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Sentiment Analysis of Positive and Negative Comments on the Rise of the Dollar: A Case Study from TikTok Using the Naive Bayes Method

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Abstract

This study investigates public sentiment toward the appreciation of the United States dollar against the Indonesian rupiah through comments collected from TikTok. The research applies an empirical machine learning framework that integrates social media based economic discourse analysis with the Multinomial Naive Bayes classification algorithm. Data were processed through a structured preprocessing pipeline consisting of text normalization, removal of irrelevant characters, and feature extraction using the Bag of Words approach. Sentiment categories were assigned through a lexicon guided labeling procedure and subsequently classified into positive and negative classes. Model validation was conducted using an independent testing dataset and evaluated through accuracy, precision, recall, F1 score, and confusion matrix analysis. The findings indicate that the classifier achieved a high level of predictive performance, demonstrating the computational efficiency of Naive Bayes for large scale textual data. At the same time, the evaluation reveals methodological challenges associated with class imbalance and limited sentiment coverage arising from rule based labeling. The study highlights the value of social media analytics for monitoring economic perceptions and contributes to the development of sentiment intelligence frameworks capable of supporting real time observation of macroeconomic discourse in digital environments.

Keywords : Sentiment Analysis, Naive Bayes, TikTok Comments, Economic Discourse, Social Media Analytics.



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INTRODUCTION

The unprecedented expansion of digital communication ecosystems has transformed social media platforms into large scale repositories of public opinion that continuously capture societal responses to economic, political, and financial developments across diverse national contexts. Contemporary advances in natural language processing and machine learning have accelerated the capacity of researchers to extract meaningful insights from user generated content, enabling sentiment analysis to function not merely as a computational classification task but as an analytical instrument for understanding collective perceptions toward macroeconomic phenomena. Within this evolving landscape, TikTok has emerged as one of the most influential social media platforms due to its high level of user engagement and interactive comment features that facilitate spontaneous public reactions to current events. Economic issues associated with fluctuations in currency exchange rates have attracted increasing attention in digital discourse because changes in the value of the United States dollar frequently affect inflation expectations, consumer confidence, investment decisions, and broader economic sentiment. The growing integration of social media analytics and computational linguistics has consequently positioned online comments as a strategic source of empirical evidence for examining how societies interpret and respond to economic uncertainty, particularly in emerging economies where public sensitivity toward exchange rate volatility remains substantial (Rahmadani et al., 2022).

Previous studies have demonstrated that sentiment analysis methods are capable of identifying patterns of public opinion across a variety of digital environments, while simultaneously revealing the strengths and limitations of different classification algorithms. Research conducted on TikTok sentiment classification found that the Naive Bayes algorithm provides efficient and reliable performance for categorizing user opinions within large volumes of textual data, highlighting its relevance for social media analytics (Rahmadani et al., 2022). Comparative investigations have further

suggested that although advanced machine learning approaches such as Support Vector Machine often achieve competitive classification performance, Naive Bayes remains attractive because of its computational simplicity and robustness when dealing with high dimensional textual features (Rizki et al., 2025). Studies examining public responses to government policies have also shown that sentiment analysis can effectively capture fluctuations in public trust and social attitudes during periods of economic disruption, indicating that online discourse frequently reflects broader socioeconomic concerns rather than isolated individual opinions (Zakaria et al., 2023). Taken collectively, these findings indicate that sentiment classification has evolved into a valuable methodological framework for understanding public reactions to economic events, although the explanatory scope of existing studies remains strongly influenced by the contextual characteristics of the datasets employed.

Despite these contributions, significant conceptual and empirical limitations continue to characterize the existing literature. A substantial proportion of prior studies has concentrated on product reviews, government policy evaluations, or platform specific user experiences, leaving macroeconomic issues such as currency appreciation and exchange rate instability comparatively underexplored. Existing research frequently assumes that textual data extracted from social media are sufficiently clean and semantically consistent for classification purposes, even though user generated comments commonly contain spelling variations, abbreviations, informal expressions, phonetic substitutions, and linguistic irregularities that can substantially affect model performance. Recent surveys in natural language processing emphasize that misspellings and orthographic inconsistencies remain persistent challenges because they distort lexical representations and reduce classification accuracy, particularly in highly informal digital environments where language usage departs significantly from standard linguistic conventions (Sperduti & Moreo, 2025; Sperduti & Moreo, 2026). This situation creates a methodological gap between theoretical assumptions regarding textual preprocessing and the practical realities of social media communication, thereby limiting the generalizability of sentiment analysis findings across different socioeconomic topics and platforms.

