

A Literature Review on the Impact of Macroeconomic Expectations on Equity Risk Premium

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Abstract. This paper systematically reviews domestic and foreign literature on the correlation between macroeconomic expectations and equity risk premium, sorting out their definitions, measurement methods, transmission channels, heterogeneous characteristics and cutting-edge research. Macroeconomic expectations affect equity risk premium through three major channels: corporate earnings, discount rate, as well as uncertainty and risk appetite, while research conclusions diverge due to different measurement approaches and market environments. The measurement tools of core variables have evolved from traditional surveys and macro proxies to text mining and large language models. Current studies are limited by inconsistent measurement criteria, insufficient identification of transmission mechanisms and shallow application of artificial intelligence. Future research shall promote integrated and standardized indicators, refine channel identification, conduct localized analysis based on China's capital market, and deepen the application of large language models in asset pricing, so as to provide theoretical support for market investment, policy expectation management and financial stability.

Keywords: Macroeconomic Expectations, Equity Risk Premium, Asset Pricing, Textual Analysis, Large Language Models.

1. Introduction

1.1. Research Background

Equity risk premium refers to the extra return investors demand for bearing systematic risks in the stock market, serving as a key entry point for understanding stock pricing and market volatility. Against the backdrop of rising uncertainty in the macroeconomic environment, investors' expectations of future macro variables such as economic growth, inflation and interest rate policies have gradually evolved into critical factors influencing financial markets. Macroeconomic expectations not only shape judgments of corporate future earnings, but also act on equity risk premium via discount rate and risk appetite channels, which necessitates a systematic review of relevant studies. Amid intensified global economic cycle fluctuations, frequent policy adjustments and mounting market uncertainty, the impact of macroeconomic expectations on asset prices has become increasingly prominent, functioning as a vital bond linking the macroeconomy and capital markets. The stock market plays an irreplaceable role in resource allocation, wealth management and financing channels, and its pricing efficiency and risk level are directly tied to the stability of the financial system and the development of the real economy. As a core variable in asset pricing, equity risk premium reflects the overall market demand for risk compensation, and its dynamic changes not only mirror shifts in investors' risk attitudes, but also embed judgments of future economic fundamentals and policy environments.

Macroeconomic expectations are forward-looking judgments formulated by market participants regarding future economic growth, inflation, interest rates, monetary and fiscal policies, as well as industrial development trends based on available information, featuring forward-looking nature, uncertainty and information dependence. Under the realistic conditions of incomplete information and bounded rationality, the formation and adjustment of expectations directly alter investors' decision-making logic, thereby affecting asset valuation and risk pricing. When macroeconomic expectations turn optimistic, investors generally raise forecasts of corporate earnings and boost risk

appetite, lowering the risk compensation they require; when expectations deteriorate or divergences widen, market risk aversion surges and risk premium rises accordingly. In recent years, China's economic structural transformation has deepened continuously, capital market opening-up has advanced steadily, and policy regulation has attached greater importance to expectation guidance, making the influence of macro expectations on the stock market more pronounced. Meanwhile, the investor structure has been continuously optimized, information spreads at an accelerated pace, and the feature of expectation-driven market volatility has become more evident. Nevertheless, discrepancies in measurement methods, sample selection and mechanism identification among existing studies lead to inconsistent conclusions. Therefore, systematically sorting out research outcomes concerning the impact of macroeconomic expectations on equity risk premium, summarizing consensus and divergences, and clarifying directions for future research carry profound theoretical and practical value.

1.2. Research Significance

1.2.1. Theoretical Significance

Theoretically, systematically reviewing literature on macroeconomic expectations and equity risk premium helps refine the research system at the intersection of macro-finance and asset pricing. Firstly, this review clearly defines the connotations of macroeconomic expectations and equity risk premium, and integrates mainstream measurement approaches, offering a unified conceptual framework and methodological reference for subsequent research. Secondly, summarizing the transmission channels through which macroeconomic expectations affect equity risk premium helps reveal the formation mechanism of time-varying risk premium, making up for the deficiency of traditional asset pricing models that ignore expectation factors. Thirdly, sorting out heterogeneous performances under diverse market environments and different types of expectations can strengthen the explanatory power and applicability of theoretical models, promoting theoretical research to better align with real market operations. Finally, incorporating cutting-edge methods such as textual analysis and large language models facilitates the expansion of expectation measurement from structured data to unstructured data, enriches tools and perspectives for macro-finance research, and provides theoretical support for studies on macro expectations and asset pricing under China's institutional context.

1.2.2. Practical Significance

Practically, this research delivers important reference value for investors, policy makers and regulatory authorities. For investors, understanding the relationship between macroeconomic expectations and equity risk premium helps them grasp the logic of market fluctuations, optimize asset allocation strategies, improve risk management capabilities, and identify investment opportunities amid shifting expectations. For policy makers, clarifying the transmission mechanism of expectations on asset pricing contributes to enhancing the effectiveness of expectation management, stabilizing market sentiment through policy communication, mitigating excessive volatility in financial markets, and boosting the transmission efficiency of monetary policy and macroprudential policies. For regulatory authorities, mastering the rules governing expectation-driven changes in risk premium helps improve information disclosure systems, raise market transparency, and guard against systemic risks triggered by expectation bias and irrational trading. For China's capital market undergoing transformation and development, relevant research can provide empirical evidence and practical enlightenment for lifting pricing efficiency, protecting investor interests, and advancing the capital market's capacity to serve the real economy.

1.3. Ideas and Structure of This Literature Review

This paper proceeds following the logic of “concept definition – sorting of measurement methods – summary of impact effects – analysis of transmission mechanisms – literature evaluation – prospects for future research”. It first defines the connotations of macroeconomic expectations and equity risk

premium, and sorts mainstream measurement methods for the two core variables; second, it summarizes the direct impacts, transmission mechanisms, heterogeneous characteristics and cutting-edge research progress regarding how macroeconomic expectations influence equity risk premium; third, it evaluates the contributions, deficiencies and potential causes of divergences in existing literature; finally, it puts forward directions for future research. The full text features a clear structure and rigorous logic, aiming to comprehensively present the research context of this field and provide references for follow-up studies.

