

FUTURE LABOR INCOME RISK, MULTIFACTOR ASSET PRICING, AND THE CROSS-SECTION OF EQUITY RETURNS: A COMPREHENSIVE REASSESSMENT

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ABSTRACT

Understanding the determinants of the cross-section of equity returns remains one of the most persistent and intellectually challenging problems in modern financial economics. Over several decades, researchers have proposed a wide range of theoretical explanations and empirical models to account for systematic variations in expected stock returns across firms, industries, and markets. Traditional single-factor models, most notably the Capital Asset Pricing Model, were gradually supplemented and challenged by multifactor frameworks such as the Fama–French models, behavioral explanations rooted in investor psychology, and conditional asset pricing approaches that allow risk premia to vary over time. More recently, labor income risk and human capital considerations have emerged as a crucial yet underexplored dimension in explaining asset prices. This article develops a comprehensive and integrative examination of future labor income growth as a state variable shaping equity returns, embedding this perspective within the broader literature on size, value, momentum, beta, and macroeconomic risk factors. Anchored in prior theoretical and empirical contributions, the study critically reassesses how labor income dynamics interact with established asset pricing factors to influence expected returns. The analysis emphasizes conceptual rigor rather than mathematical formalism, offering an extensive descriptive methodology and interpretive discussion that situates labor income risk within both classical and contemporary debates. By synthesizing insights from multifactor models, conditional asset pricing, and behavioral finance, the article argues that labor income growth expectations provide a unifying lens through which many observed anomalies in the cross-section of returns can be better understood. The findings contribute to ongoing discussions regarding model completeness, economic interpretation of factors, and the evolving role of macro-labor linkages in financial markets, while also outlining limitations and promising avenues for future research.

Keywords: Asset pricing; labor income risk; cross-section of equity returns; multifactor models; Fama–French framework; conditional risk premia

INTRODUCTION

The cross-section of equity returns has long occupied a central position in financial economics, serving as a testing ground for theories of risk, investor behavior, and market efficiency. Early theoretical advances emphasized the role of market-wide risk, formalized through the Capital Asset Pricing Model, which posits that expected returns are linearly related to exposure to a single systematic factor. Despite its elegance and intuitive appeal, subsequent empirical evidence raised persistent doubts about the model's ability to account for observed return patterns across firms and portfolios, particularly those sorted by size, valuation ratios, or past performance (Kothari and Shanken, 1995). These empirical regularities motivated a sustained research agenda aimed at identifying additional sources of systematic risk or alternative explanations that could

reconcile theory with data.

The emergence of multifactor models marked a significant shift in the literature, as researchers increasingly recognized that equity returns may reflect exposure to multiple dimensions of risk. The influential three-factor framework introduced size and book-to-market characteristics as proxies for underlying risk factors, offering improved explanatory power relative to single-factor models. Subsequent studies examined the robustness of these factors across markets and time periods, often finding that their relevance varied by institutional setting and economic conditions (Griffin, 2002). While these findings strengthened the empirical appeal of multifactor models, they also intensified debates regarding the true economic nature of the

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proposed factors and whether they represent risk compensation or persistent mispricing.

Parallel to these developments, a growing body of research began to emphasize the importance of conditioning information and time-varying risk premia. Conditional asset pricing models argue that expected returns and factor loadings are not static but evolve in response to changing economic conditions, investor expectations, and macroeconomic variables (Jagannathan and Wang, 1996). This perspective opened the door to incorporating broader measures of economic risk, including those related to consumption, employment, and income dynamics, into asset pricing frameworks. Within this context, labor income and human capital emerged as potentially critical components of investors' total wealth, yet their role in shaping asset prices remained relatively underdeveloped in mainstream models.

Theoretical considerations suggest that labor income risk should matter for asset pricing because most investors derive a substantial portion of their lifetime wealth from labor earnings rather than financial assets alone. When labor income is risky and correlated with stock market returns, investors may demand higher expected returns on equities that perform poorly during periods of adverse labor market conditions. This intuition aligns with intertemporal consumption-based models, which emphasize the joint determination of consumption, investment, and labor supply decisions. Empirical efforts to operationalize these ideas gained momentum as data availability improved and researchers sought to link labor income growth expectations to cross-sectional return patterns (Kim et al., 2011).

The contribution of future labor income growth to asset pricing has particular relevance for understanding why traditional factors such as size and value appear to command persistent premia. Firms with certain characteristics may be more sensitive to business cycle fluctuations that also affect labor income prospects, thereby embedding labor market risk into their equity returns. From this perspective, size and book-to-market effects may partly reflect compensation for exposure to labor income shocks rather than independent risk dimensions. Such interpretations challenge purely firm-level explanations and underscore the importance of macro-labor linkages in financial markets (Lakonishok et al., 1994).

Despite these insights, the integration of labor income risk into multifactor asset pricing remains incomplete. Existing studies often focus on specific markets or time periods, leaving open questions about generalizability and interaction effects with other well-documented anomalies. Moreover, debates persist regarding whether observed return patterns are better explained by rational risk-based theories or by behavioral biases such as extrapolation and contrarian investment strategies (Jegadeesh and Titman, 1993). Addressing these issues requires a comprehensive

and theoretically grounded reassessment that situates labor income considerations within the broader asset pricing canon.

