable constitutes the cornerstone of discourse on the subject, for central bankers and other actors alike. These differences can be partly explained by the effects that these new technologies, such as platforms, have had on different actors within the system. For example, the digital revolution increased the amount of hard data available and reduced the competitive advantage that traditional banks had when engaging in tasks such as assessing creditworthiness to allocate capital (Eichengreen 2021). Similarly, though attempts by BigTech platforms to encroach on the market of traditional banks have been met with varying degrees of resistance (Langley and Leyshon 2021, 2023), they present a structural challenge in a way that prior technology firms have not.

The entry of new actors and technologies was cause for concern for a community of central bankers still reeling from the aftermath of the 2008 crisis (Green and Hay 2015; Kranke and Yarrow 2019). Against this backdrop, FinTech represents not only a technological development but also an uncertainty-generating issue area in which

expert knowledge and authority plays a central role. While multiple narratives of FinTech circulate among different classes of actors, this paper focuses on the discourse prevalent among central bankers relying on both qualitative and quantitative methods.

## Mixed Methods Approach

The mixed methods approach adopted in this paper combines the qualitative inductive coding (Chandra and Shang 2019; Skjott Linneberg and Korsgaard 2019) of a small document sample and the use of zero-shot classification (ZSC) (Alhoshan, Ferrari, and Zhao 2023) to identify meaningful recurring themes in the sample and classify each sentence in the corpus into relevant labels. To this effect, I build on the rich and growing literature on quantitative text analysis of central bank speeches[1] (Alonso-Robisco and Carbó 2023; Pfeifer and Marohl 2023; Goutsmedt and Fontan 2024; Fraccaroli, Arel-Bundock, and Blyth 2025) and recent advances in the use of natural language inference (Yin, Hay, and Roth 2019; Alhoshan, Ferrari, and Zhao 2023; Zhao et al. 2024). Based on the qualitative analysis of a sample of the corpus detailed in Section 4, I derive seven frames used throughout the BIS corpus: (1) Financial Innovation, (2) Financial Efficiency, (3) Economic Growth, (4) Financial Risk, (5) Financial Inclusion, (6) Regulatory Cooperation, and (7) Economic Competition.

During the qualitative coding, each coded segment was a complete sentence, and in cases where two or more themes were present in a single sentence, only the most relevant was kept. After several rounds of iteration, a final codebook with a small

[1] For example Pfeifer and Marohl (2023) argue that older bag-of-words models such as topic and dictionary methods ignore context and struggle with audience specificity. Alonso-Robisco and Carbó (2023) analyse CBDC speeches and show that LLM-based sentiment aligns closely with expert labels and can track how positions evolve over time. Similarly, Fraccaroli, Arel-Bundock, and Blyth (2025) classify inflation narratives at the sentence level across the Bank of England, the ECB, and the Federal Reserve and quantify how much each one was described over time.

number of core themes was finalised. These labels, each corresponding to a frame, were derived inductively (Chandra and Shang 2019; Walter and Ophir 2019) to allow for relevant categories to emerge directly from the sampled documents. The number of labels was kept small, and the coded segments were strictly complete sentences to facilitate the integration of the outputs of the qualitative analysis with the application of approaches for the subsequent zero-shot classification on each sentence in the corpus (see Section 5).

Early applications of natural language processing (NLP) in political science and related fields often relied on supervised classification methods, requiring task-specific training data for each new corpus such as identifying topics or frames in speeches by manually labelling thousands of sentences beforehand in a labour-intensive process (Laurer et al. 2024). However, in recent years there has been a shift toward leveraging pre-trained language models and transfer learning to reduce reliance on manual annotations. Rather than training a classifier from scratch, researchers can leverage the accumulated prior knowledge in LLMs (Ivacic et al. 2024; Di Leo et al. 2025).

A growing body of work demonstrates the effectiveness of pre-trained models in classifying political texts. For example, Le Mens and Gallego (2025) find that instruction-tuned LLM classification of tweets and political sentences across policy and ideological dimensions correlates at +.9 with expert coding and other human classifications, and even outperforms supervised classifiers with labelled data. Gilardi, Alizadeh, and Kubli (2023) find that OpenAI's GPT-based models can *outperform crowd-workers* at standard text annotation tasks, even without task-specific training. Similarly, Rytting et al. (2023) find that GPT-3, used as a *synthetic coder,* matched the accuracy of human coders across a variety of social science coding tasks. Similarly, Zhang et al. (2025) find evidence that generative LLMs are reliable tools for qualitative coding, particularly in the application of pre-established codebooks.

Yet despite this proliferation of NLP approaches, many studies have privileged technological implementation over validity concerns, leading to an underdeveloped oper-

ationalisation of social scientific measurements (Baden et al. 2022). For example, unsupervised models, such as topic models, often struggle to make meaningful theoretical contributions (Chen et al. 2023) and their application in the absence of a strong underlying theoretical framework runs the risk of 'tea-leaf reading' (Chang et al. 2009). Furthermore, reproducibility (Benoit et al. 2016) and consistency can be problematic with LLM prompting. Proprietary LLMs often function as black boxes (Palmer, Smith, and Spirling 2023) and model updates or slight changes in prompt wording can yield different outputs. Although LLMs possess extensive broad knowledge, they may not reliably adhere to nuanced theoretical definitions unless carefully instructed (Hohenwalde et al. 2025; Kuang et al. 2025; Ornstein, Blasingame, and Truscott 2025).

Though the use of generative LLMs is increasingly popular among both qualitative and quantitative scholars, they suffer from several drawbacks that are often glossed over. Despite their several advantages over older bag-of-words models (such as LDA topic models), they are deficient when it comes to reproducibility. Similarly, the generative capabilities of models such as GPT-3 are not strictly necessary for simpler classification tasks and larger context windows for more complex prompts may open the door for confirmation bias risks.

To overcome these issues while capitalising on the analytical potential LLMs, I adopted a more conservative approach by using zero-shot classification and smaller models. Smaller BERT-based language models are just as efficient at classification tasks, particularly those trained on domain-specific corpora, as large language models while having only a fraction of parameters and generally being both deterministic and open-source (Burnham 2024). In addition, the lack of any provision of 'correct' classifications fed into the model by researchers, such as in few-shot classification (Gilardi, Alizadeh, and Kubli 2023), further enhances reproducibility by removing the last layer of – potentially arbitrary – human intervention in complex prompt design. Furthermore, unlike bag-of-words approaches, where the tokenised unit is

typically a word or *n-gram*, text classification methods applied to sequenced text (e.g. full sentences, paragraphs, texts) consider full syntactic structures.

Keeping in line with the goals of transparency and reproducibility, I adopt a multi-stage process combining several NLP methods (Nicholls and Culpepper 2021) and present a fully replicable workflow (see Figure 4 in the appendix). Though pre-processing steps are seldom reported explicitly in published articles, owing in part to their rule-of-thumb and atheoretical nature (Birkenmaier, Lechner, and Wagner 2024), these can have significant impact on model outputs.

## Circumscribed FinTech Disruption Narrative

Though there are multiple narratives on FinTech, they all centre around the disruption that new technologies may exert on one or more key dimensions such as (international) politics, the financial industry, and economic development. Competing narratives of FinTech differ on the desired extent of such disruptions, from radically shifting the geoeconomic balance of power away from the US-led system or calls to displace traditional financial institutions in favour of decentralised finance (DeFi), to more moderate calls for piecemeal reform and increased cross-border regulatory cooperation. However, as members of an epistemic community addressing an issue rife with uncertainty (see Section 2), central bankers are expected to espouse a single policy narrative, specifically one that is less open to radical disruption.

I argue that this policy narrative can be understood as one of *circumscribed* disruption. Accordingly, the variation between speeches is expected to be centred around the themes which speakers emphasise rather than on competing accounts of how much the financial system should be disrupted or in favour of whom. Though there are significant differences in the political economies in which the institutions of the speakers are embedded, such as their approaches towards regulating BigTech platforms (Langley and Leyshon 2021, 2023) or cryptocurrencies (Ba and Şen 2024;

Brännlund and Rapeli 2025), their shared causal and normative beliefs as well as the nature of the fora in which the speeches are delivered demand thematic restraint.