The persistence of these limitations acquires greater significance when examined in relation to public reactions toward exchange rate fluctuations. The appreciation of the United States dollar against the Indonesian rupiah is not merely a financial indicator but a socioeconomic event that influences perceptions regarding purchasing power, inflation risks, investment opportunities, and national economic resilience. Public sentiment surrounding such developments can spread rapidly through social media channels and potentially shape collective expectations that influence economic behavior. While conventional economic indicators provide quantitative measurements of market conditions, they often fail to capture the emotional and cognitive dimensions underlying public responses. Sentiment analysis of TikTok comments offers an alternative analytical perspective capable of revealing how individuals interpret economic uncertainty in real time. The scientific importance of investigating this phenomenon lies in its potential to bridge computational text analytics and behavioral economic understanding, while its practical importance stems from the need for policymakers, financial observers, and communication strategists to monitor public reactions to exchange rate movements through scalable digital data sources (Zakaria et al., 2023; Rahmadani et al., 2022).

Current scholarship also reveals an unresolved need to examine how established machine learning methods perform when applied to economic discourse characterized by highly diverse linguistic expressions and emotionally charged public commentary. Although comparative studies have explored differences between classification algorithms, the emphasis has frequently been directed toward identifying superior predictive performance rather than understanding how specific economic narratives are represented within sentiment distributions (Rizki et al., 2025). Furthermore, methodological discussions concerning textual preprocessing and feature representation often remain disconnected from broader questions regarding the interpretation of economic sentiment in social media environments. Visualization techniques have increasingly been employed to communicate analytical outcomes and reveal underlying patterns in textual datasets, supporting more transparent interpretation of sentiment classification results and model behavior (Waskom, 2021). These observations indicate that research examining TikTok discussions related to the rise of the dollar can occupy a distinctive position within the scientific literature by integrating economic context, social media discourse, and machine learning based sentiment classification into a single analytical framework.

This study aims to analyze positive and negative sentiments expressed in TikTok comments regarding the rise of the United States dollar and the depreciation of the Indonesian rupiah through the

application of the Naive Bayes method. The research contributes theoretically by extending the application of sentiment analysis to the domain of macroeconomic public perception and by enriching the understanding of how digital communities construct responses to exchange rate fluctuations. Methodologically, the study contributes by implementing a structured sentiment classification framework involving text preprocessing, feature extraction, and probabilistic machine learning classification within a large scale social media environment. The findings are expected to provide a deeper understanding of public opinion dynamics surrounding economic uncertainty while demonstrating the relevance of computational approaches for analyzing contemporary digital discourse.

RESEARCH METHODS

This study employed an empirical research design based on a machine learning experimentation framework to investigate public sentiment regarding the appreciation of the United States dollar against the Indonesian rupiah through TikTok comments. The methodological innovation of the study lies in the integration of social media based economic discourse analysis with a probabilistic text classification approach using the Multinomial Naive Bayes algorithm. A dataset consisting of TikTok user comments was collected and transformed through a structured preprocessing pipeline involving case normalization, removal of URLs, elimination of numerical and symbolic characters, and whitespace standardization to enhance textual consistency. Sentiment labels were generated through a lexicon guided procedure that categorized comments into positive and negative classes. Subsequently, the processed corpus was partitioned into training and testing subsets using a holdout strategy with a ratio of 70 percent and 30 percent. Textual features were converted into numerical representations through the Bag of Words model implemented via CountVectorizer. The resulting feature matrix was used to train a Multinomial Naive Bayes classifier grounded in Bayesian probability theory and conditional independence assumptions, which have been widely recognized as effective for sentiment classification tasks involving large scale textual datasets (Han et al., 2012). The overall experimental design was developed to provide a robust and computationally efficient framework for detecting patterns of public sentiment toward macroeconomic developments reflected in social media interactions (Panggabeanan, 2025; Field et al., 2024).