This article responds to that need by developing an extensive conceptual analysis of future labor income growth as a determinant of the cross-section of equity returns. Drawing on established empirical findings and theoretical arguments, the study examines how labor income risk interacts with multifactor models, conditional pricing frameworks, and behavioral explanations. By emphasizing descriptive reasoning over mathematical formalism, the analysis seeks to clarify economic mechanisms and highlight areas of consensus and contention within the literature. In doing so, the article contributes to a more integrated understanding of asset pricing that bridges micro-level firm characteristics and macro-level labor market dynamics (Harvey et al., 2016).

The remainder of the article proceeds through a detailed methodological exposition, an interpretive presentation of results grounded in prior evidence, an extensive discussion that situates the findings within competing theoretical perspectives, and a concluding synthesis that outlines implications for research and practice. Throughout, the analysis maintains a consistent focus on the role of labor income growth expectations in shaping equity returns, while engaging critically with alternative viewpoints and acknowledging the limitations inherent in existing approaches (Gibbons et al., 1989).

METHODOLOGY

The methodological approach adopted in this study is deliberately conceptual and interpretive, reflecting the objective of synthesizing and reassessing existing theoretical and empirical insights rather than generating new econometric estimates. This choice aligns with the long-standing tradition in asset pricing research of using analytical reasoning and comparative interpretation to evaluate competing models and explanations (Kothari et al., 1995). By focusing on descriptive methodology, the study emphasizes economic intuition, historical context, and logical coherence, allowing for a nuanced exploration of labor income risk within multifactor asset pricing frameworks.

The primary methodological foundation involves an extensive review and integration of prior empirical findings related to the cross-section of equity returns. These findings encompass evidence on size and value effects, momentum patterns, beta stability, and international variations in factor premia. Rather than treating each strand of literature in isolation, the methodology emphasizes their interconnections and

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potential common drivers, particularly those linked to macroeconomic and labor market conditions (Loughran, 1997). This integrative perspective enables a reassessment of whether labor income growth expectations can serve as an underlying state variable that unifies disparate anomalies.

A key methodological consideration concerns the interpretation of labor income growth as a proxy for broader economic risk. Labor income data often capture fluctuations in employment, wages, and job security, all of which are closely tied to business cycle dynamics. The methodology therefore treats labor income growth expectations as an indicator of aggregate economic conditions that directly affect household consumption and indirectly influence asset demand. This approach is consistent with conditional asset pricing models that allow expected returns to vary with macroeconomic states (Jagannathan and Wang, 1996).

To ensure conceptual rigor, the study systematically contrasts risk-based explanations with behavioral interpretations of return predictability. Behavioral finance research has documented patterns such as overreaction and momentum, suggesting that investor psychology may generate persistent deviations from rational pricing. The methodology critically evaluates whether labor income risk can account for these patterns without invoking systematic irrationality, or whether behavioral factors remain necessary complements to risk-based models (Lakonishok et al., 1994). This comparative analysis is essential for assessing the explanatory scope and limitations of labor income-based approaches.

Another important methodological element involves cross-market and international considerations. Evidence indicates that the strength and stability of asset pricing factors vary across countries, reflecting differences in economic structure, labor market institutions, and investor composition (Griffin, 2002). The methodology therefore incorporates insights from international studies to assess whether labor income growth effects are context-dependent or broadly generalizable. This perspective helps identify institutional features that may amplify or dampen the relevance of labor income risk.

The study also acknowledges methodological limitations inherent in conceptual synthesis. Without new empirical estimation, conclusions necessarily rely on the validity and robustness of existing studies. Differences in data construction, sample periods, and model specifications across the literature introduce challenges in drawing definitive inferences. The methodology addresses these issues by emphasizing patterns of convergence and divergence across studies rather than isolated results, thereby reducing reliance on any single empirical finding (Harvey et al., 2016).

Finally, the methodological approach places strong emphasis on transparency and logical consistency. Each interpretive step is explicitly linked to prior research, and alternative explanations are considered and evaluated. This approach aims to foster a balanced assessment that recognizes both the promise and the constraints of incorporating labor income growth into asset pricing models (Kim et al., 2011).

RESULTS

The interpretive results of this study emerge from synthesizing established empirical patterns with theoretical insights regarding labor income risk. A central finding across the literature is that expected equity returns vary systematically with firm characteristics such as size and book-to-market ratios, as well as with macroeconomic conditions that influence labor income prospects (Foye et al., 2013). When viewed through the lens of labor income growth, these patterns suggest that equities more exposed to adverse labor market states tend to command higher expected returns as compensation for their poor performance during periods of income uncertainty.

Evidence indicates that firms with high book-to-market ratios often operate in mature or distressed industries that are particularly sensitive to economic downturns. During such periods, labor income growth tends to slow or decline, exacerbating household risk exposure. The higher expected returns associated with value stocks can thus be interpreted as compensation for their tendency to perform poorly when labor income risk is elevated, a finding consistent with labor income-based asset pricing arguments (Kim et al., 2011). This interpretation complements traditional risk-based explanations while offering a more explicit link to household-level economic conditions.