The circumscribed disruption narrative dominating the corpus contends that regulators must balance promoting innovation with limiting systemic risks and market failures, preferably through deepened cooperation. It is a policy narrative where the settings and characters might change from document to document, but the policy moral persists (Shanahan, Jones, and McBeth 2011; Crow and Jones 2018). The speeches follow a similar pattern: identifying a challenge posed by the rise of FinTech, giving an overview of its development in their own economies, and offering a policy prescription. Though there is variation in this format, the documents follow a similar structure and contain similar themes. Nevertheless, within these similitudes there are differences in how often such recurring themes are used and, as shown in Section 6, such variation is systematic and contingent on the characteristics of the countries and institutions which the speakers represent.

The circumscribed disruption narrative emerged at a time when BigTech and FinTech were becoming an increasingly salient issue globally, and when financial regulators were still reeling from the aftermath of the 2007/8 Global Financial Crisis. The first explicit use of FinTech in the BIS corpus appeared in 2016 in a speech by Jaime Caruana (2016), titled 'Financial Inclusion and the Fintech Revolution', which from the onset indicated the importance of financial inclusion as a central theme and key normative aim of FinTech regulation.[2] Previously, global consulting firms Accenture and McKinsey both first used the term in 2014 publications on global FinTech investments and start-ups (respectively) and Ernst & Young launched their

[2]This was of particular importance for speakers from developing economies and one of the main pre-pandemic concerns among regulators. As expressed by Luiz Awazu Pereira da Silva, Deputy General Manager of the BIS, FinTech 'has brought a new paradigm to the design and implementation strategies for financial inclusion' (Pereira da Silva 2018). In the words of Mahesh Kumar Jain from the Reserve Bank of India: '[a] financial sector that does not prioritise financial inclusion cannot distribute the benefits of economic growth to all levels of society' (Jain 2023).

first FinTech adoption index in 2015 (Mention 2019). Similarly, Google searches of the acronym *fintech* began increasing in 2015, with only negligible appearances between 2004 and 2014 (Google 2025). It is also around the mid-2010s when the use of social media became ubiquitous on a global scale, with Facebook – the largest platform by number of users – surging 'covering around 1.5% of the world population in 2008 to around 30% in 2018' (Ortiz-Ospina 2019). Concerns over the disruption that new technologies would have on the financial system came to a head at around this time, though their origins can be traced back to 2008.

The financial crisis of 2008 eroded trust in incumbent financial institutions and cast doubt on the self-regulating nature and efficiency of financial markets (Bell and Hindmoor 2015). Bailouts and the consolidation of a handful of institutions that were 'too big to fail' reinforced public perceptions that the banking industry benefitted disproportionately from state support at the expense of the broader economy (Chwieroth and Walter 2020).[3] Optimism in the effects of technological advances on financial stability[4] began to sour with the bursting of the dot-com bubble in the early 2000s (Quinn and Turner 2020) and all but vanished with the collapse of Lehman Brothers in 2008. It is in this context that FinTech began to enter the scene. In the words of Mahesh Kumar Jain from the Reserve Bank of India, the FinTech revolution 'started soon after the North Atlantic Financial Crisis of 2007-8' and was characterised by 'the use of new technologies such as Artificial Intelligence and Machine Learning' as well as 'an emergence of new entrants and new business models' (Jain 2023).

Speaking at a conference in the Rwandan capital of Kigali, Ravi Menon, Managing

[3]The response to the global financial crisis also increased political and geopolitical tensions around the globe. The austerity measures that were enacted as a response to the numerous debt crises that unravelled in the aftermath of the global financial crisis ignited movements that placed incumbent governments under pressure in western democracies (Braun 2016).

[4]The proliferation of advanced risk models and simulations, such as Value-at-Risk (VaR), fuelled by developments in computing and data analytics fed into a sense of pre-crisis overconfidence that the industry had managed to solve the longstanding problem of financial instability. The idea that, in the words of Reinhart and Rogoff (2009), *this time is different* was commonplace throughout the industry and even in regulatory circles was evidenced by the light touch approach of initiatives such as Basel II (Lall 2012).

Director of the Monetary Authority of Singapore (MAS), laid out the four principles that guided his institution's approach to FinTech regulation: 'to increase efficiency; to manage risks better; to create new opportunities; and most important to improve people's lives' (Menon 2023). The developmental potential of FinTech was further underscored as he addressed the audience of – mainly – African regulators, business leaders, and financiers: 'you have a unique opportunity to leapfrog legacy systems and vested interests, and build a modern digital economy and society, from the ground up on a clean slate' (Menon 2023). The positive elements of FinTech such as greater financial efficiency and new opportunities for economic growth, alongside its negative aspects such as increased risks appear repeatedly throughout the corpus as frames within the, albeit preponderantly positive, narrative of circumscribed FinTech disruption

Though the language of the speeches is highly technical insofar as both speakers and target audiences are almost exclusively comprised of experts, an epistemic community, financial regulation is deeply influenced by 'fundamental battles over ideas, cognition, and competing worldviews' (Quaglia and Verdun 2025, 346). These fault lines are reflected in recurring narrative elements such as metaphors, morals, and characters present throughout the corpus. Furthermore, given the proximity between the language of finance and the language of morality (Dyson 2014); it is unsurprising that normative frames are ubiquitous among the financial facts and figures which otherwise constitute the core of the speeches. For example, in a London speech on the opportunities of digital finance, Andy Haldane from the Bank of England remarked: '[d]iversity and competition are, generally-speaking, positive features of an eco-system, including financial eco-systems. Other things equal, they tend to foster both efficiency and stability, a divine combination' (Haldane 2020). Among the charts of a mostly technical speech on new trends in the payments system, Haldane highlights a core normative assumption on the financial system in metaphorical, quasi-poetic language. It is a common thread that, despite differences in how certain themes are emphasised or framed, the underlying shared assumption, or hinge

proposition (Steininger 2025), is that the global financial system is at its core a *positive-sum game*.

These similarities regarding the main challenges of FinTech and how they should be addressed notwithstanding; there are some issues areas in which key differences emerge, particularly when the use of new technologies intersects with geopolitical concerns. An exemplary case is that of Central Bank Digital Currencies (CBDCs), where such tensions are well documented (Alonso-Robisco and Carbó 2023; Quaglia and Verdun 2025). US speakers underscore the primacy of greenback as the world's reserve currency and the lack of viable alternatives. As pointed out by Christopher Waller from the US Federal Reserve, even as decentralised financial instruments proliferate, insofar as they are traded and denominated mostly in USD, their expansion 'will simply strengthen the dominant role of the dollar' (Waller 2024, 7). This potentiality is tacitly acknowledged by non-US speakers, particularly Western Europeans, though it is framed less favourable terms.

Speaking on the case for a digital Euro, Piero Cipollone from the European Central Bank, argued that one of its key benefits would be reducing 'the risk of other settlement assets being used, such as US dollar stablecoins, which would reintroduce credit risk, fragmentation and a dependency on non-European solutions' (Cipollone 2025). Similar geopolitical concerns are echoed by other European speakers. Speaking on the challenges posed by the digitisation of the economy, Denis Beau from the Bank of France called for the protection of national and European sovereignty, defining it as regulators' 'ability to preserve and impose our collective choices in terms of stability, efficiency and fairness of the financial system' (Beau 2020). However, though several risks and challenges are identified throughout the speech, the speaker concludes that the solution to such predicaments ultimately lies in 'reconciling the need for openness and support for innovation' (Beau 2020) and that closer regulatory cooperation is a key component to this effect.

Similarly, traces of divergent approaches towards domestic FinTech regulation can be

found throughout the corpus. For example, as Langley and Leyshon (2023) find, regulators in China have adopted a more restrictive approach towards the encroachment of BigTech platforms in the financial system whereas the West – and specifically the United Kingdom – tends to work with platforms to promote ecosystems of innovative firms. This is reflected throughout BIS FinTech speeches as in the case of Guo Shuqing from the People's Bank of China in his remarks about BigTech firms taking advantage of data monopolies 'to hinder fair competition and seek excess profits' (Shuqing 2020). Nevertheless, the prescribed solution for these woes remains: '[w]e will encourage innovation while enhancing risk control' (Shuqing 2020), remaining within the circumscribed disruption narrative despite the particularities of the Chinese financial system.

