The Fed's Response to Economic News Explains the "Fed Information Effect"

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- but empirical work sometimes estimates $\theta > 0$

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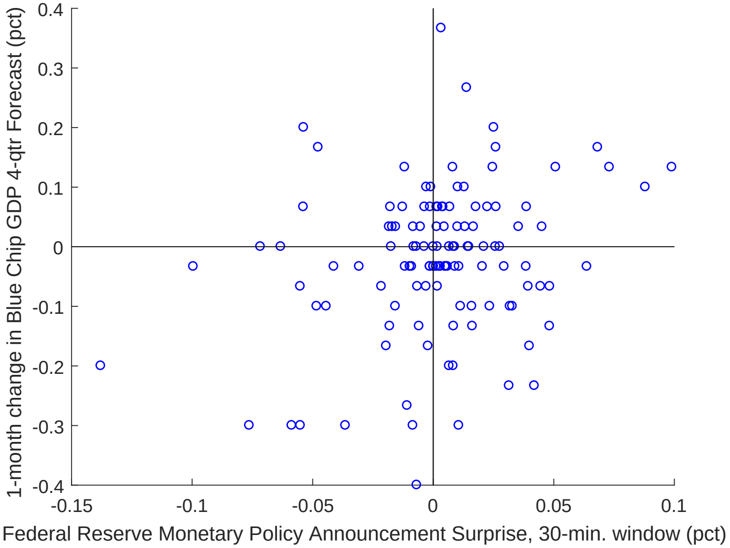

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See:

- Romer and Romer (2000 AER)
- Campbell, Evans, Fisher, Justiniano (2012 BPEA)
- Nakamura-Steinsson (2018 QJE)

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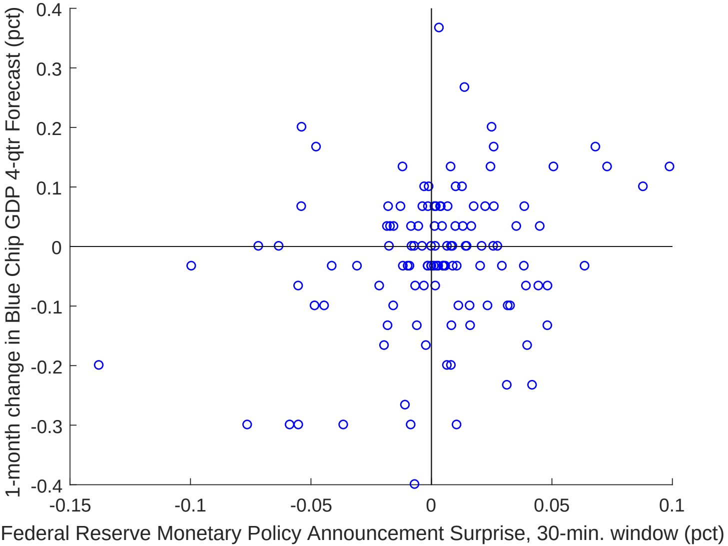

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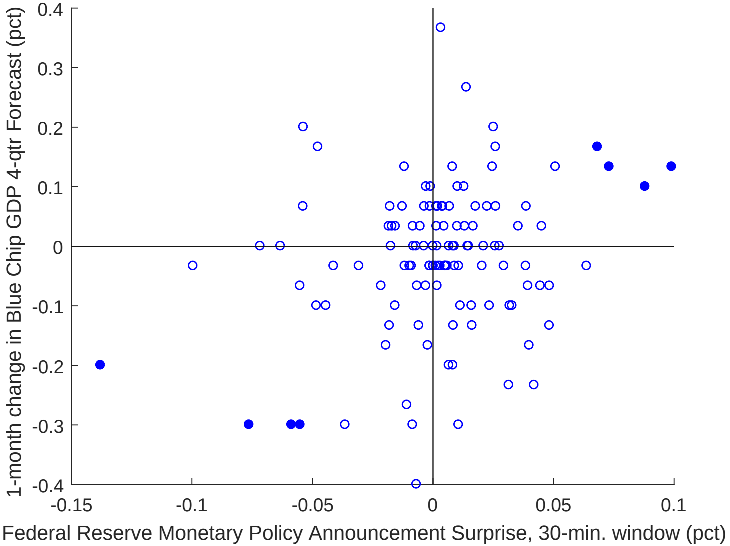

