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Monetary Shocks and the Analyst Coverage of the Firm

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Abstract

Contractionary monetary shocks, which are known to reduce growth and tighten lending, significantly reduce firm-level analyst coverage. The reduction in analyst coverage of high-leverage firms is almost 50% larger, and faster, than the reduction in the coverage of low-leverage firms.

Keywords: Monetary Policy; Analyst Coverage; Leverage.

JEL Codes: D84; E50; E52; G14.

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1. Introduction

Analyst coverage is an integral part of the firm's informational environment. There is overwhelming evidence that analysts reduce to share price noisiness (Schutte and Unlu, 2009) and effectively monitor the management's performance (Bradley et al., 2017). However, firm-level analyst coverage varies over time. While extant studies investigate how firm-specific factors influence firm-level analyst coverage (Das et al., 2006; Jiraporn et al., 2014), the emphasis on the role of macroeconomic factors is limited.

We assess the impact of a widely influential macroeconomic force – monetary policy – on firm-level analyst coverage. We argue that favorable (unfavorable) monetary shocks predict a rise (decline) in analyst coverage for the average firm. We build on the notion that positive underlying growth prospects present a key factor that attracts analysts to the firm (Das et al., 2006; McNichols and O'Brien, 1997). Analysts are generally hesitant to publish unfavorable recommendations. This is partly because companies on the receiving ends of negative recommendations may reduce future communications with the analysts who make such recommendations, and also limit their business engagements with the institutions that employ such analysts (Das et al., 2006). By contrast, making overoptimistic recommendations can hurt the analysts' reputation and negatively affects their career prospects. Hence, to preserve a reputation for accuracy, analysts gravitate toward companies with strong growth prospects (Tehranian et al., 2014).

We predict that expansionary monetary shocks – which positively enhance the firm's macroeconomic environment, increase growth prospects, and relax financing constraints (Barakchian and Crowe, 2013; Gertler and Karadi, 2015), ultimately increase the analyst coverage of the average firm. By contrast, as monetary tightening reduces investment and financing opportunities, we expect the average firm to experience a decline in analyst coverage in the aftermath of contractionary monetary shocks. Moreover, as high-leverage firms are most vulnerable to an unanticipated monetary contraction that tightens credit conditions (Chava and Hsu, 2020), we expect the reduction in analyst coverage in response to contractionary shocks to be more pronounced for such firms.

Evidence from local projection analysis on a panel of more than 8,000 firms and 240,000 firm-quarter observations between 1992 and 2019 supports our prediction. Using exogenous monetary shocks developed by Jarociński and Karadi (2020), we find that a one-standard-deviation contractionary shock decreases the number of analysts who follow the average firm by roughly 10% over the subsequent year. The reduction in coverage is more pronounced for the group of firms subject to informational opacity, i.e., with limited analyst coverage at the time of the monetary shock. Within this group, low-leverage firms experience a decline in analyst coverage by roughly 10% over the subsequent year, while high-leverage firms experience a decline in analyst coverage by roughly 16%. The decline in analyst coverage for high-leverage firms is more immediate, starting by roughly 4% in the first quarter after the monetary shock.

A key insight from our findings is that, despite the recognition that macroeconomic conditions influence the accuracy of analyst forecasts (Chahine et al., 2021; Hugon et al., 2016), the role of these conditions, and particularly monetary policy, in influencing the allocation of analyst coverage is not explicitly examined. While prior papers exclusively focus on firm-level determinants of analyst coverage (Das et al., 2006; Tehranian et al., 2014), our paper is the first to introduce exogenous monetary shocks as a factor that influences firm-level analyst coverage after controlling for key macroeconomic factors such as growth, unemployment, and inflation.

2. Monetary Shocks, Analysts, and Firm-Level Data

Our proxy for exogenous monetary shocks is the series imputed from the Vector Autoregression model of Jarociński and Karadi (2020). The authors identify monetary shocks using an external high-frequency instrument: the 30-minute changes in the rate of Fed funds futures that are negatively correlated with stock returns at the time of announcements by the Federal Open Markets Committee (FOMC). A key advantage of this approach is that it explicitly separates monetary shocks in the conventional sense from the information shocks reflecting the Fed's assessment of the macroeconomic outlook (Nakamura and Steinsson, 2018). Figure 1 presents the quarterly shocks used in our analysis. In our local projection analysis, the shock for each quarter is divided by the standard deviation of shocks in our sample to produce the variable $Shock$.