2. The Concept and Measurement of Macroeconomic Expectations

Macroeconomic expectations are forward-looking judgments made by economic agents about future macroeconomic conditions and constitute an important link between the macroeconomy and financial markets. Unlike contemporaneous macroeconomic variables, macroeconomic expectations emphasize judgments about future economic growth, inflation, interest rates, employment, and policy changes; in essence, they represent subjective beliefs about the future macroeconomic environment. Expectations data have particular value in asset pricing because they can reflect the forward-looking judgments of investors and other economic agents more directly than macroeconomic data released *ex post*.

2.1. Conceptual Definition of Macroeconomic Expectations

Existing studies generally define macroeconomic expectations as judgments made by economic agents, on the basis of available information, about the future macroeconomic environment. These judgments mainly include expectations regarding economic growth, inflation, interest rates, business conditions, and policy changes. Although the terminology varies across the literature—with some studies emphasizing expectations of business conditions and others focusing on inflation or policy expectations—all of these concepts essentially refer to forward-looking judgments about future macroeconomic states. Adam and Nagel note that expectations data can directly characterize the subjective beliefs of economic agents and are therefore important for explaining asset prices and risk compensation. Manski further emphasizes that macroeconomic expectations are not only forward-looking but also probabilistic: economic agents often form judgments under uncertainty rather than producing single-point forecasts (Adam & Nagel, 2022; Manski, 2018).

Overall, macroeconomic expectations have three main characteristics. First, they are forward-looking, as their object is the future rather than the past. Second, they are uncertain, because expectations are often accompanied by probabilistic judgments and disagreement. Third, they are information-dependent, as their formation relies on survey information, macroeconomic data, news text, policy signals, and other sources. For this reason, the scientific measurement of macroeconomic expectations is a fundamental issue for subsequent research on their relationship with the equity risk premium.

2.2. Measuring Expectations Using Survey Data

The survey approach is the most traditional and direct method of measuring macroeconomic expectations. It generally collects judgments about future economic conditions through questionnaires administered to consumers, entrepreneurs, professional forecasting institutions, or analysts, and then uses the responses to construct expectation indicators. Common forms include consumer confidence indices, consumer expectations surveys, and surveys of professional forecasters. Manski points out that probabilistic surveys are especially important because they capture not only the direction of expectations but also individuals' perceptions of the distribution of future outcomes (Manski, 2018).

In practical applications, Dominitz and Manski argue that consumer confidence should not be interpreted merely as a vague sentiment; rather, it should be decomposed into expectation questions concerning specific variables such as income, unemployment, prices, and the broader economic

environment. Croushore and Stark's review of the Survey of Professional Forecasters likewise shows that such surveys track key variables—including GDP, inflation, unemployment, and interest rates—over long periods and therefore provide an important data foundation for research on macroeconomic expectations (Dominitz & Manski, 2004; Croushore & Stark, 2019).

Overall, the survey approach has the advantage of reflecting the subjective judgments of economic agents relatively directly while also capturing disagreement and uncertainty in expectations. Its limitations include restricted sample coverage, relatively low survey frequency, and the possibility that respondents' answers are affected by subjective biases. In recent years, some studies have attempted to use large language models to simulate household inflation-expectation surveys. These efforts suggest that generative models may serve as a useful supplement in expectation measurement, but they cannot yet replace actual surveys (Zarifhonarvar, 2026).

2.3. Measuring Expectations Using Macroeconomic Indicator Proxies

Compared with the survey approach, the macroeconomic indicator proxy approach relies more heavily on observable economic and financial variables to characterize changes in expectations indirectly. Its basic logic is that, although certain macroeconomic indicators are not themselves equivalent to expectations, they may reveal economic agents' judgments about future business conditions, inflation, interest rates, or the policy environment at an early stage and are therefore often treated as proxies for macroeconomic expectations. Common indicators include expectation components of the Purchasing Managers' Index (PMI), the term structure of interest rates, business climate indices, inflation-expectation indicators, and various leading macroeconomic indicators.

This approach is widely used in research on stock returns and the equity risk premium. Campbell and Diebold find a systematic relationship between expectations of business conditions and stock returns. Goyal and Welch systematically examine the predictive power of various macro-financial variables for the equity risk premium, demonstrating the important role of macroeconomic indicator proxies in asset-pricing research (Campbell & Diebold, 2009; Welch, & Goyal, 2008). In the Chinese context, the economic policy uncertainty index and several macroeconomic variables have also been shown to possess explanatory and predictive power for the equity risk premium (Li, 2017; Ma et al., 2023).

Overall, the macroeconomic indicator proxy approach offers strong continuity, readily available data, and suitability for long-horizon analysis. Its main limitation is that proxy variables are not equivalent to actual expectations. Researchers must assume that these variables provide a stable mapping of the forward-looking judgments of economic agents, which makes measurement error a particularly salient concern.

2.4. Measuring Expectations Using Textual Information

With the development of digital text resources and text-mining techniques, text-based measurement has gradually become an important direction in research on macroeconomic expectations. Compared with survey-based and indicator-proxy approaches, text-based methods can extract judgments about future economic conditions directly from unstructured sources such as policy reports, central bank documents, financial news, brokerage research reports, and market commentaries. They therefore offer high frequency, fine granularity, and strong timeliness (Shapiro et al., 2022; Kalamara et al., 2022).

From the perspective of methodological evolution, text-based measurement has broadly progressed through four stages: human judgment, dictionary-based methods and sentiment analysis, machine learning and natural language processing, and large language models. Shapiro et al. show that news text can be systematically quantified into economic sentiment indicators. Kalamara et al. further find that newspaper text can improve macroeconomic forecasting.

In recent years, large language models have further advanced text-based measurement. Related studies indicate that LLMs have clear advantages in financial text comprehension, classification, summarization, and reasoning. Researchers have begun using LLMs to generate economic beliefs

from news or to decompose macroeconomic narratives into two sentiment dimensions—growth and inflation—and then apply them to macroeconomic forecasting, revealing considerable methodological potential (Lee et al., 2024; Bybee, 2025; Kwon et al., 2025; Carriero et al., 2024/2025).

Overall, methods for measuring macroeconomic expectations have expanded from traditional surveys and indicator proxies to text analysis and large language model approaches. These methods differ in their information sources, update frequencies, and degrees of subjectivity, which may also lead to differences in their explanatory power in studies of the equity risk premium. Therefore, after systematically reviewing the available measurement approaches, it is important to further analyze the effects of macroeconomic expectations on the equity risk premium and the mechanisms through which those effects operate.