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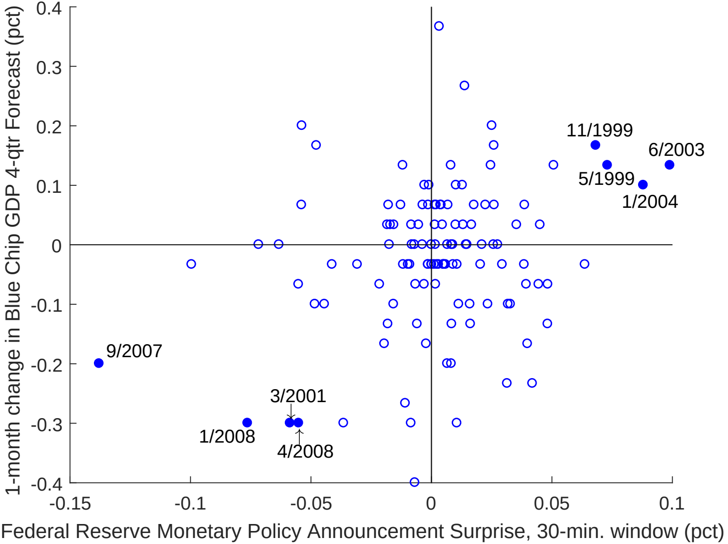

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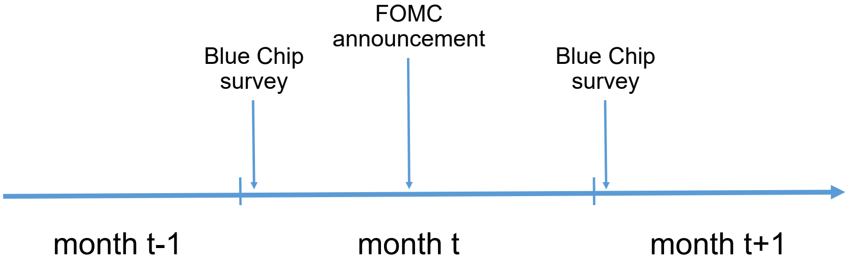

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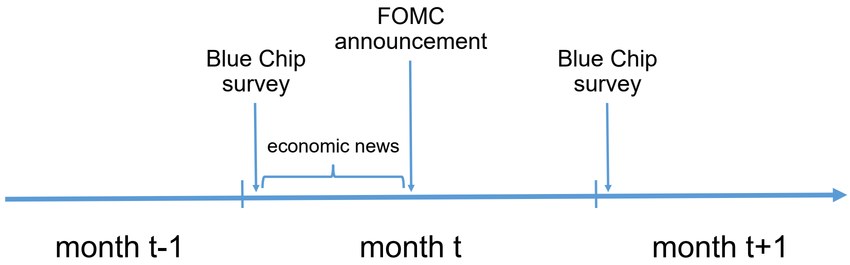

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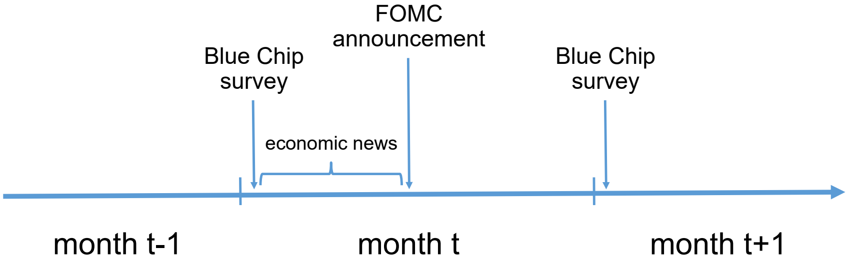

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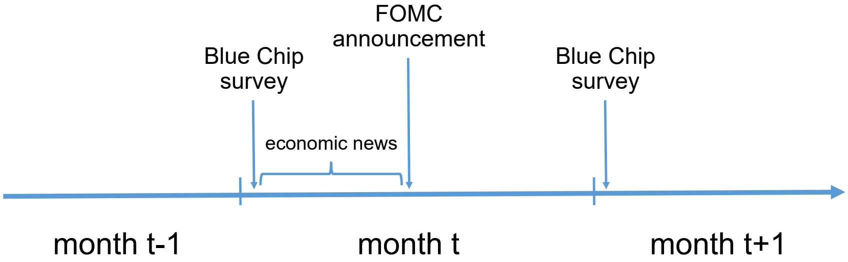

