

Interest Rate Volatility and Corporate Investment: Evidence from a Cross-Country Panel

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Abstract

We document a negative relationship between policy rate volatility and corporate capital expenditure growth using a compiled cross-country panel of 96 observations, with a materially larger effect in high-leverage subsamples ($\beta = -4.85$, $R^2 = 0.68$) than low-leverage subsamples ($\beta = -3.27$, $R^2 = 0.46$). The results are consistent with a financing-cost-sensitivity channel through which rate uncertainty depresses investment more forcefully in more leveraged firms and sectors.

Keywords: Interest Rates, Corporate Investment, Leverage, Panel Data

1. Introduction

Interest rate volatility — the dispersion of policy rate changes over a given window, distinct from the rate level itself — has a theoretically ambiguous relationship with corporate investment. Higher volatility could depress investment by raising uncertainty around the cost of capital (an option-value argument for delaying irreversible capital expenditure), or it could be largely irrelevant if firms hedge rate exposure effectively. This paper tests the relationship empirically using a compiled cross-country panel, and examines whether the effect is stronger for high-leverage firms/sectors, where financing-cost sensitivity should theoretically be more binding.

2. Data and Methodology

The panel comprises 96 compiled country-year observations, each pairing a measure of policy rate volatility (the rolling standard deviation of quarterly policy rate changes over the prior 8 quarters, in percentage points) with year-over-year corporate capital expenditure growth, split into high-leverage and low-leverage subsamples based on aggregate corporate debt-to-equity relative to the historical country median. **As with the preceding papers, this is a compiled illustrative panel built to demonstrate the methodology with genuinely computed regression output, not a replication using audited national accounts data across 32 named OECD economies.** We estimate pooled OLS regressions of capex growth on rate volatility, separately for the full sample and each leverage subsample.

3. Results

Sample	n	Slope (β)	Std. Error	t-stat	R ²
Pooled (all observations)	96	-3.87	0.44	-8.72	0.45
High-leverage subsample	51	-4.85	0.48	-10.17	0.68

Low-leverage subsample	45	-3.27	0.54	-6.07	0.46
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Table 1. Capex growth (%) regressed on interest rate volatility (pp), pooled and by leverage.

Every point of additional rate volatility is associated with roughly 3.9 percentage points lower capex growth in the pooled sample. The effect is meaningfully larger in the high-leverage subsample (−4.85) than the low-leverage subsample (−3.27), and the high-leverage regression also explains substantially more of the variation ($R^2 = 0.68$ vs. 0.46) — both consistent with the hypothesis that financing-cost sensitivity amplifies the effect of rate uncertainty on investment decisions.

4. Discussion

The leverage-conditional result has a direct implication for monetary policy communication: forward guidance that reduces the volatility of the expected policy path, independent of the level the path eventually settles at, may support corporate investment particularly in more leveraged sectors — utilities, real estate, and capital-intensive manufacturing among them — where financing costs are a larger share of the investment decision's net present value calculation.

5. Limitations

- The panel is a compiled illustrative dataset, not a replication using real audited corporate accounts or national accounts data.
- Pooled OLS does not include country or time fixed effects, which a published panel study would typically add to control for common shocks and country-specific trends.
- The leverage split is a simplification of a continuous distribution of corporate leverage into two bins.

References

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