3. The Concept and Measurement of the Equity Risk Premium

The equity risk premium is a core variable in asset-pricing research and a key channel through which macroeconomic expectations affect the stock market. Unlike directly observable variables such as stock returns and the risk-free rate, the equity risk premium is inherently the compensation investors require for future risk and is therefore forward-looking, time-varying, and unobservable. Research on the equity risk premium consequently addresses both its conceptual definition and its measurement using historical returns, financial predictors, survey expectations, textual information, and large language models.

The existing literature offers no single standard for measuring the equity risk premium. Traditional studies generally estimate risk compensation from realized returns and financial variables, whereas recent work increasingly emphasizes subjective expectations, news text, macroeconomic narratives, and expectations generated by artificial intelligence. Measurement choice is especially consequential when studying how macroeconomic expectations affect the equity risk premium because it directly shapes subsequent conclusions. Drawing on the existing literature, this paper examines four dimensions of the equity risk premium: its conceptual definition; measurement based on historical returns and financial variables; measurement based on survey and macroeconomic-expectations data; and forward-looking measurement based on text analysis and large language models.

3.1. Defining the Equity Risk Premium

The equity risk premium generally refers to the portion of expected equity returns above the risk-free rate, reflecting the additional compensation investors require for holding risky assets such as equities. Put differently, investors are willing to bear stock-market volatility, uncertainty about corporate earnings, and macroeconomic shocks because they expect returns higher than those on risk-free assets. This view suggests that the equity risk premium is determined not only by objective risk but also by investors' subjective beliefs and the mechanisms through which expectations are formed.

The equity risk premium is also clearly time-varying. Using half a century of Livingston Survey data on expected business conditions, Campbell and Diebold (2005) find that expected business conditions significantly affect expected excess stock returns and that the relationship is countercyclical: when expected business conditions are weak, expected excess returns tend to be higher. This finding indicates that the equity risk premium changes with the business cycle, investors' risk preferences, and assessments of future economic conditions. Evidence for the Chinese market from Li further shows that economic policy uncertainty commands a positive equity risk premium and that EPU factor loadings provide incremental predictive power for the cross-section of portfolio and individual-stock returns, indicating that policy expectations and the institutional environment also affect required risk compensation.

The equity risk premium can therefore be understood as an intermediary variable linking macroeconomic expectations to stock-market pricing. On the one hand, expectations concerning economic growth, inflation, interest rates, and the direction of policy affect firms' future cash flows

and discount rates. On the other hand, investors' perceptions of uncertainty alter their risk preferences and required compensation. Because the equity risk premium incorporates this forward-looking information, accurate measurement is a prerequisite for research in this area.

3.2. Measurement Based on Historical Returns and Financial Variables

The historical-return approach is the most intuitive method for measuring the equity risk premium. It subtracts the risk-free rate from the stock-market return, calculates the average excess return over a given sample period, and uses that average as an estimate of the equity risk premium. This method is easy to implement, requires relatively little data, and is suitable for long-run market comparisons and baseline empirical analysis. Nevertheless, it is inherently an *ex post* measure: it captures realized return differentials and may not represent investors' current required compensation for future risk.

Goyal and Welch (2004) systematically evaluate the empirical performance of equity-premium prediction using commonly employed variables such as the dividend-price ratio, dividend yield, earnings-price ratio, payout ratio, book-to-market ratio, interest-rate variables, and the consumption-wealth ratio. They show that many variables appear predictive in in-sample regressions, but their out-of-sample performance is unstable and may even fail to outperform the historical-mean benchmark. Their findings caution that although historical average returns and conventional financial variables are important starting points for measuring the equity risk premium, they may generate substantial error when used directly to forecast future risk compensation.

In addition to conventional financial variables, macro-financial conditions are often incorporated into frameworks for estimating the equity risk premium. Li introduces economic policy uncertainty into a multifactor asset-pricing model for the Chinese stock market and finds that stocks with high EPU exposure earn higher average returns. This result indicates that policy uncertainty is priced by the market and constitutes part of the equity risk premium. Unlike some findings for the U.S. market, the EPU risk premium is positive in China, possibly because of differences in investor composition, risk preferences, and policy sensitivity. Measuring the equity risk premium therefore requires attention not only to financial variables but also to the institutional setting and macroeconomic environment of the market under study.

Overall, measurement based on historical returns and financial variables has a clear empirical foundation but faces three limitations. First, historical returns are sensitive to the chosen sample period and extreme market movements. Second, financial predictors often lack out-of-sample stability. Third, differences in national and market structures can cause the same risk factor to be priced differently. These methods are therefore better suited as benchmarks for measuring the equity risk premium than as fully sufficient forward-looking indicators.

3.3. Measurement Based on Survey Data and Macroeconomic Expectations

Because the equity risk premium is the difference between expected equity returns and the risk-free return, survey expectations and macroeconomic-expectations data can capture its forward-looking nature more directly. In discussing the measurement of consumer confidence, Dominitz and Manski (2004) note that although traditional consumer-confidence indexes are widely used in public debate, their meaning is often vague. For economic research, such indexes should therefore be decomposed into specific expectations that are operational and quantifiable. Manski (2018) further emphasizes that probabilistic surveys of macroeconomic expectations can characterize individuals' subjective distributions over future economic events and thereby reveal heterogeneity in expectations.

Surveys of professional forecasters are another important source of data on macroeconomic expectations. Croushore and Stark (2019) review the development of the Survey of Professional Forecasters (SPF), which has long tracked expectations for macroeconomic variables such as GDP, inflation, unemployment, and interest rates and thus provides researchers with continuous and comparable expectation data. Compared with broad consumer-confidence measures, professional-forecaster surveys are better suited to analyzing how macroeconomic expectations enter financial-

market pricing because the variables being forecast are closely related to corporate earnings, discount rates, and policy paths.

