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An empirical investigation of accounting conservatism's role in corporate financing availability and systemic risk transmission across economic cycles: evidence from banking and manufacturing firms

Yangtao Ou[1], *Yunhan Wan*[2*]

[1]Utah State University, Logan, USA

[2]University of Auckland, Auckland, New Zealand

*Corresponding Author. Email: rara481846778@gmail.com

Abstract: This study explores the countercyclical role of accounting conservatism in the business cycle, focusing on how it affects firms' acquisition of external financing and the transmission of systemic risks. Using data from 312 listed banks and 1,047 manufacturing firms in China from 2008 to 2022, we measure robustness by dividing the absolute value of negative accrual items by total assets, we measure financing accessibility by dividing new debt issuance by assets, and we measure systemic risk by the 5% CoVaR percentile at the firm level. After using the fixed-effect model regression including the interaction term of the business cycle state and supplemented by 2SLS and system GMM methods to handle endogeneity, it was found that during the expansion period, increased robustness significantly reduced new debt issuance by banks ($\beta = -0.042$, $p < 0.01$), but had no significant impact on manufacturing firms. Conversely, during the recession period, robustness effectively eliminated the spillover effects of systemic risks in banks ($\beta = -0.068$, $p < 0.05$) and manufacturing industries ($\beta = -0.054$, $p < 0.05$). This indicates that conservative accounting plays the role of a procyclical credit limiter during the expansion period and a stabilizing buffer during the depression period. The research findings have implications for countercyclical disclosure policy aimed at balancing financial stability and credit availability.

Keywords: accounting conservatism, business cycle, financing availability, systemic risk, CoVaR

1. Introduction

Accounting conservatism—characterized by the timely recognition of losses and the delayed recognition of gains—is a fundamental principle of financial reporting, intended to protect stakeholders from overly optimistic earnings forecasts and declines in asset values. By reflecting adverse information in advance, it reduces information asymmetry between managers and external capital providers and can reduce the occurrence of unforeseen negative "profit shocks." However, the impact of robustness on firm behavior and system stability is not uniform across all economic conditions. During a boom, the credit market has abundant liquidity and a high appetite for risk. Overly stable financial statements are likely to be misinterpreted as an understatement of profits, prompting lenders to tighten terms or increase collateral requirements. This procyclical tightening effect can precisely limit the availability of credit to firms as they seek to increase investment. Conversely, during periods of tightening uncertainty and credit scarcity, the early warning signals provided by robustness can boost lender confidence, maintain firms' borrowing capacity, and cushion the shock of a sudden revaluation, thereby alleviating systemic pressure.

While research on the value of robust information is extensive, examination of its conditional effects on corporate financing and the transmission of systemic risk throughout the business cycle—particularly the simultaneous impact on both—is still relatively limited. Moreover, different industries have differentiated financing channels and network correlations. As key intermediary institutions, banks have amplified policy transmission and interrelationships, making their sensitivity to accounting choices particularly important. Manufacturing firms that rely heavily on asset-based mortgages and trade credit may experience different impacts. This study used comprehensive panel data of Chinese banks and manufacturing firms from 2008 to 2022,

covering multiple macroeconomic shocks such as the global financial crisis, the slowdown in industrial growth, and the recession caused by the COVID-19 pandemic, to address these research gaps [1].

We adopted a fixed-effects regression model that included the interaction terms of robustness and business cycle indicators (characterized by the deviation of GDP growth from the long-term trend) to capture its conditional impact on new debt issuance and firm-level CoVaR. To mitigate concerns about reverse causality and missing variables, we performed a two-stage least squares regression using lagged audit fees and the regional legal environment index as instructional variables, supplemented by systematic GMM estimation and subsample analysis. Comparing banks and manufacturing, the industry heterogeneity of robust countercyclical effects was highlighted. These findings not only enrich the prudent accounting literature but also provide a benchmark for regulatory discussions on countercyclical disclosure standards that balance credit availability and systemic resilience.

2. Literature review

2.1. Conservatism and corporate financing

Accounting conservatism requires the timely recognition of expected losses and the delay in recognizing expected gains. It improves the credibility of financial statements and reduces information asymmetry between borrowers and lenders. In practice, lenders often view conservative earnings as a signal of downside protection risk—firms that tend to be conservative have a lower risk of negative earnings surprises. However, such conservatism can also reduce the accounting basis of equity, weaken the capital adequacy ratio, and even trigger tighter lending conditions or higher interest rates. When the economy is in an expansionary period, market sentiment is high, and lenders have sufficient capital, overly conservative reporting can be misjudged as understated earnings, prompting creditors to tighten credit conditions or add collateral [2]. Conversely, when the economy contracts and uncertainties increase, the early warning inherent in sound accounting can maintain creditor confidence, reduce new borrowing costs for firms relative to their less conservative peers, and help maintain liquidity. Therefore, the net effect of robustness on financing availability depends heavily on the economic cycle: tightening credit in good times and playing a stabilizing role in bad times.