Size effects similarly exhibit a meaningful relationship with labor income dynamics. Smaller firms are often more vulnerable to credit constraints and demand fluctuations, making their equity returns more cyclical. Empirical studies suggest that these firms underperform during economic contractions, which are also periods of heightened labor income risk. As a result, the size premium may reflect compensation for bearing risk that is closely aligned with labor market volatility rather than an independent anomaly (Nartea and Djajadikerta, 2005).

Momentum patterns, while often attributed to behavioral biases, can also be partially reconciled with labor income considerations. Periods of strong labor income growth tend to coincide with favorable economic conditions and rising asset prices, reinforcing trends in equity returns.

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Conversely, deteriorating labor market prospects may contribute to reversals as investors reassess risk exposure. Although this interpretation does not fully displace behavioral explanations, it suggests that labor income growth expectations may interact with investor behavior to shape return dynamics (Jegadeesh and Titman, 1993).

International evidence further supports the relevance of labor income risk. Studies examining factor performance across countries find that variations in labor market institutions and social safety nets influence the magnitude of risk premia. In economies with more flexible labor markets and weaker income insurance mechanisms, labor income risk is more pronounced, potentially leading to stronger compensation in equity returns for exposure to adverse economic states (Griffin, 2002). These findings underscore the importance of contextual factors in assessing the generalizability of labor income-based asset pricing models.

Collectively, the interpretive results suggest that future labor income growth serves as a meaningful state variable that helps explain cross-sectional return patterns traditionally attributed to firm characteristics or investor behavior. While not exhaustive, this perspective offers a coherent framework for understanding why certain equities command persistent risk premia and how these premia vary over time and across markets (Harvey et al., 2016).

DISCUSSION

The integration of labor income growth into asset pricing theory carries significant implications for longstanding debates regarding the nature of risk and return. One of the most enduring controversies concerns whether observed anomalies represent rational compensation for risk or evidence of systematic mispricing. By linking firm-level return patterns to household-level income risk, labor income-based explanations provide a bridge between microeconomic behavior and macroeconomic outcomes, enriching the risk-based narrative (Kothari et al., 1995).

From a theoretical standpoint, incorporating labor income growth aligns asset pricing models more closely with realistic representations of investor wealth. Traditional models often abstract from labor income, implicitly assuming that financial assets constitute the primary source of consumption risk. In practice, labor earnings dominate household wealth for most investors, particularly early in the life cycle. Ignoring this component may therefore lead to incomplete or biased assessments of risk exposure and expected returns (Kim et al., 2011).

However, the labor income perspective also faces important challenges. Measuring expected labor income growth and its covariance with asset returns is inherently difficult, given data limitations and heterogeneity across individuals and

industries. Aggregate labor income measures may mask significant cross-sectional variation, raising questions about how representative they are for marginal investors. These measurement issues complicate empirical implementation and limit the precision of inferences (Jagannathan and Skoulakis, 2002).

Behavioral critiques further complicate the interpretation of labor income effects. While risk-based explanations emphasize rational compensation, behavioral finance highlights cognitive biases and limits to arbitrage as drivers of persistent anomalies. Some return patterns, such as short-term momentum, may be difficult to fully reconcile with labor income risk alone, suggesting that a hybrid framework incorporating both rational and behavioral elements may be necessary (Lakonishok et al., 1994).

International comparisons offer additional insights into these debates. The varying strength of factor premia across markets suggests that institutional features, including labor market regulations and social insurance systems, play a critical role in shaping risk perceptions. In economies with stronger income protection, labor income risk may be less salient, reducing its influence on asset prices. This observation supports the view that labor income-based explanations are context-dependent rather than universally applicable (Foye et al., 2013).

The discussion also highlights implications for empirical model evaluation. Traditional tests of asset pricing models often rely on statistical metrics that may obscure economic interpretation. Emphasizing labor income growth encourages a shift toward evaluating whether factors capture meaningful sources of household risk, potentially reshaping criteria for model success (Gibbons et al., 1989). This perspective resonates with calls for greater economic grounding in factor construction and interpretation.

Future research directions include exploring micro-level labor income data, examining heterogeneity across investor groups, and integrating labor income risk with consumption-based and behavioral models. Advances in data availability and computational methods may facilitate more precise estimation and testing of these ideas, contributing to a more comprehensive understanding of asset pricing dynamics (Harvey et al., 2016).

CONCLUSION

This article has developed an extensive and integrative reassessment of the role of future labor income growth in explaining the cross-section of equity returns. By situating labor income risk within the broader landscape

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of multifactor asset pricing, conditional models, and behavioral explanations, the analysis underscores its potential to unify and clarify longstanding anomalies. While challenges remain in measurement and empirical implementation, the conceptual insights offered by labor income-based perspectives enrich our understanding of risk, return, and investor behavior. As asset pricing research continues to evolve, incorporating realistic representations of household wealth and labor market dynamics promises to yield more robust and economically meaningful models.

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