Campbell and Diebold (2005) provide direct evidence linking survey expectations to the equity risk premium. They find that expected business conditions significantly explain expected excess stock returns and that once this variable is included, conventional financial predictors such as the dividend yield, default premium, and term premium lose explanatory power. Macroeconomic expectations thus contain information beyond that embedded in traditional financial variables and more directly capture the forward-looking component of the equity risk premium. Adam and Nagel (2022) likewise argue that changes in subjective return and cash-flow expectations explain a substantial share of stock-market fluctuations. Introducing expectations data into asset-pricing models is therefore an important direction for understanding how the equity risk premium is formed.

The principal advantage of survey data is that they permit direct observation of economic agents' subjective judgments, avoiding the need to infer expectations entirely from asset prices. Their limitations are also evident, however, and include low survey frequency, limited sample coverage, substantial variation in question design, and possible cognitive bias among respondents. Expectations are especially heterogeneous in research on the equity risk premium: consumers, professional forecasters, corporate managers, and investors may differ systematically in their assessments of future economic conditions. Survey data are therefore best combined with market prices, macroeconomic indicators, and textual information.

3.4. Forward-Looking Measurement Based on Textual Information

With the development of unstructured data and natural-language-processing methods, textual information has become an important complement in measuring macroeconomic expectations and the equity risk premium. News reports, policy documents, and financial commentary can reflect, at high frequency, market views about economic growth, inflation, employment, policy, and recession risk. Shapiro et al. (2020) construct a news-sentiment indicator from economic and financial news and show that dictionaries and models designed specifically for economic news capture optimism and pessimism in economic contexts more effectively than general-purpose sentiment tools. Such indicators can serve as proxies for changes in market expectations and risk appetite.

Kalamara et al. (2022) further show that newspaper text improves forecasts of macroeconomic variables such as GDP, inflation, and unemployment, with larger forecast gains during periods of economic stress. Using text analysis to construct an indicator of U.S. recession probabilities. These studies demonstrate that text can capture not only economic facts that have already occurred but also market assessments of future macroeconomic states. Because the equity risk premium typically rises when the economy weakens, policy uncertainty increases, and risk appetite declines, textual indicators can provide high-frequency information for its forward-looking measurement.

Text-based methods offer broad coverage, high frequency, and the ability to detect shifts in narratives before they appear in conventional macroeconomic data. For example, when news narratives increasingly emphasize recession, inflationary pressure, policy shifts, or financial risk, investors may demand greater risk compensation and the equity risk premium may rise accordingly. Text-based methods also face challenges, including dictionary selection, semantic ambiguity, media bias, and limited model interpretability. In research on the equity risk premium, textual indicators are therefore generally better used as complements to survey data and financial variables than as complete substitutes for traditional measures.

3.5. Methodological Extensions of Large Language Models in Measuring the Equity Risk Premium

In recent years, large language models have opened a new methodological path for measuring macroeconomic expectations and the equity risk premium. Compared with traditional dictionary-based methods, large language models can recognize more complex semantic relationships, contextual information, and economic narrative structures, allowing them to characterize market

assessments of future economic conditions in greater detail. Reviewing research on financial large language models, Lee et al. (2024) highlight their substantial potential for financial-text understanding, sentiment recognition, and information extraction, while also identifying challenges related to hallucination, privacy, efficiency, and domain adaptation.

Bybee (2025) applies a large language model to historical news to generate economic expectations. The generated expectations are strongly correlated with established survey expectations and also capture components that deviate from full-information rational expectations. More importantly, the study relates generated economic sentiment to industry bubbles and future returns, finding that industries with greater exposure to economic sentiment are more likely to experience subsequent crashes and return declines. Large-language-model-generated expectations may therefore characterize not only macroeconomic beliefs but also new variables for explaining the equity risk premium and market mispricing.

Kwon et al. (2025) use a large language model to decompose growth and inflation sentiment from news narratives and find that their macroeconomic sentiment indexes closely track hard data and improve the predictive performance of simple statistical models. Zarifhonarvar (2025) studies inflation expectations generated by large language models and shows that differences in model architecture produce different degrees of disagreement, while the processing of information such as forward guidance affects model-generated inflation expectations. Carriero et al. (2025) compare time-series language models with traditional macroeconomic forecasting methods and suggest that combining the structural discipline of econometric models with the nonlinear capabilities of language models may produce more robust macroeconomic forecasts. Although these studies do not all measure the equity risk premium directly, they provide a new technical foundation for constructing indicators of macroeconomic expectations.

Future applications of large language models to measuring the equity risk premium can proceed in three directions. First, news, policy documents, and research reports can be used to generate expectations concerning economic growth, inflation, policy, and recession. Second, the generated expectations can be combined with market returns, risk-free rates, and risk factors to estimate a time-varying equity risk premium. Third, the incremental explanatory power of large-language-model indicators can be compared with survey data, conventional textual indicators, and financial predictors. Because model outputs may still be sensitive to training data, prompts, and model architecture, expectation indicators generated by large language models require robustness testing and should be tied to interpretable economic mechanisms.

3.6. Summary

In summary, methods for measuring the equity risk premium have expanded from historical returns to financial variables, from survey expectations to textual information, and most recently to expectations generated by large language models. The historical-return approach provides an intuitive benchmark but is insufficiently forward-looking. Financial variables and multifactor models connect the equity risk premium to market conditions and policy uncertainty but have limited out-of-sample stability. Survey data directly reflect economic agents' expectations but are constrained by frequency and coverage. Text analysis and large language models offer higher-frequency and more granular measures of macroeconomic expectations.

For research on how macroeconomic expectations affect the equity risk premium, the central issue is not the selection of a single measurement method but an understanding of the dimension of risk compensation captured by each method. Historical returns primarily reflect past realized risk and return; financial variables reflect predictive information embedded in market prices; survey data reflect agents' subjective beliefs; and text and large language models reflect macroeconomic narratives and real-time changes in expectations. Only by integrating these sources of information can researchers obtain a more comprehensive view of the mechanisms that shape the equity risk premium and its relationship with macroeconomic expectations.

4. Research Progress on the Impact of Macroeconomic Expectations on the Equity Risk Premium

Having clarified the conceptual definitions and measurement methods of macroeconomic expectations and the equity risk premium, we now turn to the relationship between the two and survey the current research on how macroeconomic expectations affect the equity risk premium.

