

# Empirical Analysis on the Relationship Between Labubu's Price and Its Popularity Across Multiple Online Platforms

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## ABSTRACT

This study takes the designer toy brand Labubu as its research subject, and explores the influence mechanisms of multi-platform online popularity on its market price. By collecting popularity data from Bilibili, Dewu, and Google Trends between May and July 2025, and integrating them with Xianyu secondary market price data, this study applies correlation analysis, multiple linear regression, and the Granger causality test to analyze the dynamic impacts of different communication platforms on price fluctuations. The results show that Google search popularity has a significant positive predictive effect on Labubu's price, indicating that an increase in online attention subsequently drives up market prices. Bilibili popularity is negatively correlated with price, reflecting an obvious time lag between video content production and market responses. Meanwhile, the influence of Dewu platform popularity on price remains relatively limited.

## KEYWORDS

Labubu; Multiple linear regression; Granger causality test

## 1 Introduction

In recent years, the "designer toy" market has swept across the internet. Its unique characteristics of collectability and social media-driven communication have led to dramatic price fluctuations, making it a hot spot for both cultural and economic observation. Labubu, a character under Pop Mart, combining "ugly-cute" aesthetics, the blind-box sales mechanism, celebrity endorsements, and social media virality, sparks an intense craze among young consumers. As a typical case, Labubu not only advanced the blind-box business model but also became an important subject for understanding modern consumer behavior and online communication mechanism.

By 2025, Labubu's popularity was no longer limited in the niche of designer toys and evolved into a broader cultural phenomenon. According to report, Labubu's popularity has significantly boosted Pop Mart's market valuation, making it one of the most valuable designer toy companies in the world. Through a combined strategy of "blind boxes + sense of scarcity + social media hype," Pop Mart has created a consumption frenzy that attracts attention and sparks controversy. From celebrity endorsements by figures like BLACKPINK's Lisa and Rihanna, to limited-edition releases that trigger long queues and advancing resale prices, Labubu's popularity continues to grow. This is accompanied by phenomena such as counterfeit proliferation, legal regulation, and social debate.

Under this background, we adopt an interdisciplinary perspective that connects communication studies and economics, focusing on the price fluctuations of Labubu and exploring how online popularity influences market behavior. In particular, we take three representative platforms as analytical entry points: the popularity of videos on Bilibili represents the impact of visual social media dissemination, the engagement level of image-text posts on Dewu represents the influence of community-based interaction, and the Google Search Index represents an indicator of information seeking and public attention. Using 2025 as the observation period, we trace the relationship between the popularity on these three platforms and the secondary market prices on Xianyu. By applying methods such as lag effect analysis, trend synchronization, and the Granger causality test, we deeply investigate the temporal correlations between communication dynamics and price fluctuations.

The reason this study focuses on Labubu is its strong representativeness: it is both a phenomenal IP in the designer toy market and a mirror of the driving mechanism of collective consumption driven by social media. In particular, throughout 2025, Labubu repeatedly made headlines, being called "the Birkin bag of the blind box world," and becoming a trend symbol for young people's self-expression and status display. Meanwhile, the casino-like psychological design behind the blind-box mechanism makes its price highly dependent on online hype cycles, earning it the nickname of a "legal dopamine casino."

This study selects Labubu as a novel research subject in the field of designer toy culture, and analyzes three communication channels (Bilibili video popularity, Dewu community interaction, and Google search trend) to comprehensively examine their mechanisms in influencing secondary market pricing. The findings reveal that after data smoothing and lag control adjustments, Google search popularity exhibits a significant predictive ability on Labubu's price, showing that an increase in online attention tends to subsequently drive price growth in the market. In contrast, the trend of Bilibili's video popularity shows a weaker or even inverse correlation with price, which may be attributed to the

longer time lag inherent in video production and dissemination. Meanwhile, fluctuations in Dewu engagement appear to have a more limited impact on price variation. By incorporating the Granger causality test, this study further establishes a causal relationship between Google search trends and price changes. These findings not only enrich our theoretical understanding of “popularity-driven pricing” within communication studies, but also provide empirical reference for marketing strategies in the designer toy market: for example, real-time search-driven attention mechanisms are more likely to trigger price surges in the secondary market, whereas video platforms, though effective in generating buzz, rely more heavily on content timeliness and promotion rhythm.