Methodological robustness was ensured through systematic validation using an independent testing dataset that was excluded from the model training process. Model performance was evaluated through a confusion matrix based assessment framework designed to measure classification effectiveness under conditions of class imbalance frequently observed in social media sentiment datasets. The evaluation employed four complementary metrics consisting of accuracy, precision, recall, and F1 score in order to provide a comprehensive assessment of predictive reliability and class discrimination capability. Accuracy was used to determine the proportion of correctly classified observations, while precision and recall were employed to evaluate the quality of positive and negative sentiment identification. The F1 score served as a harmonic indicator balancing predictive exactness and sensitivity. Confusion matrix analysis was further utilized to identify potential classification bias and to assess the impact of uneven sentiment distribution on model behavior. This multi metric validation strategy strengthened the reliability of the findings by moving beyond a single performance indicator and providing a more nuanced evaluation of the classifier's ability to capture public responses toward exchange rate fluctuations within a dynamic social media environment.

RESULTS AND DISCUSSION

Sentiment Distribution Patterns in TikTok Discussions on Dollar Appreciation

The collected TikTok comments revealed a highly asymmetric sentiment structure characterized by the predominance of negative expressions concerning the appreciation of the United States dollar against the Indonesian rupiah. The initial inspection of textual content indicated that users frequently associated exchange rate increases with concerns regarding inflation, declining purchasing power, and rising living costs. Such findings demonstrate that social media platforms function as immediate arenas where macroeconomic developments are translated into public perceptions and emotional responses, consistent with observations regarding digital discourse dynamics reported by Field et al. (2024). The concentration of economic concerns within user generated content reflects the increasing relevance of social media analytics for understanding public reactions toward financial uncertainty (Mehmood, 2024).

The sentiment labeling process generated a substantial imbalance between positive and negative categories. Out of 672 processed comments, 670 comments were classified as negative while only 2 comments were categorized as positive. This distribution suggests that discussions concerning dollar appreciation were dominated by pessimistic interpretations rather than opportunity oriented narratives. Similar patterns have been observed in economic sentiment studies where adverse economic signals often generate stronger emotional engagement than favorable developments (Panggabeanan, 2025).

The prevalence of negative sentiment can be interpreted through the lens of behavioral responses to economic risk. Exchange rate depreciation commonly affects expectations regarding future household expenditures, creating an environment in which uncertainty becomes a dominant driver of online communication. Research examining financial sentiment has demonstrated that public opinion frequently reacts more intensely to potential losses than to potential gains, particularly during periods of perceived economic instability (Iqbal et al., 2023). The observed distribution aligns with this theoretical expectation and reinforces the sensitivity of digital communities to macroeconomic disturbances.

Textual examination further revealed that many comments contained references to rising commodity prices and concerns about economic resilience. These themes appeared repeatedly across different user interactions, indicating a shared perception regarding the consequences of currency depreciation. The collective nature of such discourse reflects the capacity of social media platforms to amplify common economic narratives through continuous interaction among users. Comparable findings were reported in studies investigating economic discussions on social networking platforms where recurring thematic patterns emerged around inflation and purchasing power concerns (Indrayuni et al., 2025).

The distribution of sentiment classes identified during preprocessing is presented in Table 1. The table demonstrates the magnitude of class imbalance that characterized the dataset and subsequently influenced model learning behavior. Such imbalances are common within social media sentiment studies because users are more likely to express dissatisfaction when reacting to unfavorable events (Armaeni et al., 2024). Understanding this distribution is important because it provides context for interpreting subsequent classification outcomes.

Table 1. Distribution of Sentiment Categories in TikTok Comments Related to Dollar Appreciation

Sentiment Category	Frequency	Percentage (%)
Negative	670	99.70
Positive	2	0.30
Total	672	100.00

Source: Processed TikTok comment dataset analyzed by the authors, 2026.

The extreme imbalance reported in Table 1 suggests that public discourse surrounding dollar appreciation was overwhelmingly shaped by negative evaluations. The near absence of positive comments indicates limited public emphasis on potential advantages such as export competitiveness or foreign currency investment opportunities. Economic narratives on social media tend to prioritize immediate household impacts rather than broader macroeconomic benefits, particularly when individuals perceive direct financial consequences. This tendency has also been identified in investigations examining public reactions to economic recession threats and employment related uncertainties (Panggabeanan, 2025; Ikrima & Mulyana, 2025).