The existence of a shared policy narrative of circumscribed FinTech disruption is perhaps most succinctly expressed by Benjamin Diokno from the Central Bank of the Philippines who advocated for a collaborative approach towards 'overseeing the increasingly disruptive, yet, vibrant narrative of Fintech developments' (Diokno 2019). Nevertheless, this shared narrative of balancing innovation and risks through regulatory cooperation is nuanced and stretched by speakers emphasising different recurring frames to draw attention to the themes they deem more relevant. In the next section, I outlined how such themes are identified and classified.

## Distribution of Themes

The themes identified in the qualitative analysis (see Section 3) are taken as labels with which the entire corpus of BIS FinTech speeches is classified. In line with the expectation that the corpus reflects a singular policy narrative (see Section 4), the distribution of themes is remarkably similar across different classes of speakers, with only modest variation suggesting that certain parts of the narrative are strategically emphasised. The data analysis pipeline (see Figure 4) proceeded in three main stages:

a) data collection and pre-processing, b) sentence classification using a zero-shot learning model based on labels uncovered from the qualitative analysis of a random sample of the corpus, and c) aggregating mean label classification scores (numeric variable ranging from 0 to 1) at the country level to construct the dependent variables for the cross-sectional regression analysis.

In the first stage, I deployed a headless browser using the RSelenium (Harrison, n.d.) package to dynamically scrape all FinTech speeches from the Bank for International Settlements (2019) portal. I collected metadata including the title, publication date, speaker, position and country, resulting in a dataset of 675 unique speeches from 58 institutions delivered between 2014 and 2025. Figure 1 shows the geographic distribution of FinTech speeches based on the affiliation of the speaker. Though most speeches are given by a speaker affiliated with one of the 63 BIS member central banks, some, as in the case of Pakistan, are delivered by representatives of non-BIS authorities. Similarly, some large BIS-affiliated countries with strong domestic FinTech sectors, such as Brazil, are absent from the corpus.

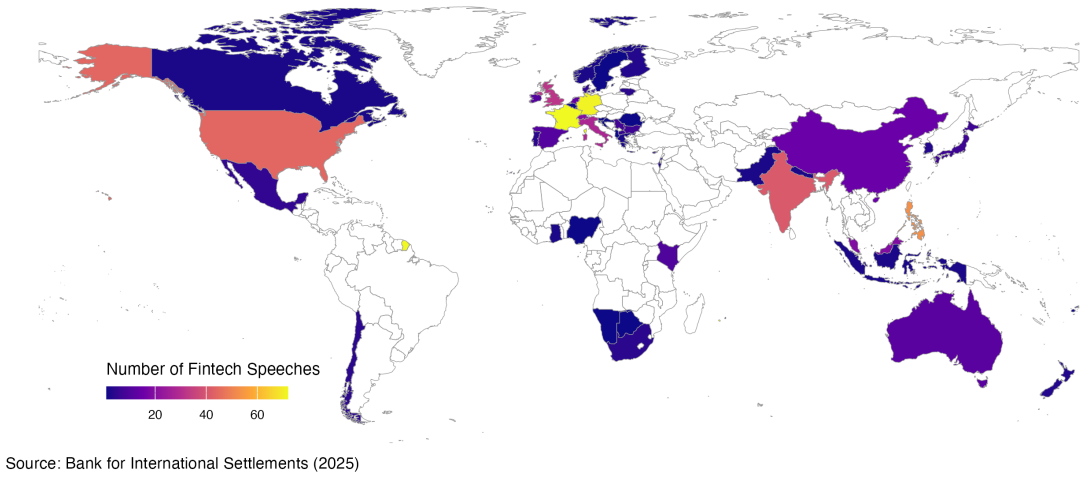



Figure 1: BIS FinTech Speeches Distribution

In the second stage, the documents were tokenised into individual sentences using

the tidytext package (Silge and Robinson 2016). Pre-processing steps included punctuation normalisation, removal of noise phrases (e.g., 'Check against delivery'), and filtering of short or fragmented sentences. Only sentences containing three or more tokens were retained, resulting in a data frame of 38,930 observations. Next, I used the labels identified during the qualitative analysis on the sample to perform a zero-shot classification on each tokenised sentence using the Hugging Face transformers library (accessed via Python through reticulate) and the Political DEBATE (DeBERTa) model developed by Burnham (2024). The zero-shot classifier assigned a probability score (0 to 1) to each label per sentence, which was then merged with sentence-level metadata.

Finally, in the third stage of the data analysis pipeline, the thematic label scores were aggregated at the country and country-year levels to produce average probabilities and confidence intervals for each category. Keeping in line with tidy data principles (Wickham 2014; Tkachenko 2025), during both the qualitative analysis and zero-shot classification, the units of observation are individual sentences, each with their own unique ids, nested within documents with unique identifiers and structured document-level metadata (e.g. speaker, country, position) to enable analysis at various levels of aggregation (document-level, country-level, sentence-level). These aggregated scores constitute the dependent variables in the regression analysis detailed in Section 6 on the relative emphasis placed on different dimensions of FinTech-related discourse by different classes of speakers.

Figure 2 shows the distribution of thematic labels across the BIS speeches delivered by income groups. Some labels such as efficiency, risk, and competition show little variation between developed and developing economies, whereas others like innovation, growth and financial inclusion display greater differences. These differences notwithstanding, the overall rank of themes is consistent among all groups, with innovation and efficiency at the top and inclusion and cooperation at the bottom. However, there are some clearly visible trends, particularly in the case of Economic