## 2 Literature Review

In recent years, a large number of empirical research has demonstrated that online popularity exerts a significant influence on both product prices and financial markets. Galanova and Epifanova (2022), taking luxury fashion brands as examples, found that after high-profile influencers posted photos of related products, the corresponding companies experienced short-term abnormally positive stock returns. Ranco et al. (2015), using an event study to examine the relationship between Twitter sentiment and abnormal stock returns, found that during periods of “viral attention,” there was an obviously statistical link between social media sentiment and price fluctuation, as confirmed by Granger causality tests. In the field of consumer behavior, Zhang et al. (2024) investigated how social media influencers affect consumer emotions, revealing the central role of social platforms in shaping purchasing expectations and market responses. Similarly, large-scale studies have shown that about 70% of consumer decisions are significantly influenced by social media, particularly in real-time attention and search-driven consumption behaviors. Within the broader context of market behavior, Nagy (2025) used fuel panic buying as a case study, conducting a time-series causality test between online media exposure and panic buying behavior, and found a significant causal relationship between the two variables. Additionally, Corry (2024) analyzed the influence of Twitter sentiment on the stock prices of Canadian energy companies, and found that although the overall correlation was weak, during periods of high attention, social media sentiment exhibited strong predictive power. Church and Oakley (2017) found that on handcrafted e-commerce platforms such as Etsy, sellers with strong social media management skills can effectively enhance their product pricing power. Ghezze et al. (2022), by empirically tracking the co-movements between GME stock prices and social media popularity, found that social media attention is a direct driver of price escalation.

From a theoretical perspective, the mechanisms of social communication, information diffusion, and market sentiment are key to explaining the relationship between online popularity and price fluctuations. Communication theories suggest that social media platforms can influence consumer decision-making pathways by accelerating information diffusion, while market expectation and herd behavior effects in economic behavior models provide an explanation for the mechanism of price responses following the spread of online popularity. Moreover, Granger causality, as a method for testing whether “popularity precedes price,” serves as an important tool for measuring the temporal relationship between communication dynamics and market behavior. Building on this theoretical foundation, this study draws upon the above methods and findings to construct a multi-platform, multi-lag collaborative model between Labubu’s price and online popularity. From a communication perspective, it empirically reveals the hotspot-guiding mechanisms within the designer toy market.

## 3 Data and Methods

### 3.1 Data Sources and Description

All data used in this study were manually collected, covering Labubu’s online popularity and market prices from May 1, 2025, to July 31, 2025. Specifically, the Bilibili popularity index is measured by “view count.” Accordingly, the top 100 videos with the highest view counts during the period were selected for analysis. Similarly, the Dewu popularity metric is represented by “likes,” and the top 100 most-liked records were also included. Google popularity is measured using the Google Trends search index for the China region, recorded on a daily basis. Labubu’s price data are based on the daily average transaction price in the second-hand market on the Xianyu platform. To enhance data comparability and robustness, a 7-day moving average was applied to smooth all popularity and price data across platforms. In the subsequent empirical analysis, one-period and multi-period lag variables were introduced to examine the dynamic influence of different popularity platforms on price fluctuations.

### 3.2 Empirical Analysis Methods

This study primarily employs two statistical methods—multiple linear regression analysis and the Granger causality test

—to examine the dynamic influence of online popularity across different platforms on Labubu’s market price. Multiple linear regression is a classical analytical approach used to describe the relationship between a dependent variable (in this study, the secondary market price of Labubu) and multiple independent variables (such as popularity indicators from Bilibili, Dewu, and Google platforms). By introducing lagged terms of the independent variables, we can analyze how prior fluctuations in platform popularity affect and predict the current price level. The basic model can be expressed as follows:

$$\text{Price}_t = \beta_0 + \beta_1 \text{Bili}_{t-1} + \beta_2 \text{Dewu}_{t-1} + \beta_3 \text{Google}_{t-1} + \epsilon_t \tag{1}$$

Here,  $\beta_1 \text{Bili}_{t-1}$  represents the popularity of Bilibili,  $\beta_2 \text{Dewu}_{t-1}$  represents the popularity of Dewu, and  $\beta_3 \text{Google}_{t-1}$  represents to the Google search popularity index. The Granger causality test is employed to determine whether the historical information of one time series variable can effectively improve the prediction accuracy of another variable. By comparing the predictive performance of models that use only a variable’s own lagged values with those that also include the lagged values of other variables, the test evaluates whether, for instance, Google search popularity “Granger-causes” changes in Labubu’s price in a statistical sense, thereby identifying whether a dynamic causal relationship exists between the two.