Another notable observation concerns the role of TikTok as a platform for economic opinion formation. Although TikTok is primarily recognized as an entertainment oriented medium, the findings suggest that users actively employ comment sections to discuss economic developments and articulate concerns regarding financial conditions. Research on TikTok analytics has increasingly emphasized the platform's capacity to facilitate public deliberation on issues extending beyond entertainment content (Field et al., 2024). The current findings

strengthen this perspective by demonstrating substantial engagement with macroeconomic topics.

The linguistic characteristics of the dataset also deserve attention because many comments contained informal spelling patterns and colloquial expressions. Such language variation reflects the spontaneous nature of social media communication and introduces additional challenges for sentiment classification. Recent reviews in natural language processing have highlighted that misspellings and nonstandard lexical constructions can significantly influence text mining performance when preprocessing procedures are insufficiently rigorous (Sperduti & Moreo, 2025; Sperduti & Moreo, 2026). The preprocessing framework implemented in this study was designed to reduce these effects while preserving sentiment relevant information.

The dominance of negative sentiment also resonates with findings from studies examining social reactions toward controversial digital and economic issues. Research involving TikTok and YouTube comment analysis consistently reports higher engagement levels among users expressing criticism, concern, or dissatisfaction than among users expressing approval (Dina et al., 2025; Armaeni et al., 2024). This behavioral tendency may explain why negative sentiment occupied a substantially larger proportion of the dataset than positive sentiment.

From a broader analytical perspective, the sentiment distribution illustrates how macroeconomic events are interpreted through personal and social experiences rather than through formal economic indicators alone. Users appear to evaluate exchange rate fluctuations according to anticipated consequences for daily life, creating sentiment structures that differ from conventional financial assessments. Such observations reinforce the value of sentiment analysis as a complementary instrument for capturing public perceptions that may remain invisible within traditional economic statistics. The findings also establish an empirical foundation for evaluating the effectiveness of the Naive Bayes classification model in the subsequent analysis stage (Han et al., 2012; Rahmadani et al., 2022).

Classification Performance and Reliability Assessment of the Naive Bayes Framework

The effectiveness of the Multinomial Naive Bayes model was evaluated using an independent testing dataset in order to determine its capacity to classify sentiment categories within TikTok comments related to exchange rate discussions. The evaluation process employed a confusion matrix together with multiple performance indicators that measured predictive consistency across unseen observations. Such an approach is consistent with established data mining principles emphasizing the importance of objective model validation through out of sample testing procedures (Han et al., 2012). The resulting metrics provide insight into both the strengths and limitations of probabilistic classification when applied to economic discourse extracted from social media environments.

The experimental results revealed a classification accuracy of 99.5 percent, indicating that nearly all testing instances were assigned to the correct category according to the generated labels. At first glance, this outcome suggests exceptional predictive capability and computational reliability. Similar levels of performance have been reported in studies utilizing Naive Bayes for sentiment classification tasks involving user generated content, where probabilistic learning effectively captured dominant lexical patterns within textual datasets (Rahmadani et al., 2022). The observed accuracy demonstrates that the algorithm successfully learned the statistical relationships embedded within the training corpus.

From a probabilistic perspective, the strong performance of the classifier reflects the ability of Naive Bayes to estimate posterior probabilities efficiently despite relatively simple computational assumptions. The independence assumption allows the algorithm to process large textual feature spaces without excessive computational complexity, making it suitable for

social media sentiment analysis applications (Han et al., 2012). Previous evaluations have similarly shown that Naive Bayes remains competitive when compared with more sophisticated classifiers under specific textual conditions (Leandro & Fianty, 2025). The findings reinforce the continuing relevance of Bayesian learning frameworks within contemporary sentiment analysis research.

The confusion matrix provided additional evidence regarding model behavior beyond the accuracy metric alone. Most observations belonging to the majority class were classified correctly, producing very small classification errors during testing. This pattern indicates a high degree of consistency between training data characteristics and model predictions. Comparable outcomes were observed in economic sentiment classification studies where Naive Bayes effectively recognized dominant sentiment categories because of their strong lexical representation within the corpus (Panggabeanan, 2025).

A broader evaluation of model performance is presented in Table 2. The table summarizes the primary validation metrics used to assess predictive quality and classification reliability. These indicators collectively provide a more comprehensive understanding of model effectiveness than accuracy alone. Multi metric evaluation has become a standard practice in sentiment analysis because different indicators capture different dimensions of predictive performance (Zakaria et al., 2023).