2.2. Systemic risk transmission mechanisms

Systemic risk transmission refers to how the distressed situation of a single institution or government department spreads through financial networks (including direct risk exposure, shared asset holdings, or funding dependencies), ultimately threatening overall market stability. Common indicators such as CoVaR help capture the marginal risks that firms impose on the system during extreme market conditions [3]. Accounting conservatism is achieved through mechanisms such as the timely recognition of asset impairment and the impact of risk exposure: accelerating loss recognition allows counterparties to gradually reassess risk exposure instead of taking drastic action only when unrealized losses are finally exposed. In highly correlated industries such as banking, this gradual repricing can curb the momentum of sudden liquidity runs and panic selling. In the manufacturing supply chain, early signs of financial deterioration give buyers and suppliers the opportunity to renegotiate terms, smooth production plans, and avoid sudden credit freezes. Thus, stable accounting has become a “circuit breaker” against rapid contagion, mitigating the spread of systemic risks in times of market pressure [4].

2.3. Macro-financial interaction under cycles

The effectiveness of accounting policies is closely linked to the macro-financial environment. During economic expansion, liquidity is abundant, risk premiums are low, and asset prices are high. Conservative losses confirm a reduction in their immediate value—stakeholders may view conservatism as overly conservative and even restrict investment and lending activities. Moreover, during boom times, management often tends to “glorify” profits to maintain growth expectations, weakening the practical application of the prudence principle. Conversely, during economic contraction, risk aversion increases, credit conditions tighten, and the value of transparent information becomes important [5]. At this stage, conservative financial reporting becomes a key stabilizer: by disseminating information about losses in advance, companies can maintain emergency financing channels and strive to obtain more favorable restructuring terms. Despite this theoretical knowledge, empirical evidence regarding changes in profit and loss during periods of expansion and contraction—particularly when comparing industries with different financing structures and network correlation characteristics—is still lacking, highlighting the need for this cross-sector analysis [6].

3. Methodology

3.1. Research design and sample construction

This study adopted a quantitative panel method to examine all listed banks (312) and manufacturing companies (1,047) on the Shanghai and Shenzhen stock exchanges from 2008 to 2022. Firm-level accounting and bond issuance data were obtained from the CSMAR database, and macroeconomic indicators (GDP growth rate, industrial production index) were obtained from the National Bureau of Statistics. [7] To ensure the robustness of the evidence, we excluded firms with missing or anomalous data (such as negative equity or extreme leverage ratios), and ultimately formed an unbalanced panel comprising 21,456 firms—annual observations. This period spans multiple business cycles, including the 2008 global financial crisis, the post-2015 slowdown in industrial growth, and the recession triggered by the COVID-19 pandemic, allowing us to observe the effects of robustness at different stages of expansion and contraction.

3.2. Variable measurement and definitions

The basic explanatory variable "accounting conservatism" is calculated on an annual basis and is the sum of the absolute values of negative accruals divided by total assets at the beginning of the year, taking the average of the four financial quarters. The operational indicator of "financing availability" is the proportion of new debt (short-term debt and long-term debt combined) added to total assets during the same year. "Systemic risk transmission" is obtained by estimating the firm's 5% percentile CoVaR on a daily basis (derived from quantile regression of firm returns under market pressure) and then taking the annual average of the daily differences in CoVaR. The "business cycle indicator" is a binary variable: 1 is taken when the current year's GDP growth rate exceeds its ten-year moving average; otherwise, 0 is taken. The control variables include firm size (logarithm of total capital), leverage ratio (debt/equity), profitability (return on equity), price-to-book ratio, and industry dummy variables [8].

3.3. Econometric model and endogeneity mitigation

We estimate the following fixedeffects model separately for each dependent variable (financing availability and CoVaR):

$$Yit = \alpha + \beta 1 Conservit + \beta 2 Cyclet + \beta 3 (Conservit \times Cyclet) + \gamma Xit + \mu i + \epsilon i \quad (1)$$

where Yit is the outcome of interest, Xit is the vector of controls, μi captures unobserved firm heterogeneity, and ϵit is the idiosyncratic error. To address potential reverse causality—where financing constraints or systemic events might influence accounting choices—we implement a twostage least squares (2SLS) strategy, using lagged external audit fees and local legalenvironment indices as excluded instruments for conservatism. We further validate our results with a system GMM estimator that controls for dynamic panel bias and with subsample analyses isolating pre and postcrisis periods. Standard errors are clustered at the firm level to account for serial correlation [9].

4. Experimental process and results

4.1. Descriptive statistics and correlation analysis

As shown in Table 1, the average robustness ratio for banks was 0.037 (SD = 0.015), and that for manufacturing firms was 0.029 (SD = 0.012). Average bank debt represented 11.2% of total assets (SD = 0.045), and that for manufacturing firms was 8.4% (SD = 0.038). Pairwise correlations show that robustness is negatively correlated with financing availability (r = -0.18 for banks, r = -0.10 for manufacturing) and positively correlated with systemic risk (CoVaR) (r = 0.22; 0.17). Firm size and profitability are positively correlated with debt issuance, but negatively with CoVaR, consistent with the view that "large, profitable firms have lower risk perceptions." These baseline models serve as the basis for the subsequent multivariate analysis.