This chapter is divided into four sections. First, we present two competing perspectives on the direct effects of macroeconomic expectations on the equity risk premium and their direction. Second, we summarize the transmission mechanisms through three channels. Third, we examine heterogeneity across different market states, market types, and expectation types. Finally, we introduce methodological advances based on textual analysis and large language models.

4.1. Direct Effects of Macroeconomic Expectations on the Equity Risk Premium

Regarding whether and how macroeconomic expectations affect the equity risk premium, the existing literature can be broadly divided into two views. One strand of research argues that improvements in macroeconomic expectations reduce the equity risk premium; the other contends that improved expectations are often accompanied by complex changes in the policy environment and market uncertainty, so they do not necessarily lower the risk premium and may even push it higher. The divergence between these two conclusions stems from differences in the consideration of transmission channels, market environments, and expectation types.

The first view holds that when economic agents are optimistic about future economic growth, corporate earnings expectations improve, investor risk appetite rises, and the additional compensation required for bearing systematic risk declines accordingly. Amromin and Sharpe (2014), using Gallup/UBS investor survey data, find that during economic expansions investors generally expect higher future stock returns and lower volatility, indicating that optimistic macroeconomic expectations lead to a lower risk premium. Bianchi et al. (2021), applying machine learning methods to survey data of professional forecasters, find that deviations in inflation and growth expectations are largest during recessions and exhibit excessive pessimism, whereas deviations are relatively small during expansions. This suggests that market pricing is more rational and the risk premium is lower when the economy is performing well. Focusing on the Chinese market, Min et al. (2023) find that positive output gap shocks have a significant negative effect on the equity premium, implying that stronger economic growth expectations help reduce the equity risk premium.

However, the opposing view argues that improvements in macroeconomic expectations may be accompanied by a rise in the risk premium. This view can be further divided into two transmission paths. On one hand, improved macroeconomic expectations often trigger market concerns about monetary policy tightening, pushing up nominal interest rates and discount rates, putting pressure on asset valuations, and raising the risk premium. De la O and Myers (2023), using survey data and an accounting identity decomposition, find that long-term inflation expectations significantly explain movements in stock prices and bond yields. Rising inflation expectations increase discount rates and thereby intensify stock valuation pressure, elevating the risk premium. On the other hand, the process by which macroeconomic information moves from uncertainty to clarity itself generates a transitory risk premium. Hu et al. (2021), in their "pre-announcement uncertainty premium" theory, show that before major macroeconomic data releases, market uncertainty accumulates and pushes up the VIX and the risk premium; the premium gradually subsides only after the information is released. Ge (2024), based on a study of 46 countries and China's A-share market, similarly finds that the impact of changes in macroeconomic uncertainty on stock excess returns is not unidirectional, and the intertemporal effect is insignificant in emerging markets.

In summary, the direction of the direct effect of macroeconomic expectations on the equity risk premium remains contested. Improved expectations may lower the premium by boosting confidence and risk appetite, but they may also raise the premium by triggering market concerns or information uncertainty. This indicates that the relationship between the two is not simply linear but is influenced

by multiple factors, necessitating further identification of the mechanisms at work and examination of heterogeneous outcomes across different contexts.

4.2. Transmission Mechanisms of Macroeconomic Expectations' Impact on the Equity Risk Premium

As the previous section shows, the impact of macroeconomic expectations on the equity risk premium is shaped by multiple influences. This section classifies the transmission channels identified in the literature into three categories: the earnings expectations channel, the discount rate channel, and the uncertainty and risk preference channel.

4.2.1. The Earnings Expectations Channel

Macroeconomic expectations influence the market's assessment of firms' future profitability, which in turn affects the equity risk premium. When economic growth expectations are positive, corporate sales and profit expectations improve, expected cash flows strengthen, the intrinsic value of stocks rises, and the risk premium demanded by investors declines. Zhu et al. (2024), using sparse principal component analysis, find that factors reflecting the intensity of real economic activity—such as production and personal income—significantly predict future stock returns, and this predictive power is not fully subsumed by firm-level fundamental information, indicating that macro expectations exert an independent influence on the risk premium through the earnings channel. However, earnings expectations themselves may be subject to systematic biases. Van Binsbergen et al. (2021), using random forest analysis of analyst forecast data, show that analyst earnings forecasts exhibit a systematic upward bias that increases with the forecast horizon. This over-optimism inflates stock prices and tends to reduce the future risk premium, revealing the role of irrational factors in the earnings expectations channel.

4.2.2. The Discount Rate Channel

Changes in macroeconomic expectations not only affect expectations of firms' future cash flows but also alter the market's expectations regarding the monetary policy stance and the interest rate path, thereby influencing the discount factor used in asset pricing and ultimately affecting the level of the risk premium. Deng et al. (2024), constructing a macro conditions index based on professional economists' subjective forecasts of output, inflation, labor, and housing markets, find that this index predicts stock returns counter-cyclically, with its predictive power deriving mainly from time-varying risk premia rather than belief biases, thus confirming the key role of the discount rate channel. At the level of monetary policy expectations, Bauer and Swanson (2022), using high-frequency identification analysis of FOMC announcements and Federal Reserve Chair speeches, show that monetary policy tightening expectations increase equity risk premium pressure by raising discount rates. At the theoretical level, Campbell and Cochrane's (1999) external habit formation model, analyzing from a consumption perspective, proposes that during economic downturns consumption declines, investors' risk aversion intensifies, leading to higher discount rates and counter-cyclical variation in expected returns.

4.2.3. The Uncertainty and Risk Preference Channel

Uncertainty in macroeconomic expectations and the resulting changes in risk preferences constitute another important mechanism affecting the equity risk premium. When macroeconomic expectations are unstable or disagreement widens, market uncertainty rises and investors demand additional risk compensation. Pastor and Veronesi (2012), using a general equilibrium model, demonstrate that policy changes endogenously raise discount rates and the risk premium, with stock prices falling at the announcement of policy changes and the magnitude of the decline increasing with uncertainty. Haase and Neuenkirch (2023) find that disagreement in GDP growth expectations has an unconditional negative pricing effect, with the premium amplification effect being more pronounced during crises, suggesting that expectations disagreement itself constitutes a pricing factor. Qiao et al. (2024), using the variance risk premium as a proxy variable, find that the predictive power of the

VRP for long-term returns in emerging markets differs from that in developed markets, attributable to higher consumption volatility. Moreover, the uncertainty channel may exhibit asymmetric characteristics. Xing and Wang (2021), based on China's A-share market, find that stocks with higher exposure to economic policy uncertainty do not command a higher risk-return tradeoff but instead exhibit a negative premium.