## 4 Empirical Results

### 4.1 Correlation and Trend Analysis

The following table presents the correlation coefficient matrix between Labubu’s price and the popularity indices of each platform:

Table 1 Variable Correlations

	Price	Bili	Dewu	Google
Price	1.00000000	0.02978588	0.2122953	0.2995968
Bili	0.02978588	1.00000000	0.2955227	0.4027122
Dewu	0.21229531	0.29552267	1.0000000	0.4927116
Google	0.29959682	0.40271218	0.4927116	1.0000000

As shown in the table, Google popularity exhibits the highest correlation coefficient with Labubu’s price (0.30), followed by Dewu popularity (0.21), while the correlation between Bilibili popularity and price is extremely weak (0.03). In addition, there exists a certain degree of positive correlation among the popularity indicators across platforms, with a particularly strong relationship between Dewu and Google (0.49). This result provides preliminary evidence that Google search popularity shows a stronger synchronous fluctuation relationship with Labubu’s price among the three platforms.

However, overall, none of the correlation coefficients reach a particularly high level, indicating that a single popularity indicator is insufficient to fully explain price fluctuations, suggesting the necessity of multivariate regression and lagged analysis.

The figure below presents the time-series trends of Labubu’s price and the popularity levels of the three major platforms over the period from May 1 to July 31, 2025:

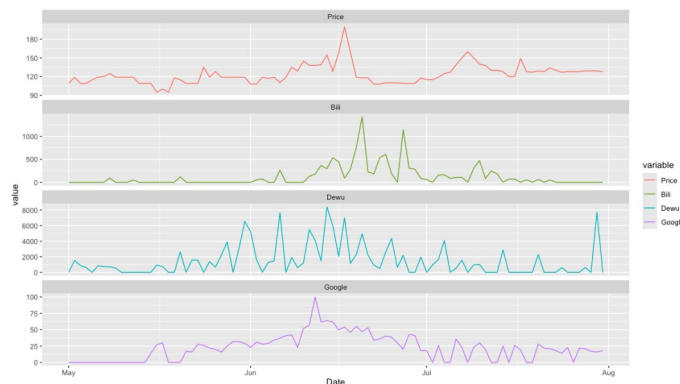


Figure 1 Continuous Trends of Price and Popularity

From the trend chart, it can be observed that Labubu’s price experienced multiple fluctuations and several local peaks throughout the sample period. Among these, the major peaks in Google popularity show a relatively synchronous trend with the price peaks, that is, an increase in the Google Search Index is often accompanied by a rise in price, which is consistent with the correlation analysis results. The Dewu popularity index also exhibits fluctuations similar to price during certain time periods, though its overall correlation remains relatively weak. In contrast, Bilibili popularity

demonstrates a clear lagging effect, which means that most of its popularity peaks appearing after the price peaks, indicating that there may be a longer time lag between information dissemination and content production on Bilibili and the corresponding price changes. These phenomena provide empirical evidence for the subsequent lagged regression and causality tests, and also demonstrate the differences in how the communication rhythms of different platforms affect market prices.

### 4.2 Regression Analysis

The results of the multiple linear regression equation are as follows:

$$\text{Price}_t = 117.39 - 0.043 \text{Bili}_{t-1} - 0.0037 \text{Dewu}_{t-1} + 0.762 \text{Google}_{t-1} + \epsilon_t \tag{2}$$

There exists a significant positive relationship between Google popularity (Google\_ma\_lag1) and Labubu’s secondary market price (coefficient = 0.762,  $p = 0.00156$ ). This indicates that, after controlling other variables and introducing a one-period lag, an increase in Google search popularity can significantly predict a rise in Labubu’s price. In other words, when Labubu-related topics receive greater attention on Google on the previous day, the secondary market price is more likely to increase the following day, reflecting the short-term driving effect of online search behavior on market prices. This finding is consistent with the previous correlation and trend analyses, emphasizing the market sensitivity of Google search as a channel for real-time attention.