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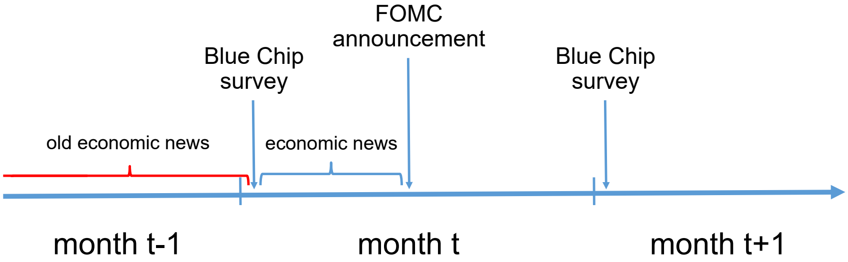

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- Old economic news can also matter if Blue Chip forecasters revise forecasts a little slugglishly (Coibion-Gorodnichenko, 2015 AER)

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- but if markets don't know Fed's monetary policy rule, then mps_t can be correlated with economy *ex post*, resulting in $\beta \neq 0$ (see also Cieslak, 2018 RFS; Schmeling et al., 2020)

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MP Surprise measure	(1) Nonfarm payrolls	(2) Brave et al. index	(3) $\Delta \log$ S&P500
Full sample: 1/1990–6/2019, including unscheduled announcements			
fed funds rate	$.095^{***}$	$.017^{**}$	$.217^{***}$
	(.035)	(.0067)	(.084)
fwd guidance path	.024	$.013^{***}$	$.187^{***}$
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Bottom line:

- news_t is correlated with mps_t
  (which will cause omitted variable bias in "Fed Information Effect" regressions)

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Repeat "Fed Information Effect" regressions with omitted news variable included:

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$$BCrev_t = \alpha + \beta\, target_t + \gamma\, path_t \qquad\qquad + \varepsilon_t$$

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Blue Chip forecast	(1) Campbell et al. fed funds rate "target factor"	 fwd. guidance "path factor"	(2) Nakamura-Steinsson first princip. comp. "MP surprise"
Full sample: 1/1990–6/2019, including unscheduled announcements			
Excluding omitted news variable:			
Real GDP growth	0.16	0.14	0.33
	(.171)	(.223)	(.296)
Unemployment rate	-0.16	-0.24^{*}	-0.39^{**}
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Stock Market Response to FOMC Announcements

Consider high-frequency stock market response regressions:

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- information effect prediction is ambiguous for β, γ, θ
  - but Jarocinski-Karadi (2019), Cieslak-Schrimpf (2019) argue β, γ, θ should be > 0 if information effect is substantial

Stock Market Regression Results

	(1) Campbell et al.		(2) Nakamura-Steinsson
	fed funds rate "target factor"	fwd. guidance "path factor"	first princip. comp. "MP surprise"
Full sample: 1/1990–6/2019, including unscheduled announcements			
Δ log S&P500	-4.37^{***}	-2.52^{***}	-7.82^{***}
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Replication samples: 1/1990–6/2007 for CEFJ, 1/1995–3/2014 for NS			
Δ log S&P500	-4.24^{***}	-2.05^{***}	-5.95^{***}
	(0.46)	(0.65)	(1.03)
Full sample: 1/1990–6/2019, excluding unscheduled announcements			
Δ log S&P500	-3.11^{***}	-3.14^{***}	-6.53^{***}
	(0.64)	(0.51)	(0.82)
Full sample: 1/1990–6/2019, excl. unsched. announcemts. and 7/2008–6/2009			
Δ log S&P500	-2.81^{***}	-3.02^{***}	-6.03^{***}
	(0.64)	(0.51)	(0.78)

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  - federal funds rate decision
  - FOMC statement
  - interest rate “dot plot”
  - Summary of Economic Projections (SEP) forecasts for GDP, unemployment, and inflation

Results from Our Survey

36 responses out of 52 possible:

	Response to hawkish surprise in:		
	fed funds rate	FOMC statement	"dot plot"
Do not revise GDP forecast	13	16	14
Revise GDP forecast downward	18	15	18
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- The last row contradicts "Fed information effect"