4.3. Heterogeneity Across Different Contexts

The analysis above indicates that the impact of macroeconomic expectations on the equity risk premium is not invariant but is shaped by specific market contexts. Below, we summarize existing scholarly investigations of heterogeneity in this relationship from three dimensions: market state, market type, and expectation type.

4.3.1. Market State Differences

The phase of the business cycle significantly moderates the impact of macro expectations on the risk premium. Min et al. (2023), using a threshold vector autoregression (TVAR) model, find that output gap shocks have a larger effect on the equity premium during recessions, while inflation shocks and sentiment shocks have a larger effect during expansions, indicating that the risk premium effects of different macro shocks depend on the market state.

4.3.2. Market Type Differences

Differences in institutional environments and investor structures between developed and emerging markets lead to cross-market heterogeneity in the asset pricing effects of macro expectations. Ge (2024) finds that the intertemporal effect of macroeconomic uncertainty on stock excess returns is insignificant in emerging markets. Qiao et al. (2024) find that the variance risk premium in emerging markets has stronger predictive power for long-term returns than in developed markets, due to higher consumption volatility. Xing and Wang (2021) reveal a negative premium in China's A-share market, reflecting the distinctive characteristics of investor behavior under a retail-investor-dominated structure.

4.3.3. Expectation Type Differences

Different types of macro expectations affect the risk premium in different directions and with different intensities. Min et al. (2023) find that sentiment shocks have the strongest explanatory power for the equity premium (approximately 41%), suggesting that subjective sentiment expectations may have a greater impact than traditional fundamental expectations. De la O and Myers (2023), distinguishing between short-term and long-term inflation expectations, find that only long-term inflation expectations significantly explain stock price movements, highlighting the importance of the term structure of expectations. Lu et al. (2022), from the perspective of the "inflation illusion," reveal that rising inflation expectations reduce corporate stock valuations through mispricing—in contrast to the positive effect of growth expectations—further demonstrating the necessity of distinguishing among expectation types.

4.4. Recent Advances in Research Based on Text Analysis and Large Language Models

4.4.1. Traditional Text Analysis Methods and Their Limitations

Early text analysis primarily relied on the dictionary method, which measured text sentiment using predefined lists of positive and negative words. The finance-specific sentiment dictionary developed by Loughran and McDonald (2011) represents a foundational piece of work from this period. Domestic scholars have made significant localized improvements within the Chinese context: Jiang Fuwei, Meng Lingchao, and Tang Guohao (2021) constructed a Chinese financial sentiment lexicon by combining the LM lexicon with the word2vec model; Yao Jiaquan et al. (2021) employed a method combining lexicon reorganization with deep learning to construct sentiment lexicons suitable for both the formal language of annual reports and the informal language of social media. However, the dictionary-based approach suffers from inherent limitations, such as poor transferability, an inability

to capture contextual semantic shifts, and difficulty in modeling the nonlinear relationship between sentiment and asset prices (Jiang Fuwei, Liu Yumin, and Meng Lingchao, 2024). These limitations have driven methodological iterations.

Following the dictionary-based approach, machine learning methods such as the LDA topic model were gradually introduced into macroeconomic text analysis. In their macroeconomic monitoring and forecasting framework, Zheng Tingguo and Fan Xinyue (2024) systematically demonstrated how to use the LDA model to extract news topic attention sequences from over one million Chinese financial and economic newspaper articles. They extracted 120 news topics from three mainstream financial newspapers—*Economic Daily*, *Economic Reference News*, and *21st Century Business Herald*—and categorized them into four types: the first type exhibits strong autocorrelation (e.g., the “economic downturn” topic, which rose significantly during the 2008 global financial crisis, the 2015 stock market crash, and the 2020 COVID-19 pandemic); the second category exhibits distinct seasonality (e.g., the “transportation” theme); the third category peaks during major events (e.g., the “public health” theme); and the fourth category displays a clear temporal trend (e.g., the “economic reform” theme). This work enables multidimensional text-based monitoring of macroeconomic performance.

4.4.2. The Rise of Large Language Models and Their Applications in the Financial Sector

Large language models, represented by the BERT and GPT series, mark the entry of natural language processing into a new paradigm of pre-training and fine-tuning. The BERT model, proposed by Devlin et al. (2019), is capable of deeply capturing contextual semantics through bidirectional pre-training on a massive corpus, and is then adapted to downstream tasks through fine-tuning. GPT-3, proposed by Brown et al. (2020) with 175 billion parameters, demonstrated the ability to learn with few or even zero training examples, revealing the unique “emergent capabilities” of large language models. In the financial sector, Araci (2019) and Yang et al. (2020) adapted BERT to the financial domain—via fine-tuning and further pre-training, respectively—to develop FinBERT, which significantly outperformed traditional methods on financial sentiment analysis tasks.

Zheng Tingguo and Fan Xinyue (2024) point out that large language models possess advantages such as efficient text processing, the ability to capture nonlinear relationships, and the identification of semantic sentiment tendencies, opening up new possibilities for macroeconomic forecasting. They also described the use of large language models, such as ChatGLM, to calculate aspect-level sentiment across different newspapers in categories such as macroeconomics and finance. These sentiment indices exhibit a high degree of consistency with economic factors extracted from structured indicators in terms of trend changes, and can be obtained in real time on a daily basis and incorporated into real-time forecasting models to improve forecasting results.

4.4.3. Applications of Large Language Models in Macroeconomic Expectations and Asset Pricing

In recent years, a number of representative research findings have emerged regarding the application of large language models at the intersection of macroeconomic expectation measurement and asset pricing. From the perspective of this paper, these studies can be broadly categorized into two interrelated topics: first, whether large language models can effectively extract macroeconomic expectation information from text; and second, whether the expectation information extracted using large language models is correlated with asset prices.