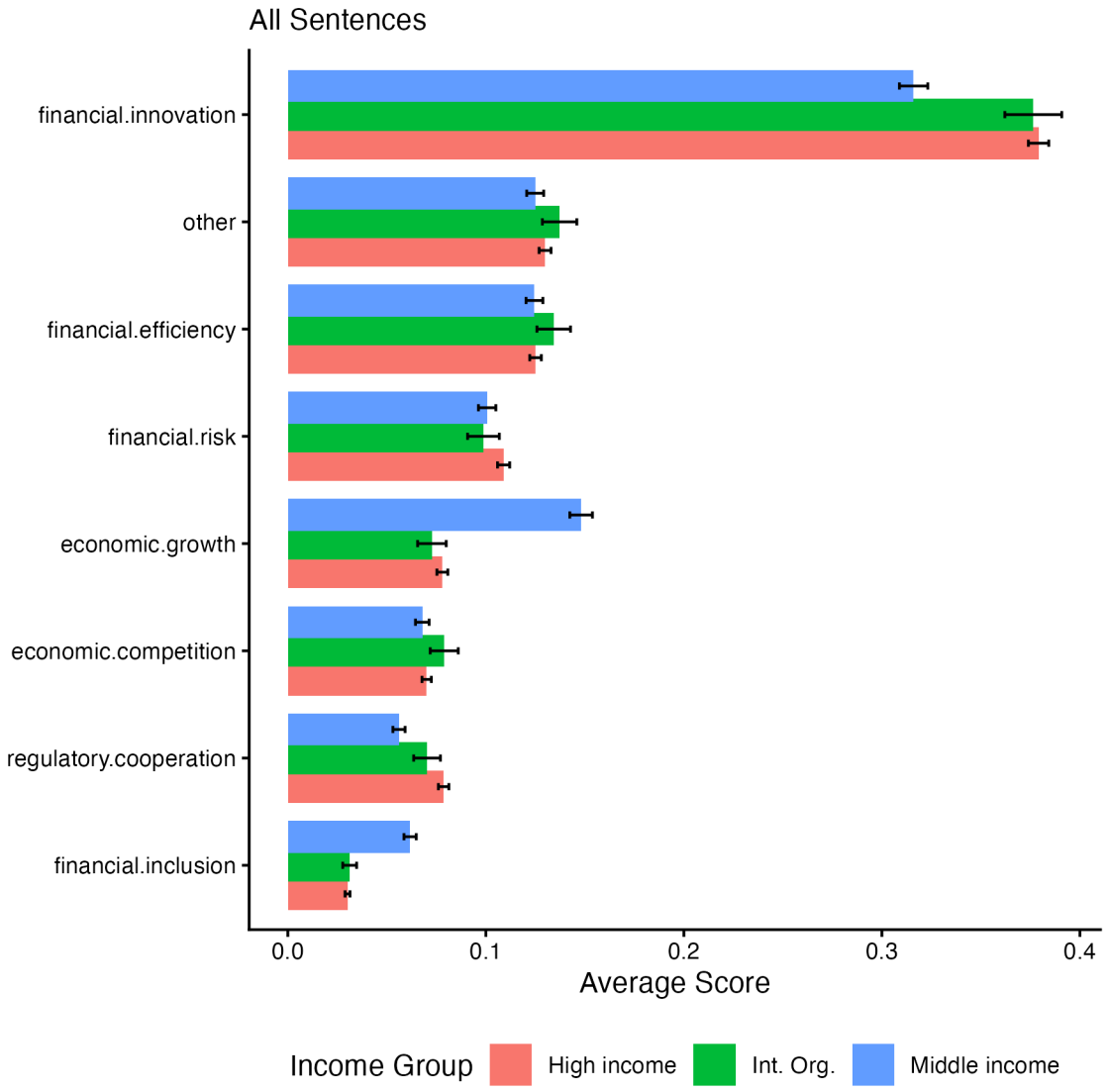



Figure 2: Label Scores by Income Group

Growth and Financial Inclusion, which suggests that representatives from less developed nations seek to draw attention to these themes. In the following section, this variation is modelled using cross-sectional models.

## Thematic Emphasis Models

The limited variation of theme distributions across different classes of actors is consistent with the assertion that the BIS speeches are part of a single circumscribed FinTech disruption policy narrative. However, this modest variance is expected to correlate with different country characteristics suggesting that speakers emphasise certain labels strategically. To assess this, I ran eight cross-sectional OLS models where the response variables are sentence-level zero-shot probabilities averaged at the country level for each label i. In turn, the predictor variables capture differences in financial infrastructure (e.g. banking concentration) and economic development such as GDP per capita and central bank independence. All continuous predictors are standardised (z-scale) so coefficients can be interpreted consistently. I used the same predictors across all models (see Equation 1). Mobile Utility Payments is the percentage of respondents who reportedly make regular payments for water, electricity, or trash collection in the past year using a mobile phone as a proxy for FinTech development. Bank Concentration is the asset share of the top three commercial banks in the jurisdiction (World Bank, n.d.). Central Bank Independence is a composite index ranging between 0 and 1 where 1 reflects the highest level of independence (Quality of Government Institute, n.d.). Nominal GDP and GDP per capita are also included throughout (World Bank, n.d.).

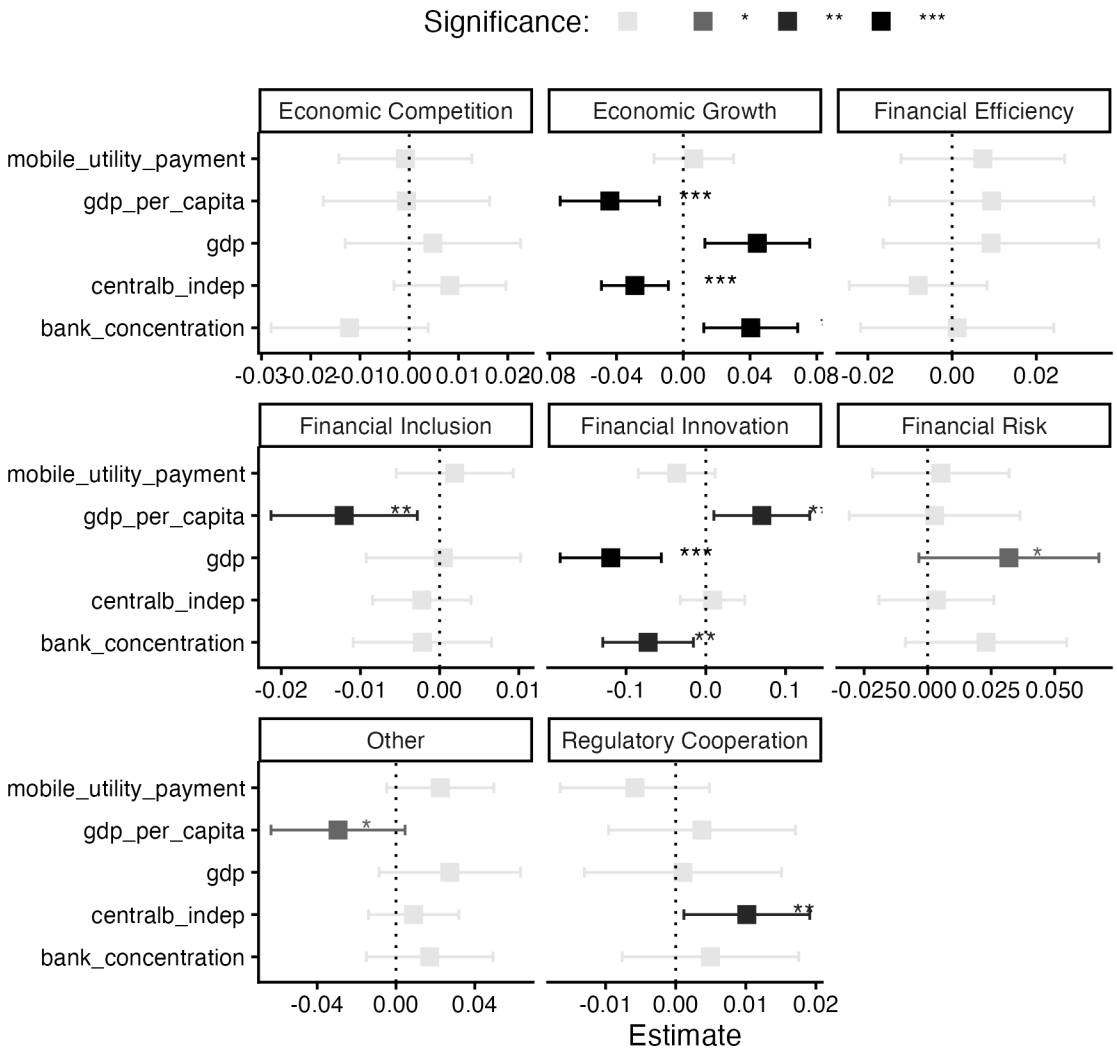
$$\begin{aligned} Y_i = \beta_0 + \beta_2\,\text{Bank\_Concentration} + \beta_3\,\text{Mobile\_Utility\_Payments} + \\ \beta_4\,\text{Central\_Bank\_Independence} + \beta_5\,\log(\text{GDP}) + \beta_6\,\log(\text{GDP\_pc}) + \varepsilon \end{aligned} \tag{1}$$

I used 2020 as a baseline for values of all predictors across the models, when data was unavailable for that year, I used 2021 values. Importantly these models exclude speeches given by staff members of an international organisation namely the BIS and the European Central Bank, resulting in a total of 56 units of observation. Figure 3 shows the resulting coefficients (see Table 1 in the appendix).

The results are consistent with the presence of a single policy narrative, but one rife with small variation in the emphasis of certain labels. Across the board, the magnitude of all the (standardised) coefficients is small, even when it is statistically significant. This is consistent with the aggregate label propensities displayed in Figure 2, which show that the propensity rank of each label remains consistent even when disaggregated by income categories. Furthermore, this small degree of variation in thematic proportions correlates with country characteristics across some labels suggesting strategic emphasis.

As shown in Figure 3, political economy factors account for some observed differences in the propensity towards specific labels. For example, as expected, speakers from lower-income countries are slightly more inclined to discuss Financial Inclusion. Though the issue was the most prevalent prior to the 2020 global pandemic, more recently it has become a secondary concern, especially for representatives of developed economies.

Similarly, less developed economies with less independent central banks and more concentrated financial sectors are more likely to emphasise Economic Growth, whereas higher income countries with more competitive financial sectors are more likely to emphasise Innovation. These results are consistent with the strategic emphasis on issues that are more relevant to the institutions that speakers represent. Countries with better performing financial sectors and more developed economies draw more attention to the technical concerns which fall under the Innovation, whereas worse performing economies are more concerned with framing FinTech as a potential avenue for growth and inclusion.