We control in our analysis for the effects of the unemployment rate, GDP growth, and inflation on analyst coverage. To validate the exogeneity of monetary shocks, as in Mertens and Raven (2013), we perform Granger causality tests between macroeconomic variables and these shocks. The null hypotheses of no causal effects of macroeconomic variables on monetary shocks are not rejected.[1]

(Figure 1)

Our firm-level analysis focuses on U.S. firms with available analyst coverage data in the I/B/E/S database. The quarterly number of analysts following a given firm is retrieved from I/B/E/S for the period between the 1992 Q:1 and the 2019 Q:2. We also control for the firm's assets, debt ratios, return on assets (RoA), and capital expenditure as a percentage of asset value at the quarterly level, as reported in the COMPUSTAT database. The macroeconomic variables are retrieved from the FRED database. The descriptive statistics of all variables, available for 8,111 firms, are presented in Table 1.

(Table 1)

3. Local Projection: Results and Discussion

We assess the impact of monetary shocks on analyst coverage by using the local projection approach in a panel regression setting (Jordà et al., 2020):

$$\begin{aligned}\left(\ln(1+Analysts_{t+h,i})-\ln(1+Analysts_{t,i})\right)\times 100 \\ = \beta^{h}_{Shock}.Shock_t+\beta^{h}_{Shock,HighDebt}.Shock_t\times HighDebt_{t,i} \\ +\beta^{h}_{HighDebt}.HighDebt_{t,i}+f\left(Firm\ Factors_{t,i}\right) \\ +g(Economic\ Factors_t)+\gamma^{h}_{i}+\epsilon_{t+h,i}\end{aligned} \quad (1)$$

The dependent variable presents the growth in the number of analysts who follow a given firm i, h quarters after the monetary shock, relative to the number at the time of the shock. Hence, β^{h}_{Shock} captures the cumulative effect of monetary contraction of firm-level analyst coverage of low-leverage firms over the subsequent h quarters. $HighDebt_{t,i}$ is a dummy variable assigned the value of one for firms with debt ratios exceeding the 75th percentile, and zero otherwise. $\beta^{h}_{Shock}+\beta^{h}_{Shock,HighDebt}$ captures the cumulative effect of monetary contraction of firm-level analyst coverage for high-leverage firms. The specification in Equation (1) controls for the firm- and economy-related factors. The equation also includes γ^{h}_{i}, which refers to firm-specific effects at each horizon, in addition to a white noise error term.

[1] These results are available from the authors upon request.

The evidence presented in Table 2 (Panel A) on the full sample suggests that, in response to a one-standard-deviation contractionary shock, the average low-leverage firm experiences a decline in analyst coverage by roughly 8%. This is equivalent to the average low-leverage firm, with an average of 397 analysts in our sample, losing 32 analysts. High-leverage firms, in turn, experience a decline in coverage by roughly 10.5% (=-7.63% - 2.90%) over the subsequent year. This is equivalent to almost 51 analysts, as the average high-leverage firm in our sample is followed by roughly 516 analysts. Evidence from Panels B and C suggests that the decline in coverage is pronounced in the group of firms that are already subject to limited coverage at the time of the monetary shock. Such limited coverage reduces the informational input available for analysts aiming to evaluate these firms' fundamentals in challenging economic periods. The evidence from Panel B suggests that the average low-leverage firm experiences a decline in analyst coverage by 10%, while high-leverage counterparts experience a decline of 16% in the year following the shock.

(Table 2)

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Table 1 Descriptive statistics

Variable	# of Obs.	Mean	25th Perc.	Median	75th Perc.
$Analysts$	241,373	426.91	53	209	560
$Shock$	241,373	0.06	-0.09	0.15	0.51
$Debt$	241,373	54.02	33.10	53.19	72.17
RoA	241,373	-0.32	-0.13	0.72	1.92
$CAPX$	241,373	2.72	0.27	1.24	3.26
$Assets$	241,373	14,915.54	281.18	1,144.76	4,486.08
$GDPGrowth$	241,373	0.54	0.30	0.59	0.83
$Inflation$	241,373	0.51	0.25	0.56	0.81
$Unemp$	241,373	5.93	4.6	5.3	7.2