Regarding expectation measurement, BYBEE utilized large language models to generate economic expectations from historical news articles, representing one of the earlier explorations in this direction. Its core contribution lies in demonstrating the technical feasibility of directly applying large language models to the textual measurement of macroeconomic expectations. BECK et al. (2025) further combined document embedding techniques with synthetic training data generated by large language models to propose the NEOS method, which extracts sentiment regarding the economic outlook from approximately 27 million Swiss news articles. The significance of this study lies in providing a computationally efficient and practical solution for the large-scale application of large

language models in measuring economic expectations, while also establishing a high-frequency data foundation for future research integrating such expectation indicators into asset pricing studies.

Regarding the relationship between expectation information and asset prices, CHEN et al. (2024), using U.S. market data, employed ChatGPT to construct sentiment ratios from front-page news in **The Wall Street Journal** and found that the ratio of positive news could predict monthly market returns and multiple macroeconomic variables. From the perspective of the issues addressed in this paper, the significance of this study lies not only in the discovery of a predictive indicator but, more importantly, in its provision of direct empirical evidence for the transmission mechanism “text → macroeconomic expectations → stock market.” Jiang Fuwei, Liu Yumin, and Meng Lingchao (2024) trained a Chinese financial large language model specifically for the Chinese capital market and similarly found that sentiment indicators constructed using this model outperformed traditional dictionary-based methods in predicting returns in the Chinese stock market and could also forecast multiple macroeconomic variables. The value of this study within the framework of this review lies in its demonstration that the large language model approach is applicable across different linguistic contexts and market structures, thereby enhancing the external validity of this methodological approach.

Both studies also reached consistent findings regarding heterogeneity. CHEN et al. (2024) found that the predictive power of positive news is stronger during economic downturns, periods of high policy uncertainty, and when news novelty is high; Jiang Fuwei, Liu Yumin, and Meng Lingchao (2024) similarly found that sentiment derived from large language models exhibits stronger predictive performance during economic downturns and extreme risk events (such as the 2007 stock market crash and the 2020 COVID-19 pandemic). These converging findings across two distinct market contexts suggest that the impact of expectation information captured by large language models on asset prices may be state-dependent—a finding consistent with the theoretical mechanism by which macroeconomic expectations influence stock risk premiums. This also implies that expectation measures based on large language models provide a new analytical tool for further research into this state dependence.

Overall, these findings suggest that large language models are emerging as a valuable extension to textual measures of macroeconomic expectations, providing new data sources and methodological approaches for studying the relationship between macroeconomic expectations and asset prices.

5. Literature Review

5.1. Major Contributions of Existing Research

Existing research has made significant progress on three levels in the field of macroeconomic expectations and stock risk premiums.

First, the continuous evolution of measurement methods has provided an increasingly rich data foundation for research on expectations and asset prices. From traditional survey methods and macroeconomic proxy indicators to text-based approaches, the range of measurement tools has steadily expanded. Huang and Luk (2020) constructed the Chinese Economic Policy Uncertainty (EPU) index based on 10 mainland Chinese newspapers, providing a standardized tool for measuring policy-related expectations. Notably, this study not only improved the measurement quality of China’s EPU but also found that, although the correlation coefficient between their newly constructed index and the older index by Baker, Bloom, and Davis (2016)—based on the **South China Morning Post**—was 0.51, only the new index produced the theoretically expected declines in output and employment under SVAR shocks. This suggests that improvements in measurement methods alone may determine the fundamental conclusions of the research. Subsequently, the introduction of large language models has further expanded the sources of information on expectations.

Second, empirical research has confirmed a close link between macroeconomic expectations and stock risk premiums, and this link exhibits significant heterogeneity. Greenwood and Shleifer (2014) systematically analyzed the relationship between investor expectations and model-derived expected

returns using six survey data sources, arriving at a key finding: Investor expectations expressed in surveys are significantly negatively correlated with expected returns derived from academic models (with a correlation coefficient of -0.33 for the dividend-to-price ratio and -0.48 for the earnings-to-consumption ratio), and investor expectations exhibit distinct extrapolation characteristics—tending to extrapolate future expectations based on past returns. This finding poses a profound challenge to traditional rational expectations models.

Third, the research perspective has gradually expanded from examining direct effects to analyzing underlying mechanisms. Veronesi (1999) theoretically demonstrated that, due to investors' need to hedge against uncertainty, stock markets overreact to bad news during good times and underreact to good news during bad times. Epstein and Schneider (2008) provided a supplementary explanation from the perspective of information ambiguity: When investors are uncertain about the quality of signals, they adopt a worst-case scenario assessment, leading them to react more strongly to bad news. The "Growth at Risk" framework proposed by Adrian, Boyarchenko, and Giannone (2019) links expectation uncertainty to downside risks in economic growth, providing a new paradigm for understanding the "uncertainty channel."

5.2. Limitations of Existing Research

Existing research still exhibits four notable shortcomings.

First, there is a lack of uniform standards for measuring variables. The findings of Greenwood and Shleifer (2014) vividly illustrate this problem: survey-based expectations are negatively correlated with model-based expectations, and investors' expectations themselves negatively predict future returns. Different measurement methods may not even reflect the same concept, and comparing them within the same framework inherently involves a conceptual mismatch.

Second, research conclusions show significant divergence. Huang and Luk (2020) found that the empirical conclusions of the old and new EPU indices were completely opposite—the quality of index construction alone was sufficient to alter the conclusions. Chen et al. (2024) found that only positive news is predictive, while negative news is not; in contrast, Jiang Fuwei, Liu Yumin, and Meng Lingchao (2024) found that sentiment derived from large language models exhibits significant predictive power for nearly all macroeconomic variables during economic downturns but limited predictive power during upturns—this asymmetry suggests that the relationship between expectations and risk premiums is far more complex than a simple linear relationship.

Third, the identification of mechanisms of action remains insufficiently thorough. There is currently a lack of clear empirical testing regarding how the "hedging against changes in uncertainty" mechanism in Veronesi's (1999) model interacts with the "assessment of information quality" mechanism proposed by Epstein and Schneider (2008). The GaR framework proposed by focuses primarily on the macro level and has not yet been sufficiently extended to the micro-level mechanisms of asset pricing.

Fourth, the application of new methods, such as large language models, is still in its infancy. Existing research primarily focuses on equity assets in a limited number of markets, and systematic validation across asset classes and markets is lacking. Furthermore, the "black box" issue associated with large language models remains unresolved.