*Significance levels: p.value < .01 (***), < .05 (**), < .1 (*)*

Figure 3: Label Emphasis Model Coefficients

In addition to the trade-off between speakers emphasising the growth and innovation aspects of FinTech, representatives from countries with more independent central banks tend to discuss Regulatory Cooperation at a higher degree. This is expected given that such speakers are more likely to be committed to the shared values of the epistemic community of central bankers, resulting in more emphasis placed on regulatory cooperation as a key policy solution.

Finally, Economic Competition and Financial Efficiency are not correlated with any factor in the models, suggesting that it is widely and equally acknowledged that FinTech is, or should, be an avenue for improving the financial system as well as core normative pursuits within the epistemic community. Despite the differences in the economic, political and financial systems of the countries represented in the BIS FinTech speeches corpus and their systematic emphasis on certain themes, the evidence suggests that regulators adhere to a single policy narrative of circumscribed FinTech disruption.

## Conclusion

This article examined how financial regulators narrate FinTech as a form of disruption, not simply in technological terms, but as a political and governance challenge. The BIS FinTech speeches analysed in this study reveal a high degree of narrative convergence around a circumscribed understanding of how, and how far, financial systems should be transformed. This convergence should not be interpreted as evidence of uniform preferences or the absence of disagreement among regulators. Rather, it reflects the operation of a transnational epistemic community characterised by shared causal beliefs about financial stability, common policy commitments, and broadly aligned normative views on the importance of innovation. Against this backdrop, disagreement is not expressed through competing narratives of disruption but

channelled into limited and patterned variation in thematic emphasis, allowing regulators to signal national or institutional priorities while adhering to a shared policy narrative of circumscribed disruption.

While other contributions to this special issue demonstrate how FinTech disrupts monetary orders, political authority, security arrangements, innovation dynamics, and financial governance structures; this article shifts attention to how such disruptive pressures are processed within expert regulatory communities. It shows that disruption does not simply confront regulators from the outside but is actively interpreted and delimited through shared discourse. Policy narratives function here as epistemic devices that delimit acceptable forms of disruption. This, however, does not eliminate political conflict over FinTech disruption or neutralise its distributive consequences. Instead, it reorganises contestation by relocating it away from foundational questions and towards the strategic emphasis of themes within a common narrative framework. In doing so, the paper highlights a mechanism through which potential disruption is mitigated and stabilised in contemporary technocratic governance and offers a way to observe that process systematically through the quantitative analysis of regulatory discourse.