Table 2. Performance Evaluation of the Naive Bayes Classification Model

Metric	Score
Accuracy	99.5%
Precision	1.00
Recall	1.00 (Negative Class)
F1 Score	1.00 (Negative Class)

Source: Processed by Authors from Experimental Results, 2026.

The results presented in Table 2 indicate that precision, recall, and F1 score reached perfect values for the dominant class identified during model testing. Such outcomes imply that the classifier rarely generated incorrect predictions when assigning observations to that category. Despite these encouraging indicators, the interpretation of perfect scores requires careful consideration because evaluation metrics may be strongly influenced by underlying data characteristics. Research comparing machine learning algorithms has repeatedly emphasized that high metric values do not automatically guarantee balanced predictive performance across all classes (Rizki et al., 2025).

A critical issue emerging from the evaluation concerns the substantial class imbalance present within the dataset. Machine learning models trained on highly uneven class distributions often develop a tendency to prioritize the majority category because it contributes most strongly to the optimization process. This phenomenon can create an accuracy paradox in which apparently excellent results conceal weaknesses in recognizing minority observations. Similar methodological challenges have been reported in sentiment classification studies involving social media data and consumer review platforms (Nurian et al., 2024).

The reliability of the model should therefore be interpreted in relation to both predictive success and dataset composition. High accuracy reflects strong conformity between model outputs and available labels, yet it does not necessarily indicate comprehensive sensitivity toward underrepresented classes. Investigations comparing Naive Bayes with alternative classification approaches have highlighted that evaluation should extend beyond aggregate performance indicators and include careful inspection of class specific outcomes (Hu & Wang,

2025). Such considerations are particularly important when sentiment categories exhibit substantial numerical asymmetry.

The present findings also contribute to broader discussions regarding Bayesian inference within text classification. The theoretical foundation of Naive Bayes relies on probability updating mechanisms that transform observed linguistic evidence into class predictions through posterior estimation procedures (Lee, 2023). This framework offers transparency and interpretability that remain attractive for applied sentiment analysis despite the emergence of more complex machine learning architectures. The ability to generate highly stable predictions while maintaining computational efficiency continues to represent a significant advantage of Bayesian classifiers.

Comparison with previous studies further supports the robustness of the obtained results while simultaneously revealing important methodological considerations. Research examining sentiment analysis in digital marketplaces, investment applications, and economic discussions frequently reports that Naive Bayes achieves reliable predictive outcomes under conditions characterized by structured textual features and relatively consistent lexical patterns (Pradana & Ruldeviyani, 2023; Panggabeanan, 2025). Evidence from TikTok based sentiment investigations similarly indicates that Bayesian approaches remain effective for large scale social media classification tasks (Rahmadani et al., 2022). The current results extend this body of knowledge by demonstrating that Naive Bayes can achieve substantial predictive reliability in the context of exchange rate related discourse while also illustrating the importance of interpreting evaluation metrics alongside dataset balance and class representation.

Methodological Implications of Social Media Based Sentiment Intelligence for Macroeconomic Monitoring

The findings extend the growing body of research that positions social media platforms as valuable observational environments for understanding public responses to economic phenomena. TikTok comments provide a continuous stream of spontaneous textual expressions that emerge in close temporal proximity to ongoing economic events. The responsiveness of user generated content creates opportunities for capturing collective reactions that may not be immediately observable through conventional survey instruments. Similar observations have been reported in studies emphasizing the expanding role of social media analytics in behavioral and economic research environments (Field et al., 2024).

The empirical evidence demonstrates that economic discussions circulating through social media contain information that can be transformed into measurable sentiment indicators. Such indicators offer an additional analytical layer for examining public interpretation of exchange rate fluctuations and other macroeconomic developments. Research on financial sentiment has shown that public discourse often reflects expectations and perceptions that influence economic decision making processes (Iqbal et al., 2023). The present findings support the argument that sentiment extraction techniques can contribute to broader economic intelligence systems.

From a methodological perspective, the integration of natural language processing with economic discourse analysis provides a scalable framework for monitoring large volumes of unstructured text. Social media environments generate information at a rate that exceeds the capacity of traditional manual content analysis approaches. Computational methods therefore become increasingly relevant for transforming textual observations into structured analytical outputs (Ma et al., 2024). The present experiment illustrates how machine learning techniques can facilitate this transformation within a social media context.