In contrast, the coefficient of Bilibili popularity (Bili\_ma\_lag1) is -0.043 and significantly negative ( $p = 0.00143$ ), indicating that, under otherwise identical conditions, Bilibili popularity is negatively correlated with Labubu’s price. This counterintuitive result may be related to the timing of content production and dissemination on the Bilibili platform. Since highly popular videos on Bilibili are often produced and disseminated after the market has already reached a price peak or changed, the peaks in Bilibili popularity tend to lag behind price fluctuations, showing a phenomenon of content reproduction or reposting during the market downturn period.

As for Dewu popularity (Dewu\_ma\_lag1), its coefficient is also negative (-0.0037) but statistically insignificant ( $p = 0.19$ ), indicating that the Dewu platform’s popularity has a relatively weak explanatory power for Labubu’s price variations. A possible reason is that interactions on the Dewu community mainly focus on user-generated activities, such as sharing purchase experiences and posting reviews, making it difficult to exert a strong influence on market prices.

Overall, Google popularity possesses a short-term predictive power for market prices, while Bilibili popularity reflects the lagging nature and inverse effect of content production, and the market influence of Dewu popularity remains limited. This result not only confirms the heterogeneity of dissemination mechanisms across platforms, but also provides a theoretical and empirical foundation for subsequent causality tests and market strategy research.

The figure below presents the fitting performance analysis of the multiple linear regression model. In Figure 2 (upper left), the residuals fluctuate around zero, the QQ plot in Figure 2 aligns well with the theoretical distribution, and the two plots at the bottom of Figure 2 indicate the absence of heteroskedasticity and outliers. These results collectively demonstrate the reliability of the model’s fitting outcomes.

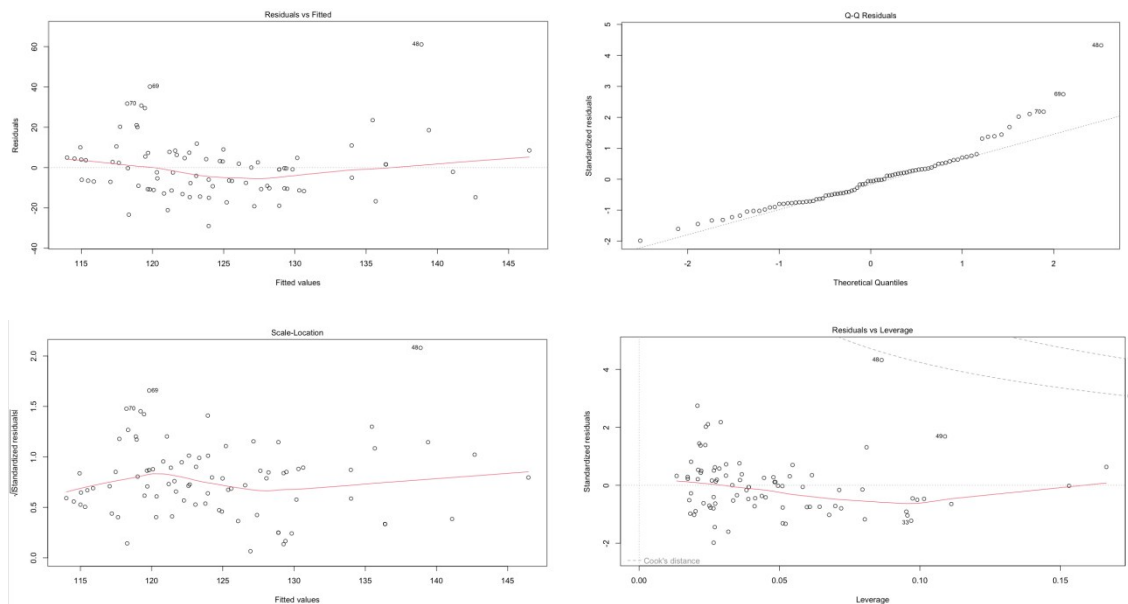


Figure 2 Goodness-of-Fit Analysis of the Multiple Linear Regression Model

### 4.3 Granger Causality Test

To further examine the dynamic influence mechanism of Google search popularity on Labubu's price, this study employs the Granger causality test. The test results show that the Granger causality from Google popularity to price is highly significant ( $F = 6.77, p = 0.0002$ ), clearly rejecting the null hypothesis that "Google popularity cannot predict price fluctuations." This implies that, during the sample period, changes in Google search popularity exert a significant predictive effect on subsequent fluctuations in Labubu's price, providing empirical support for the lag effect of "Google popularity leading, price responding." It is worth noting that the result of the instantaneous causality test is not statistically significant ( $p = 0.28$ ), further indicating that the influence of Google popularity does not occur simultaneously, but rather emerges after a certain time lag. This finding not only confirms the key role of Google as an external information barometer in the price formation process of designer toys, but also provides methodological support for future efforts to monitor and forecast market trends of trendy collectible products based on external online popularity data.