# Appendix

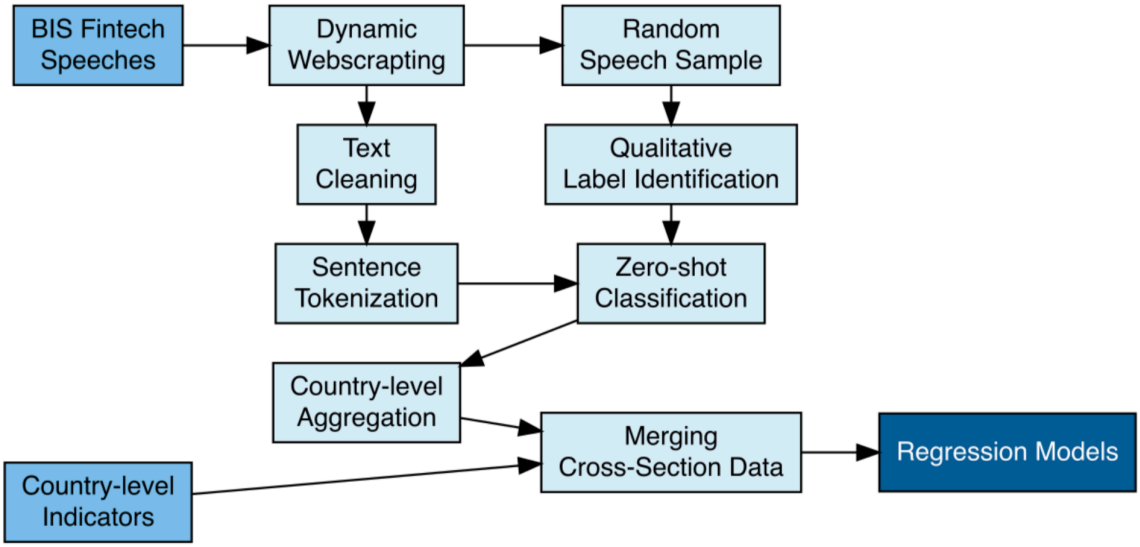



Figure 4: Full Analytic Workflow

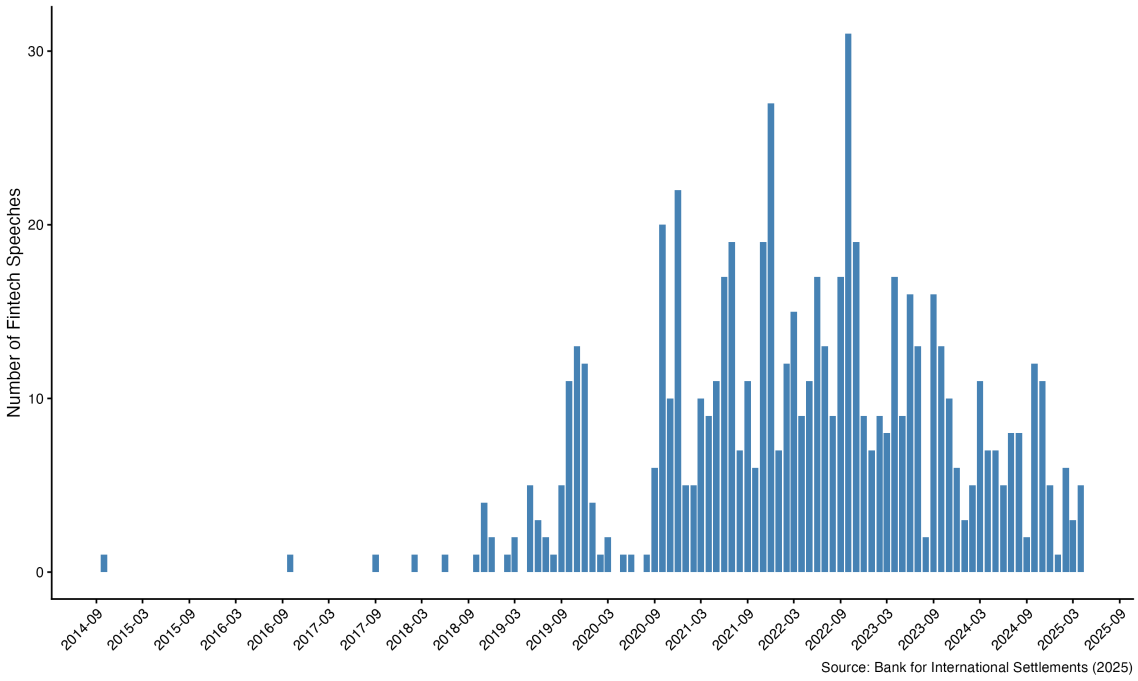



Figure 5: Time Distribution of BIS Speeches

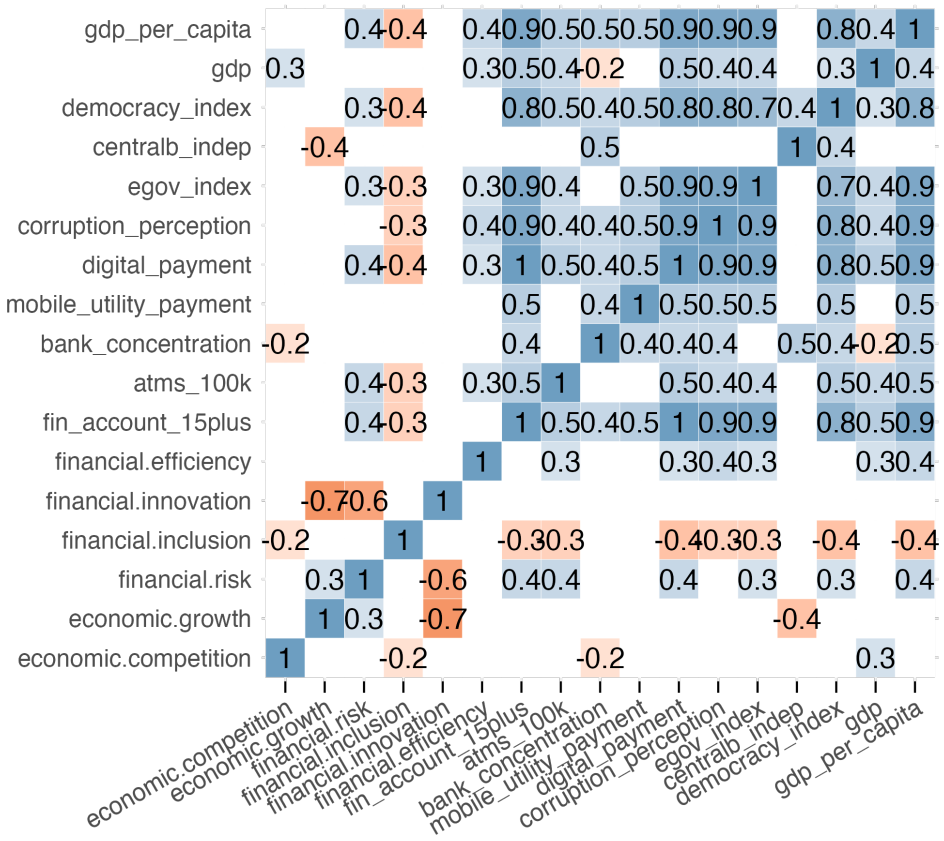



Figure 6: Label Model Correlogram

Table 1: OLS regression full results

| Term | Estimate | Std. Error | P-value | Model | CI Low | CI High |
|---|---|---|---|---|---|---|
| bank_concentration | -0.002 | 0.004 | 0.627 | Financial Inclusion | -0.011 | 0.007 |
| mobile_payment | 0.002 | 0.004 | 0.618 | Financial Inclusion | -0.005 | 0.009 |
| centralb_indep | -0.002 | 0.003 | 0.483 | Financial Inclusion | -0.008 | 0.004 |
| gdp | 0.000 | 0.005 | 0.925 | Financial Inclusion | -0.009 | 0.010 |

| Term | Estimate | Std. Error | P-value | Model | CI Low | CI High |
|---|---|---|---|---|---|---|
| gdp_per_capita | -0.012 | 0.005 | 0.015 | Financial Inclusion | -0.021 | -0.003 |
| bank_concentration | -0.072 | 0.029 | 0.017 | Financial Innovation | -0.129 | -0.016 |
| mobile_payment | -0.037 | 0.025 | 0.145 | Financial Innovation | -0.085 | 0.012 |
| centralb_indep | 0.009 | 0.021 | 0.683 | Financial Innovation | -0.032 | 0.049 |
| gdp | -0.119 | 0.032 | 0.001 | Financial Innovation | -0.183 | -0.056 |
| gdp_per_capita | 0.070 | 0.031 | 0.028 | Financial Innovation | 0.010 | 0.130 |
| bank_concentration | 0.023 | 0.016 | 0.164 | Financial Risk | -0.009 | 0.055 |
| mobile_payment | 0.005 | 0.014 | 0.706 | Financial Risk | -0.022 | 0.032 |
| centralb_indep | 0.003 | 0.012 | 0.767 | Financial Risk | -0.019 | 0.026 |
| gdp | 0.032 | 0.018 | 0.085 | Financial Risk | -0.003 | 0.067 |
| gdp_per_capita | 0.003 | 0.017 | 0.874 | Financial Risk | -0.031 | 0.036 |
| bank_concentration | 0.001 | 0.012 | 0.917 | Financial Efficiency | -0.022 | 0.024 |
| mobile_payment | 0.007 | 0.010 | 0.465 | Financial Efficiency | -0.012 | 0.027 |
| centralb_indep | -0.008 | 0.008 | 0.340 | Financial Efficiency | -0.024 | 0.008 |
| gdp | 0.009 | 0.013 | 0.483 | Financial Efficiency | -0.016 | 0.035 |
| gdp_per_capita | 0.009 | 0.012 | 0.453 | Financial Efficiency | -0.015 | 0.034 |
| bank_concentration | 0.040 | 0.014 | 0.008 | Economic Growth | 0.012 | 0.069 |

| Term | Estimate | Std. Error | P-value | Model | CI Low | CI High |
|---|---|---|---|---|---|---|
| mobile_payment | 0.006 | 0.012 | 0.608 | Economic Growth | -0.018 | 0.030 |
| centralb_indep | -0.029 | 0.010 | 0.007 | Economic Growth | -0.049 | -0.009 |
| gdp | 0.044 | 0.016 | 0.009 | Economic Growth | 0.013 | 0.076 |
| gdp_per_capita | -0.044 | 0.015 | 0.006 | Economic Growth | -0.074 | -0.014 |
| bank_concentration | 0.005 | 0.006 | 0.445 | Regulatory Cooperation | -0.008 | 0.018 |
| mobile_payment | -0.006 | 0.005 | 0.292 | Regulatory Cooperation | -0.016 | 0.005 |
| centralb_indep | 0.010 | 0.005 | 0.033 | Regulatory Cooperation | 0.001 | 0.019 |
| gdp | 0.001 | 0.007 | 0.887 | Regulatory Cooperation | -0.013 | 0.015 |
| gdp_per_capita | 0.004 | 0.007 | 0.586 | Regulatory Cooperation | -0.010 | 0.017 |
| bank_concentration | -0.012 | 0.008 | 0.145 | Economic Competition | -0.028 | 0.004 |
| mobile_payment | -0.001 | 0.007 | 0.910 | Economic Competition | -0.014 | 0.013 |
| centralb_indep | 0.008 | 0.006 | 0.163 | Economic Competition | -0.003 | 0.020 |

| Term | Estimate | Std. Error | P-value | Model | CI Low | CI High |
|---|---|---|---|---|---|---|
| gdp | 0.005 | 0.009 | 0.601 | Economic Competition | -0.013 | 0.023 |
| gdp_per_capita | -0.001 | 0.009 | 0.946 | Economic Competition | -0.017 | 0.016 |
| bank_concentration | 0.017 | 0.016 | 0.304 | Other | -0.015 | 0.049 |
| mobile_payment | 0.022 | 0.014 | 0.114 | Other | -0.005 | 0.050 |
| centralb_indep | 0.009 | 0.012 | 0.450 | Other | -0.014 | 0.032 |
| gdp | 0.027 | 0.018 | 0.144 | Other | -0.009 | 0.063 |
| gdp_per_capita | -0.029 | 0.017 | 0.098 | Other | -0.063 | 0.005 |

# References

Alhoshan, Waad, Alessio Ferrari, and Liping Zhao. 2023. "Zero-Shot Learning for Requirements Classification: An Exploratory Study." *Information and Software Technology* 159 (July): 107202. https://doi.org/10.1016/j.infsof.2023.107202.

Alonso-Robisco, Andres, and José Manuel Carbó. 2023. "Analysis of CBDC Narrative by Central Banks Using Large Language Models." *Finance Research Letters* 58 (December): 104643. https://doi.org/10.1016/j.frl.2023.104643.

Ammous, Saifedean. 2021. *The bitcoin standard: the decentralized alternative to central banking*. Hoboken, New Jersey: Wiley.

Arner, Douglas W., Janos Nathan Barberis, and Ross P. Buckley. 2015. "The Evolution of Fintech: A New Post-Crisis Paradigm?" *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2676553.

Ba, Heather-Leigh, and Ömer Faruk Şen. 2024. "Explaining Variation in National Cryptocurrency Regulation: Implications for the Global Political Economy." *Review of International Political Economy* 31 (5): 1472–95. https://doi.org/10.1080/09692290.2024.2325403.

Baden, Christian, Christian Pipal, Martijn Schoonvelde, and Mariken A. C. G Van Der Velden. 2022. "Three Gaps in Computational Text Analysis Methods for Social Sciences: A Research Agenda." *Communication Methods and Measures* 16 (1): 1–18. https://doi.org/10.1080/19312458.2021.2015574.

Bank for International Settlements. 2019. "Innovation, Fintech and AI." https://www.bis.org/topic/fintech.htm.