Table 2 The effects of monetary shocks on firm-level analyst coverage

Panel A: All				
Variables\Quarter	$h = 1$	$h = 2$	$h = 3$	$h = 4$
$Shock_t$	0.276(0.210)	-3.889***(0.233)	-6.954***(0.252)	-7.638***(0.265)
$Shock_t \times HighDebt_{i,t}$	-1.916***(0.422)	-3.106***(0.467)	-2.915***(0.506)	-2.901***(0.531)
$HighDebt_{i,t}$	-2.160***(0.622)	-3.546***(0.695)	-4.787***(0.761)	-4.652***(0.810)
$RoA_{i,t}$	0.010**(0.004)	0.017***(0.004)	0.012***(0.005)	0.016***(0.005)
$CAPX_{i,t}$	0.567***(0.046)	0.558***(0.051)	0.081(0.056)	0.014(0.059)
$\ln(Assets_{i,t})$	-6.595***(0.256)	-12.756***(0.285)	-19.648***(0.312)	-25.703***(0.332)
$GDPGrowth_t$	1.094***(0.285)	2.032***(0.316)	-0.958***(0.342)	-4.797***(0.359)
$Inflation_t$	-1.476***(0.250)	1.399***(0.277)	3.049***(0.299)	5.096***(0.314)
$Unemp_t$	0.132(0.089)	0.074(0.100)	-0.635***(0.109)	-1.741***(0.115)
γ_i^h	50.484***(1.964)	98.231***(2.190)	159.193***(2.390)	215.638***(2.531)
N	231,520	225,500	218,106	210,980
Panel B: $Analysts_{i,t-1} \leq 25th\ Pct$				
Variables\Quarter	$h = 1$	$h = 2$	$h = 3$	$h = 4$
$Shock_t$	-0.173(0.412)	-4.161***(0.455)	-8.682***(0.490)	-9.520***(0.514)
$Shock_t \times HighDebt_{i,t}$	-3.704***(0.929)	-5.454***(1.026)	-6.008***(1.101)	-5.596***(1.155)
$HighDebt_{i,t}$	0.480(2.077)	-1.165(2.323)	-1.002(2.514)	-1.441(2.667)
$RoA_{i,t}$	0.035*(0.018)	0.012(0.020)	-0.015(0.021)	0.023(0.023)
$CAPX_{i,t}$	-0.031(0.122)	-0.230*(0.136)	-0.384***(0.147)	-0.417***(0.155)
$\ln(Assets_{i,t})$	3.712***(1.019)	5.912***(1.136)	5.370***(1.224)	6.674***(1.297)
$GDPGrowth_t$	-2.907***(0.809)	-4.510***(0.899)	-12.916***(0.966)	-23.157***(1.017)
$Inflation_t$	-4.635***(0.788)	-3.824***(0.876)	-3.754***(0.943)	2.083**(0.991)
$Unemp_t$	2.433***(0.389)	4.218***(0.435)	3.636***(0.471)	2.091***(0.500)
γ_i^h	-17.638**(6.885)	-26.184***(7.704)	-0.568(8.328)	17.380**(8.833)
N	57,746	55,860	54,117	52,457
Panel C: $Analysts_{i,t-1} > 25th\ Pct$				
Variables\Quarter	$h = 1$	$h = 2$	$h = 3$	$h = 4$
$Shock_t$	2.054***(0.258)	-1.099***(0.282)	-0.982***(0.300)	0.033(0.307)
$Shock_t \times HighDebt_{i,t}$	-0.648(0.464)	-1.528***(0.507)	-1.215**(0.539)	-1.609***(0.552)
$HighDebt_{i,t}$	-2.612***(0.600)	-4.005***(0.661)	-5.677***(0.714)	-4.871***(0.742)
$RoA_{i,t}$	0.007**(0.003)	0.017***(0.004)	0.013***(0.004)	0.013***(0.004)
$CAPX_{i,t}$	0.878***(0.047)	0.939***(0.051)	0.196***(0.055)	0.115**(0.057)
$\ln(Assets_{i,t})$	-5.459***(0.283)	-10.463***(0.311)	-16.368***(0.336)	-20.844***(0.348)
$GDPGrowth_t$	1.979***(0.275)	3.475***(0.300)	1.414***(0.319)	-0.790**(0.327)
$Inflation_t$	-1.504***(0.239)	1.349***(0.261)	1.886***(0.278)	2.192***(0.284)
$Unemp_t$	0.234***(0.081)	0.367***(0.089)	0.075(0.096)	-0.384***(0.099)
γ_i^h	39.286***(2.255)	75.794***(2.481)	126.600***(2.086)	165.582***(2.765)
N	173,343	169,219	163,583	158,134

Note: This table presents the results of the non-linear local projection estimations of the monetary shocks' impact on firm-level analyst coverage over a four-quarter horizon. The columns for each value of h represent the effect of the shock variables and the control ones. Standard errors are in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

Figure 1 Monetary shock series