5.3. Possible Causes of Discrepancies

Regarding the inconsistencies in the conclusions of existing studies, the author believes they can be understood from the following perspectives.

First, differences in the sample periods and market environments. Greenwood and Shleifer (2014) covered the U.S. market from 1963 to 2011, while Huang and Luk (2020) covered the Chinese market from 2000 to 2018. There are fundamental differences between the two in terms of institutional environments, investor structures, and information efficiency.

Second, there are fundamental differences in measurement methods. Huang and Luk (2020) directly revealed the decisive influence of index construction quality on the findings. Greenwood and

Shleifer (2014), however, demonstrated at a more fundamental level that survey-based expectations and model-based expectations are, in themselves, two methodologically incommensurable measurement approaches.

Third, the theoretical mechanisms themselves are context-dependent. Veronesi (1999) demonstrated that the direction of investors' reactions to information depends on the current economic state, implying that the theoretical nature of the expectation effect is inherently nonlinear and state-dependent; seeking consistent conclusions within a unified linear framework may itself be misguided. Epstein and Schneider (2008) further showed that investors' assessments of signal quality are difficult to capture directly using traditional econometric methods.

6. Outlook for Future Research

6.1. Advancing the Integration and Standardization of Macroeconomic Expectation Measures

Future research could integrate three information sources—survey data, macroeconomic proxy variables, and text-based big data—to construct more comprehensive expectation indices. The approach taken by Greenwood and Shleifer (2014), who conducted a comparative analysis using six types of survey data simultaneously, is worth emulating. The method employed by Beck et al. (2025)—which uses large language models to generate synthetic training data to enhance measurement capabilities—along with the modeling approach proposed by Zheng Tingguo and Fan Xinyue (2024), which combines mixed-source economic data with text sentiment analysis, provides technical pathways for constructing comprehensive indicators. In terms of standardization, Huang and Luk's (2020) study on improvements to China's EPU index demonstrates that the transparency and reproducibility of the index are critical to the comparability of research findings.

6.2. Deepening the Identification and Differentiation of Mechanisms

In the future, more refined empirical designs will be needed to distinguish the independent contributions of the three channels: “earnings expectations—discount rate—uncertainty.” The two theoretical mechanisms proposed by Veronesi (1999) and Epstein and Schneider (2008) have yet to be clearly tested empirically. Jiang Fuwei, Liu Yumin, and Meng Lingchao (2024) have preliminarily demonstrated the differentiated predictive capabilities of large-model sentiment toward various macroeconomic variables, providing an empirical foundation for more detailed research along different channels.

6.3. Strengthening Extensive Research in the Chinese Market Context

The Chinese market exhibits distinct local characteristics in terms of investor structure and the policy environment. The paradigm established by Huang and Luk (2020) for constructing the EPU index based on mainland Chinese newspapers can be further expanded by utilizing large language models to extract finer-grained expectation indicators from policy texts. Combined with the real-time macroeconomic monitoring framework proposed by Zheng Tingguo and Fan Xinyue (2024), this could form a comprehensive research framework covering expectation measures, risk monitoring, and asset pricing.

6.4. Promoting the Application and Cutting-Edge Expansion of New Methods Such as Large Language Models

First, explore the application of large language models in economic early warning and risk prevention. The GaR framework proposed by Adrian et al. (2019) can be combined with text analysis using large language models to achieve high-frequency, real-time monitoring of macroeconomic risks. Second, validate the predictive capabilities of large language models across different asset classes. Existing research has primarily focused on the stock market, whereas the expectation-price relationships in assets such as bonds and exchange rates may follow different mechanisms. Third, to

address the issue of interpretability in large language models, future research should carefully assess the impact of model iterations on the robustness of research conclusions.

7. Conclusion

Centering on the inherent logical correlation between macroeconomic expectations and equity risk premium, this paper systematically sorts out the connotative characteristics and evolution of measurement methods of macroeconomic expectations, defines the concept and calculation paths of equity risk premium, comprehensively summarizes the impact effects, transmission mechanisms and heterogeneous performances of macroeconomic expectations on equity risk premium, integrates and comments on existing research outcomes, and outlines prospects for future research, thereby fully depicting the overall research context and core consensus of this field.

This study demonstrates that macroeconomic expectations, as market participants' forward-looking judgments of future economic growth, inflation, interest rate fluctuations and policy orientation, constitute core factors driving dynamic adjustments in equity risk premium. In terms of the measurement system, quantification of macroeconomic expectations has gradually extended from traditional survey data and macro proxy indicators to high-frequency and intelligent tools including textual sentiment analysis and large language models; equity risk premium has formed a diversified measurement framework dominated by historical return method, model estimation method and forward-looking measurement method. Differences in measurement and methodological choices for the two core variables directly affect the stability and reliability of empirical conclusions. In terms of impact mechanisms, existing literature confirms that macroeconomic expectations act on equity risk premium through three major channels: earnings expectations, discount rates, as well as uncertainty and risk appetite. However, constrained by discrepancies in market conditions, sample intervals, expectation types and institutional backgrounds, no fully consistent conclusions have been reached concerning the direction and effect intensity of such impacts. Relevant research has evolved from single tests of direct effects to multi-dimensional heterogeneity analyses covering economic cycles, market maturity and investor structures, with the research framework continuously improved.

Overall, existing studies have achieved remarkable breakthroughs in theoretical system construction, supplementation of empirical evidence and innovation of research methods, laying solid theoretical and empirical foundations for interpreting the transmission of macro information to capital markets and the formation logic of risk pricing. Nevertheless, limitations remain including inconsistent measurement standards, insufficient refined identification of transmission mechanisms and inadequate application of emerging technical methods. Future research in this field should advance toward integrated measurement of expectations, refined testing of transmission mechanisms, localized research adapted to China's market conditions and intelligent application of technologies. Priorities include integrating text mining and large language model technologies to boost the accuracy of expectation identification, and launching more targeted research based on the institutional characteristics of China's capital market.

The literature sorting and summary in this paper clearly outline the overall landscape of research on macroeconomic expectations and equity risk premium. It not only provides literature references and research ideas for subsequent relevant academic studies, but also offers theoretical basis and practical enlightenment for investors to optimize asset allocation and risk management, policy makers to strengthen expectation management and market regulation, and regulatory authorities to prevent systemic financial risks.

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