Beau, Denis. 2020. "8th Annual Meetings of France Payments Forum." In. Paris. https://www.bis.org/review/r200304c.pdf.

Bell, Stephen, and Andrew Hindmoor. 2015. "Taming the City? Ideas, Structural Power and the Evolution of British Banking Policy Amidst the Great Financial Meltdown." *New Political Economy* 20 (3): 454–74. https://doi.org/10.1080/13563467.2014.951426.

Benoit, Kenneth, Drew Conway, Benjamin E. Lauderdale, Michael Laver, and Slava Mikhaylov. 2016. "Crowd-Sourced Text Analysis: Reproducible and Agile Production of Political Data." *American Political Science Review* 110 (2): 278–95. https://doi.org/10.1017/S0003055416000058.

Birkenmaier, Lukas, Clemens M. Lechner, and Claudia Wagner. 2024. "The Search for Solid Ground in Text as Data: A Systematic Review of Validation Practices and Practical Recommendations for Validation." *Communication Methods and Measures* 18 (3): 249–77. https://doi.org/10.1080/19312458.2023.2285765.

Blyth, Mark. 1997. ""Any More Bright Ideas?" The Ideational Turn of Comparative Political Economy." *Comparative Politics* 29 (2): 229. https://doi.org/10.2307/422082.

Brännlund, Anton, and Lauri Rapeli. 2025. "Who's Afraid of Cryptoization? Evidence from a Survey Experiment in Finland." *Review of International Political Economy* 32 (2): 329–52. https://doi.org/10.1080/09692290.2024.2424863.

Braun, Benjamin. 2016. "Speaking to the People? Money, Trust, and Central Bank Legitimacy in the Age of Quantitative Easing." *Review of International Political Economy* 23 (6): 1064–92. https://doi.org/10.1080/09692290.2016.1252415.

Burnham, Michael. 2024. "Stance Detection: A Practical Guide to Classifying Political Beliefs in Text." *Political Science Research and Methods* 12 (3): 597604. https://doi.org/10.1017/psrm.2024.35.

Caruana, Jaime. 2016. "Third GPFI-FSI Conference on Standard-Setting Bodies and Innovative Financial Inclusion." In. Basel, Switzerland. https://www.bis.org/speeches/sp161026.pdf.

Chandra, Yanto, and Liang Shang. 2019. "Inductive Coding." In, 91–106. Singapore: Springer Nature Singapore. https://doi.org/10.1007/978-981-13-3170-1_8.

Chang, Johnathan, Jordan Boyd-Graber, Chong Wang, Sean Gerrish, and David Blei. 2009. "Neural Information Processing Systems." In. Vancouver. http://cs.umd.edu/~jbg//docs/nips2009-rtl.pdf.

Chen, Yingying, Zhao Peng, Sei-Hill Kim, and Chang Won Choi. 2023. "What We

Can Do and Cannot Do with Topic Modeling: A Systematic Review." *Communication Methods and Measures* 17 (2): 111–30. https://doi.org/10.1080/19312458.2023.2167965.

Chwieroth, Jeffrey M., and Andrew Walter. 2020. "Great Expectations, Financialization, and Bank Bailouts in Democracies." *Comparative Political Studies* 53 (8): 1259–97. https://doi.org/10.1177/0010414019897418.

Cipollone, Piero. 2025. "Digital Euro and the Future of Payments in Europe." In. Paris, France. https://www.bis.org/review/r250527q.pdf.

Crow, Deserai, and Michael Jones. 2018. "Narratives as Tools for Influencing Policy Change." *Policy & Politics* 46 (2): 217–34. https://doi.org/10.1332/030557318X15230061022899.

Di Leo, Riccardo, Chen Zeng, Elias Dinas, and Reda Tamtam. 2025. "Mapping (A)Ideology: A Taxonomy of European Parties Using Generative LLMs as Zero-Shot Learners." *Political Analysis*, April, 1–8. https://doi.org/10.1017/pan.2025.7.

Diokno, Benjamin E. 2019. "Finance Executives Breakfast Roundtable." In. Manila, Phillipines. https://www.bis.org/review/r191023g.pdf.

Dyson, Kenneth. 2014. *States, Debt, and Power: 'Saints' and 'Sinners' in European History and Integration*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198714071.001.0001.

Eichengreen, Barry. 2021. "Financial Regulation in the Age of the Platform Economy." *Journal of Banking Regulation*, December. https://doi.org/10.1057/s41261-021-00187-9.

Fraccaroli, Nicolò, Vincent Arel-Bundock, and Mark Blyth. 2025. "What Do Central Bankers Talk about When They Talk about Inflation? The Rise and Fall of Inflation Narratives." *New Political Economy*, May, 1–16. https://doi.org/10.1080/13563467.2025.2504392.

Gilardi, Fabrizio, Meysam Alizadeh, and Maël Kubli. 2023. "ChatGPT Outperforms Crowd Workers for Text-Annotation Tasks." *Proceedings of the National Academy*

*of Sciences* 120 (30): e2305016120. https://doi.org/10.1073/pnas.2305016120.

Google. 2025. "Worldwide Search: Fintech." https://trends.google.com/trends/explore?date=all&q=fintech&hl=en.

Goutsmedt, Aurélien, and Clément Fontan. 2024. "The ECB and the Inflation Monsters: Strategic Framing and the Responsibility Imperative (1998–2023)." *Journal of European Public Policy* 31 (4): 999–1025. https://doi.org/10.1080/13501763.2023.2281583.

Green, Jeremy, and Colin Hay. 2015. "Towards a New Political Economy of the Crisis: Getting What Went Wrong Right." *New Political Economy* 20 (3): 331–41. https://doi.org/10.1080/13563467.2014.951432.

Haas, Peter M. 1992a. "Introduction: Epistemic Communities and International Policy Coordination." *International Organization* 46 (1): 1–35.

———. 1992b. "Introduction: Epistemic Communities and International Policy Coordination." *International Organization* 46 (1): 1–35.

Haldane, Andrew. 2020. "TheCityUK 10th Anniversary Conference." In. London: The Bank of England.

Harrison, John. n.d. "RSelenium: R Bindings for 'Selenium WebDriver'." https://doi.org/10.32614/CRAN.package.RSelenium.

Hohenwalde, Clarissa, Melanie Leidecker-Sandmann, Nikolai Promies, and Markus Lehmkuhl. 2025. "ChatGPT's Potential for Quantitative Content Analysis: Categorizing Actors in German News Articles." *Journal of Science Communication* 24 (2). https://doi.org/10.22323/2.24020201.

Ivacic, Nikola, Matthew Purver, Fabienne Lind, Hajo Boomgaarden, Veronika Bajt, and Senja Pollak. 2024. "Comparing News Framing of Migration Crises Using Zero-Shot Classification." In, 1827.

Jain, Mahesh Kumar. 2023. "International Research Conference on FinTech "Innovation, Inclusion, and Regulation"." In. Ahmedabad, India. https://www.bis.org/review/r230315d.pdf.

James, Scott, and Lucia Quaglia. 2023. "Epistemic Contestation and Interagency

Conflict: The Challenge of Regulating Investment Funds." *Regulation & Governance* 17 (2): 346–62. https://doi.org/10.1111/rego.12457.

Jones, Michael D, and Mark K McBeth. n.d. "Narrative Policy Framework: Clear Enough to Be Wrong?" *The Policy Studies Journal* 38 (2).

King, Michael. 2005. "Epistemic Communities and the Diffusion of Ideas: Central Bank Reform in the United Kingdom." *West European Politics* 28 (1): 94–123. https://doi.org/10.1080/0140238042000297107.

Kranke, Matthias, and David Yarrow. 2019. "The Global Governance of Systemic Risk: How Measurement Practices Tame Macroprudential Politics." *New Political Economy* 24 (6): 816–32. https://doi.org/10.1080/13563467.2018.1545754.

Kuang, Xianwen, Jun Liu, Haiyang Zhang, and Simon Schweighofer. 2025. "Towards Algorithmic Framing Analysis: Expanding the Scope by Using LLMs." *Journal of Big Data* 12 (1): 66. https://doi.org/10.1186/s40537-025-01092-y.

Lall, Ranjit. 2012. "From Failure to Failure: The Politics of International Banking Regulation." *Review of International Political Economy* 19 (4): 609–38. https://doi.org/10.1080/09692290.2011.603669.