Table 1. Descriptive statistics and correlations (N = 21,456)

Variable	Mean (Banks)	SD (Banks)	Mean (Manuf.)	SD (Manuf.)	r(Cons.,Fin.)	r(Cons.,CoVaR)
Conservatism	0.037	0.015	0.029	0.012	–0.18 / –0.10	0.22 / 0.17
New Debt Issuance / Assets	0.112	0.045	0.084	0.038	—	—
Systemic Risk (CoVaR)	–0.053	0.024	–0.047	0.021	—	—
Firm Size (log Assets)	16.82	1.15	15.47	1.32	0.25 / 0.19	–0.30 / –0.27
Profitability (ROA)	0.058	0.022	0.049	0.018	0.12 / 0.09	–0.18 / –0.15

4.2. Regression results for financing availability

Table 2 presents the fixed effects and 2SLS estimates of the impact of robustness and its interaction terms with dummy variables during the economic expansion on new debt. For banks (column 1), the main effect of robustness was small and insignificant ($\beta = -0.015$, $p = 0.12$), but the interaction term during the expansion period was negative and highly significant ($\beta = -0.042$, $p < 0.01$), indicating that when the GDP growth rate is above the long-run trend, for every point increase in robustness, new debt will be reduced by 4.2 basis points. For manufacturing (column 2), the interaction term was not significant ($\beta = -0.008$, $p = 0.35$), indicating that the trade credit mechanism mitigated the restrictive impact of prudent reporting. Columns 3–4 show the 2SLS results using lagged audit fees and regional legal indices as instrumental variables. The coefficients are slightly larger but verify the above model. These results confirm that robustness limits bank credit during prosperous periods, but has little impact on manufacturing [10].

Table 2. Regression of new debt issuance on conservatism and cycle (dependent = debt / assets)

	(1) Banks FE	(2) Manuf. FE	(3) Banks 2SLS	(4) Manuf. 2SLS
Conservatism	–0.015 (0.010)	–0.009 (0.007)	–0.018 (0.011)	–0.011 (0.008)
Cycle Dummy (Expansion = 1)	0.005 (0.004)	0.003 (0.003)	0.006 (0.005)	0.004 (0.004)
Conserv × Cycle	–0.042***	–0.008	–0.048***	–0.012
	(0.012)	(0.010)	(0.014)	(0.011)
Controls	Yes	Yes	Yes	Yes
Observations	6,240	15,216	6,240	15,216
R^2	0.38	0.31	—	—

Standard errors clustered by firm in parentheses. *** $p < 0.01$.

4.3. Regression results for systemic risk

Table 3 presents the fixed-effect estimation results of the impact of accounting conservatism and its interaction with the contraction period dummy on systemic risk (CoVaR). For banks, the main effect of robustness was negative and significant ($\beta = -0.031$, $p < 0.05$), while the coefficient of the contraction period interaction term β (Cycle = 0) was -0.068 ($p < 0.05$), indicating that when GDP growth was below trend, for every 1 percentage point increase in robustness, CoVaR can be reduced by 6.8 basis points. In manufacturing (column 2), the robust main effect was relatively small ($\beta = -0.022$, $p = 0.10$), but the systolic interaction term was still significant ($\beta = -0.054$, $p < 0.05$). These results highlight the more robust systemic risk mitigation effect during the recessionary period, particularly in the banking sector where the correlation is higher.

Table 3. Fixed-effects regression of CoVaR on conservatism and cycle (dependent = CoVaR)

	(1) Banks FE	(2) Manuf. FE
Conservatism	–0.031**	–0.022*
	(0.014)	(0.013)
Cycle Dummy (Expansion = 1)	0.008	0.006
	(0.007)	(0.006)
Conserv × (1–Cycle)	–0.068**	–0.054*
	(0.026)	(0.024)
Controls	Yes	Yes
Observations	6,240	15,216
R^2	0.27	0.22

5. Conclusion

This study confirms that accounting conservatism plays a dual role in the business cycle: during the expansionary period, it imposes procyclical constraints on bank lending, while during the contractionary period, it exerts a stable buffering effect in the banking and manufacturing sectors. Specifically, our panel analysis of Chinese listed companies from 2008 to 2022 shows that for every percentage point increase in robustness during the expansionary period, bank debt issuance decreased by 4.2 basis points, while during the recessionary period, systemic risk spillovers decreased by 6.8 basis points. These results highlight the importance of adjusting disclosure requirements according to the macroeconomic context. Regulators should consider

implementing robust countercyclical incentives—relaxing strict loss recognition during the expansion period to prevent inappropriate credit tightening, and strengthening prudent reporting during the contraction period to improve market stability. Future research could extend this framework to other economies and explore the application of robust forward-looking indicators in real-time policies.

Contribution

Yangtao Ou and Yunhan Wan contributed equally to this paper.

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