## 5 Conclusion

This study takes Labubu, a phenomenal designer toy of 2025, as a case study, and systematically examines the influence mechanisms of popularity across Bilibili, Dewu, and Google platforms on the secondary market price. Through correlation analysis, multiple linear regression (with lag terms), and Granger causality testing, the following key conclusions are drawn. First, Google popularity shows a significant predictive effect on Labubu's price, making it the most prominent leading indicator of price movement among the three platforms. The regression results indicate that an increase in the Google Search Index significantly raises Labubu's secondary market price with a one-period lag, and this relationship exhibits strong statistical significance in the Granger causality test. This finding demonstrates that external online information wind vanes (such as Google Trends) possess a forward-looking guiding effect on the pricing dynamics of the designer toy market, indicating that an increase in consumer attention tends to drive actual transaction prices upward.

Secondly, Bilibili popularity exhibits a significant negative correlation with Labubu's price, and the coefficient reaches a statistically significant level. This result appears to contradict the intuitive assumption that higher popularity drives price increases, but it can be reasonably explained by considering the time lag in content production and dissemination. As a video-based platform, Bilibili's popularity peaks often occur after Labubu's price has reached its market high, which may be because content creators tend to release related videos only after market fluctuations have already occurred, or because content production and distribution require a certain time cycle, causing popularity to lag behind actual market changes. Therefore, Bilibili popularity does not possess predictive power for future price movements, but rather reflects market attention and post-event content reproduction following price fluctuations. Third, the Dewu platform's popularity has only a limited influence on Labubu's price. Neither the correlation coefficient nor the regression coefficient of Dewu likes shows statistical significance. This may be related to the interaction mechanism and content types of the Dewu platform, as its popularity mainly stems from user-generated posts and reviews, which are relatively fragmented in influence and thus unable to strongly drive market prices.

Theoretically, this study expands the research paradigm at the intersection of communication and economics, focusing on how online popularity drives market prices. First, through multi-platform and multi-indicator empirical analysis, it verifies that external information attention—particularly real-time search popularity—can effectively predict secondary market prices of consumer goods, thereby providing empirical support for the information diffusion–market feedback mechanism. The significant causal effect of Google search reveals the "search-before-purchase" psychology of consumers and the spillover influence of online attention in guiding price formation. At the same time, the negative correlation of Bilibili popularity reminds us that content production lag and secondary dissemination effects are also critical variables affecting market prices, thus enriching the theoretical framework that traditionally assumes a positive correlation between media popularity and price movements.

On a practical level, these findings provide important implications for brand owners, sales platforms, and content creators in the designer toy market. For brands and marketers, greater attention should be given to the guiding role of external online popularity in shaping market expectations, and to make good use of popularity monitoring search platforms such as Google to achieve forward-looking market forecasts and timely responses. For content creators and social media platforms, improving the synchronization between content production and market trends can help enhance their market influence and agenda-setting power. A multi-platform coordination strategy suggests that brands and platforms should collaborate for marketing: by coordinating search trends, short-video content, and community discussions around the peak periods of online popularity, to amplify the viral momentum and strengthen brand and product influence. Meanwhile, market regulators and secondary trading platforms can utilize these insights to improve

price warning systems and public sentiment monitoring mechanisms, so as to curb excessive speculation and prevent information distortion.

In conclusion, online attention, communication rhythm, and platform mechanisms jointly shape the price formation process of designer toy markets such as Labubu. Future research could further incorporate more platforms, as well as structural event analysis and nonlinear modeling, to provide deeper insights into the complex relationships among popularity dynamics, information diffusion, and price fluctuations. The empirical findings of this study are not only applicable to the designer toy market, but also offer references and implications for price forecasting and marketing management in other markets, such as fast-moving consumer goods, collectibles, and even financial assets.

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