Langley, Paul, and Andrew Leyshon. 2021. "The Platform Political Economy of FinTech: Reintermediation, Consolidation and Capitalisation." *New Political Economy* 26 (3): 376–88. https://doi.org/10.1080/13563467.2020.1766432.

———. 2023. "FinTech Platform Regulation: Regulating with/Against Platforms in the UK and China." *Cambridge Journal of Regions, Economy and Society* 16 (2): 257–68. https://doi.org/10.1093/cjres/rsad005.

Laurer, Moritz, Wouter van Atteveldt, Andreu Casas, and Kasper Welbers. 2024. "Less Annotating, More Classifying: Addressing the Data Scarcity Issue of Supervised Machine Learning with Deep Transfer Learning and BERT-NLI." *Political Analysis* 32 (1): 116. https://doi.org/10.1017/pan.2022.15.

Le Mens, Gaël, and Aina Gallego. 2025. "Positioning Political Texts with Large Language Models by Asking and Averaging." *Political Analysis*, January, 1–9. https://doi.org/10.1017/pan.2024.29.

Menon, Ravi. 2023. "Inclusive FinTech Forum." In. Kigali Rwanda. https://www.bis.org/review/r230622i.pdf.

Mention, Anne-Laure. 2019. "The Future of Fintech." *Research-Technology Management* 62 (4): 59–63. https://doi.org/10.1080/08956308.2019.1613123.

Nicholls, Tom, and Pepper D. Culpepper. 2021. "Computational Identification of Media Frames: Strengths, Weaknesses, and Opportunities." *Political Communication* 38 (1-2): 159–81. https://doi.org/10.1080/10584609.2020.1812777.

Ornstein, Joseph T., Elise N. Blasingame, and Jake S. Truscott. 2025. "How to Train Your Stochastic Parrot: Large Language Models for Political Texts." *Political Science Research and Methods* 13 (2): 264–81. https://doi.org/10.1017/psrm.2024.64.

Ortiz-Ospina, Esteban. 2019. "The Rise of Social Media." https://ourworldindata.org/rise-of-social-media.

Palmer, Alexis, Noah A. Smith, and Arthur Spirling. 2023. "Using Proprietary Language Models in Academic Research Requires Explicit Justification." *Nature Computational Science* 4 (1): 2–3. https://doi.org/10.1038/s43588-023-00585-1.

Patterson, Molly, and Kristen Renwick Monroe. 1998. "NARRATIVE IN POLITICAL SCIENCE." *Annual Review of Political Science* 1 (1): 315–31. https://doi.org/10.1146/annurev.polisci.1.1.315.

Pereira da Silva, Luiz Awazu. 2018. "Fourth FSI-GPFI Conference on Standard-Setting Bodies and Innovative Financial Inclusion." In. Basel, Switzerland.

Pfeifer, Moritz, and Vincent P. Marohl. 2023. "CentralBankRoBERTa: A Fine-Tuned Large Language Model for Central Bank Communications." *The Journal of Finance and Data Science* 9 (November): 100114. https://doi.org/10.1016/j.jfds.2023.100114.

Philippon, Thomas. 2017. "The FinTech Opportunity." https://www.bis.org/publ/work655.pdf.

Priola, Maria Paola, Annalisa Molino, Giacomo Tizzanini, and Lea Zicchino. 2022. "The Informative Value of Central Banks Talks: A Topic Model Application to

Sentiment Analysis." *Data Science in Finance and Economics* 2 (3): 181–204. https://doi.org/10.3934/DSFE.2022009.

Quaglia, Lucia, and Amy Verdun. 2025. "The Geoeconomics of Central Banks Digital Currencies (CBDCs): The Case of the European Central Bank (ECB)." *New Political Economy*, May, 1–13. https://doi.org/10.1080/13563467.2025.2504390.

Quality of Government Institute. n.d. "The Quality of Government Full Dataset."

Quinn, William, and John D. Turner. 2020. *Boom and Bust: A Global History of Financial Bubbles*. 1st ed. Cambridge University Press. https://doi.org/10.1017/9781108367677.

Reinhart, Carmen M., and Kenneth S. Rogoff. 2009. *This Time Is Different: Eight Centuries of Financial Folly*. Princeton: Princeton University Press.

Reuters. 2021. "Majority of Salvadorans Do Not Want Bitcoin, Poll Shows." *Reuters*, February. https://www.reuters.com/technology/majority-salvadorans-do-not-want-bitcoin-poll-shows-2021-09-02/.

Roos, Michael, and Matthias Reccius. 2024. "Narratives in Economics." *Journal of Economic Surveys* 38 (2): 303–41. https://doi.org/10.1111/joes.12576.

Rytting, Christopher M., Taylor Sorensen, Lisa Argyle, Ethan C. Busby, Nancy Fulda, Joshua Gubler, and David Wingate. 2023. "Towards Coding Social Science Datasets with Language Models." *arXiv Preprint arXiv:2306.02177*.

Schmidt, Vivien A. 2008. "Discursive Institutionalism: The Explanatory Power of Ideas and Discourse." *Annual Review of Political Science* 11 (1): 303–26. https://doi.org/10.1146/annurev.polisci.11.060606.135342.

Schumpeter, Joseph A. 2006. *History of Economic Analysis*. Hoboken: Taylor; Francis.

Shanahan, Elizabeth A., Michael D. Jones, and Mark K. McBeth. 2011. "Policy Narratives and Policy Processes." *Policy Studies Journal* 39 (3): 535–61. https://doi.org/10.1111/j.1541-0072.2011.00420.x.

Shuqing, Guo. 2020. "Singapore FinTech Festival (SFF) 2020." In. https://www.bi

s.org/review/r201222f.pdf.

Silge, Julia, and David Robinson. 2016. "Tidytext: Text Mining and Analysis Using Tidy Data Principles in r." *The Journal of Open Source Software* 1 (3): 37. https://doi.org/10.21105/joss.00037.

Skjott Linneberg, Mai, and Steffen Korsgaard. 2019. "Coding Qualitative Data: A Synthesis Guiding the Novice." *Qualitative Research Journal* 19 (3): 259–70. https://doi.org/10.1108/QRJ-12-2018-0012.

Steininger, L. Eden. 2025. "Late Wittgenstein's Money." *Finance and Society* 11 (1): 123–30. https://doi.org/10.1017/fas.2024.27.

Tkachenko, Nikita. 2025. "Tidy Data." In, 23–33. Berkeley, CA: Apress. https://doi.org/10.1007/979-8-8688-0580-6_2.

Verdun, Amy. 1999. "The Role of the Delors Committee in the Creation of EMU: An Epistemic Community?" *Journal of European Public Policy* 6 (2): 308–28. https://doi.org/10.1080/135017699343739.

Waller, Christopher J. 2024. "Climate, Currency, and Central Banking." In. Nassau, Bahamas: Global Interdependence Center. https://www.bis.org/review/r240216c.pdf.

Walter, Dror, and Yotam Ophir. 2019. "News Frame Analysis: An Inductive Mixed-Method Computational Approach." *Communication Methods and Measures* 13 (4): 248–66. https://doi.org/10.1080/19312458.2019.1639145.

Wickham, Hadley. 2014. "Tidy Data." *Journal of Statistical Software* 59 (10). https://doi.org/10.18637/jss.v059.i10.

World Bank. n.d. "Global Financial Development Database."

Yin, Wenpeng, Jamaal Hay, and Dan Roth. 2019. "Benchmarking Zero-Shot Text Classification: Datasets, Evaluation and Entailment Approach." In, 39123923.

Zhang, He, Chuhao Wu, Jingyi Xie, Fiona Rubino, Sydney Graver, Jie Cai, Chanmin Kim, and John Carroll. 2025. "16th International Conference on Applied Human Factors and Ergonomics (AHFE 2025)." In. https://doi.org/10.54941/ahfe1006232.

Zhao, Xuechen, Guodong Ma, Shengnan Pang, Yanhui Guo, Jianxiu Zhao, and Jinfeng Miao. 2024. "Zero-Shot Stance Detection Based on Multi-Expert Collaboration." *Scientific Reports* 14 (1): 18092. https://doi.org/10.1038/s41598-024-68870-1.