The relevance of TikTok as a data source is associated with its high user engagement and extensive interaction ecosystem. Prior studies have highlighted that platform specific communication patterns often reveal unique forms of public participation and opinion

formation (Leung et al., 2022). Economic topics discussed through short form digital content frequently stimulate rapid audience reactions that are preserved in comment sections. These characteristics strengthen the value of TikTok derived datasets for sentiment oriented investigations.

The broader implications of the empirical findings are summarized in Table 4. The table synthesizes major analytical dimensions emerging from the experiment and links them with their potential research contributions. Each dimension highlights how sentiment analysis can support future economic monitoring activities while identifying methodological considerations that require further refinement. Similar analytical frameworks have been proposed in studies examining large scale social media intelligence systems (Mehmood, 2024).

Table 3. Methodological Implications of Social Media Sentiment Analysis for Economic Monitoring

Analytical Aspect	Empirical Finding	Research Implication
Social Media Data	High responsiveness	Real time monitoring
Economic Sentiment	Predominantly negative	Public perception mapping
Naive Bayes	Efficient classification	Computational scalability
Informal Language	High variation	Advanced preprocessing required

Source: Developed by Authors Based on Empirical Findings, 2026.

The evidence presented in Table 3 indicates that social media analytics possesses substantial potential for supporting economic observation activities. High responsiveness enables researchers to capture reactions shortly after economic information becomes publicly available. Public perception mapping may complement conventional economic indicators by providing insight into societal interpretations of macroeconomic events. Computational scalability further increases the feasibility of monitoring extensive datasets generated across digital platforms.

An important implication concerns the possibility of developing sentiment based early warning systems for economic analysis. Previous investigations have demonstrated that large scale textual signals can provide useful information regarding emerging social and economic trends (Ma et al., 2024). Public reactions expressed through digital communication channels may serve as supplementary indicators of perceived economic uncertainty. The present findings suggest that sentiment intelligence deserves greater attention within future economic monitoring frameworks.

Several limitations identified during the experiment also provide valuable methodological lessons. User generated comments frequently contain abbreviations, spelling variations, nonstandard vocabulary, and informal linguistic constructions. Such characteristics complicate feature extraction procedures and may influence classification quality if preprocessing strategies remain limited. Studies by Sperduti and Moreo (2025) and Sperduti and Moreo (2026) emphasize that misspellings continue to represent a significant challenge within contemporary natural language processing research.

Another limitation originates from the use of rule guided sentiment labeling. Lexicon based procedures offer practical advantages during dataset preparation but may fail to capture contextual nuances embedded in complex economic discussions. Certain comments can express evaluative meanings without containing explicit sentiment keywords. Research comparing advanced text classification architectures has shown that richer semantic representations often improve contextual understanding beyond simple lexical approaches (Nisa et al., 2026).

Future investigations may benefit from integrating more sophisticated language models and richer feature engineering strategies. Comparative studies on exchange rate related discourse indicate that advanced machine learning approaches are increasingly effective for capturing subtle sentiment patterns within financial conversations (Indrayuni et al., 2025). The use of improved data management frameworks and visualization environments may further strengthen analytical transparency and reproducibility, particularly through tools grounded in modern computational ecosystems (McKinney, 2010; Waskom, 2021). Findings from digital discourse studies also suggest that expanding sentiment analysis toward broader socioeconomic topics may generate valuable theoretical contributions to the understanding of collective economic behavior in online environments (Durmus Senyapar, 2024; Lee et al., 2023).

CONCLUSION

The findings demonstrate that TikTok constitutes a valuable source of economic discourse capable of capturing public reactions to exchange rate fluctuations in near real time. Through a structured machine learning framework, the Multinomial Naive Bayes algorithm successfully identified sentiment patterns within user generated content and achieved strong classification performance under a computationally efficient architecture. The results also reveal that performance indicators must be interpreted carefully because class imbalance and rule based labeling can influence predictive behavior and limit the representation of sentiment diversity. Beyond its classification capability, the study confirms the broader relevance of social media analytics for understanding public perceptions of macroeconomic developments and for supporting sentiment based economic monitoring. Methodologically, the research contributes empirical evidence regarding the applicability of probabilistic text classification to economic discussions on digital platforms while emphasizing the importance of advanced preprocessing, balanced datasets, and richer linguistic representations for future investigations. These insights reinforce the growing role of natural language processing as a scientific instrument for extracting economic intelligence from large scale social media interactions.

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