Results from Our Survey

	Response to FOMC's Summary of Economic Projections (SEP)
Do not revise GDP forecast	24
Revise GDP forecast towards SEP forecast, if substantially different	4
Use SEP to help forecast fed funds rate, effect on GDP standard	3
Use SEP to help forecast fed funds rate, effect on GDP depends on other factors	1
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- If there was a Fed information effect, we ought to see it here

Typical Quotes from Our Survey

24 out of 34 survey respondents do not find SEP forecasts useful:

"I trust my outlook more than the Fed's... Their forecasting ability is pretty poor."

"My view is that the Fed does not have superior information... The FOMC forecast tends to be off by a lot."

"We tend to find that the Fed has no better information advantage over economists like myself... In fact, what we have found many times is Fed forecasts (per the SEP) tend to be somewhat stale."

"I would be responding to the change in the policy outlook, not to the possibility that the Fed 'knew' something that I did not."

"We would not be updating our forecasts because we think the SEP forecasts are good. But if we think they signal something about future policy and portend a market shock then we might change some forecasts in anticipation of that."

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Typical Quotes from Our Survey (cont.)

“I have not been surprised by an FOMC announcement since well before 2008 (including January 2008 [a 75bp intermeeting rate cut]).”

“In the end, we are likely to get more information from speeches and press conferences than we are from the statement, the decision, or the dots. So by the time we get those things, it tends to be relatively ‘old news’, if you will.”

“I make my forecasts based on the data, not Fed assumptions. I haven’t been surprised by them in a very long time.”

“If we think the Fed is about to make a decision that is inconsistent with our expected outlook, we often think that will lead to a change in financial conditions that will in turn push the Fed back to where we think is appropriate for the economy.”

“I could never find an effect of interest rates on any component of investment except residential [which was too small to have a significant effect on the GDP forecast].”

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Let $\mathcal{H}_t \; \equiv \; \{x_t, i_t, x_{t-1}, i_{t-1}, x_{t-2}, i_{t-2}, \dots\}$.

Let $\hat{a}_t \; \equiv \; E\left[a \,|\, \mathcal{H}_{t-1}\right]$

$\eta_t, \varepsilon_t \perp \mathcal{H}_{t-1}$

Implications of the Simple Model

Key equations:

$$mps_t \;=\; (a - \hat{a}_t)x_t \;+\; \varepsilon_t$$

$$E\left[i_{t+j}|\mathcal{H}_t\right] - E\left[i_{t+j}|x_t, \mathcal{H}_{t-1}\right] \;=\; \rho_x^j \,\theta\, mps_t$$

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$$
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\end{aligned}
$$

- mps_t is correlated with x_t *ex post*, even though mps_t was unforecastable *ex ante*

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- mps_t is correlated with x_t *ex post*, even though mps_t was unforecastable *ex ante*
- The high-frequency effect of ε_t on asset prices is the same as the effect of mps_t on asset prices
- To estimate effects of ε_t on asset prices (as in Kuttner, 2001; Gürkaynak, Sack, and Swanson, 2005; Bernanke and Kuttner, 2005; etc.), econometrician can run high-frequency regressions with mps_t as the right-hand-side variable
- However, for high-frequency identification of a VAR, mps_t is correlated with x_t, must be orthogonalized to be used as external instrument (e.g., Miranda-Agrippino and Ricco, 2021).

Also in the Paper

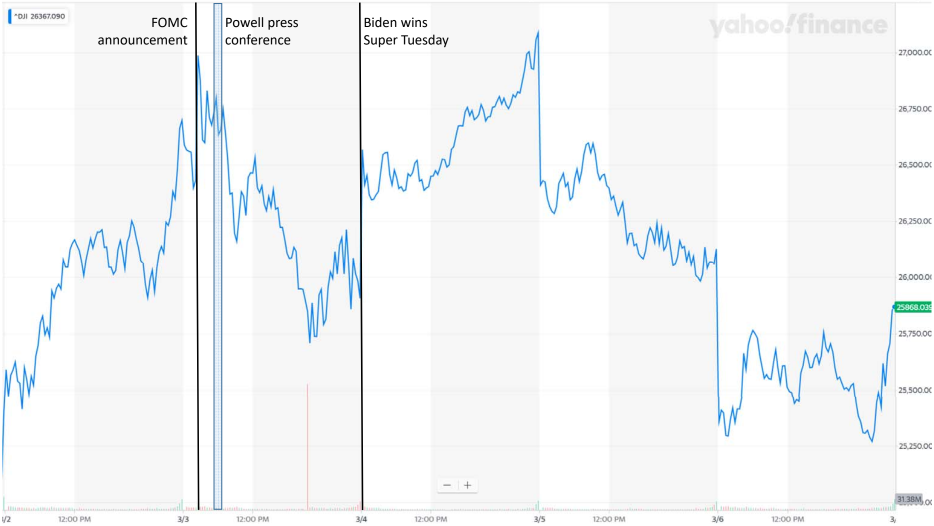
In the paper, we also:

1. show Blue Chip and Fed Greenbook forecasts are very similar
2. conduct extensive robustness analysis of empirical results
3. provide simple model of private-sector learning about Fed's monetary policy rule to model "Fed Response to News" channel
4. using model, show high-frequency monetary policy surprises can be used:
    - in high-frequency regressions to estimate effects of monetary policy
    - in high-frequency identification of VARs (but some adjustment here can be necessary)

Conclusions

1. Economic news is an omitted variable in “Information Effect” regs.
    - “Fed Information Effect” regressions suffer from omitted variable bias
    - including the omitted variable drives out “Fed Information Effect”
2. Stock market responses to FOMC announcements do not support “Fed Information Effect”
3. Our survey of Blue Chip forecasters contradicts “Fed Information Effect”
4. Evidence for “Fed Information Effect” is weak
5. We propose alternative “Fed Response to News” channel that can explain all of the empirical findings

The Stock Market, March 2–6, 2020



Jarocinski and Karadi (2020)

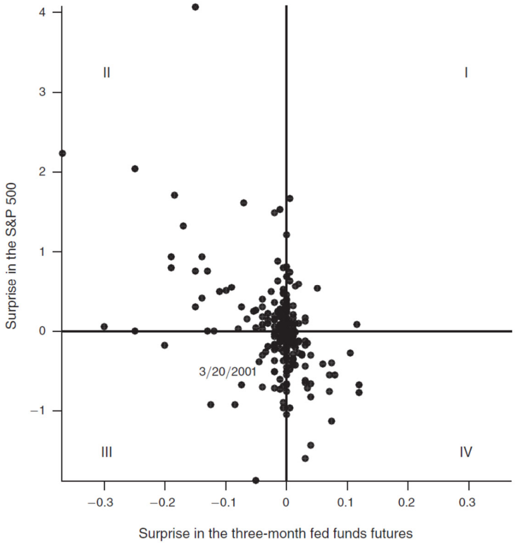


FIGURE 1. SCATTERPLOT OF INTEREST RATE AND STOCK PRICE SURPRISES

Jarocinski and Karadi (2020)

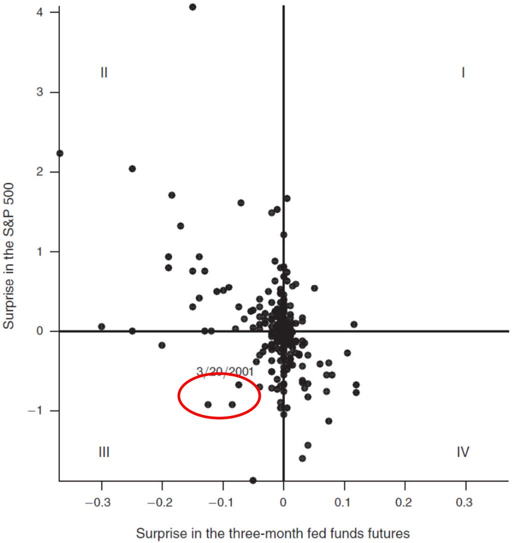


FIGURE 1. SCATTERPLOT OF INTEREST RATE AND STOCK PRICE SURPRISES

Jarocinski and Karadi (2020): 3/20/2001

STOCKS & BONDS

Shares Fall Hard as Fed Rate Cut Disappoints Inves...

Sources Associated Press, Bloomberg Financial Markets

The New York Times

Hot & Cold

A look at stocks with large price percentage gains and losses

STOCK EX, SYMBOL	YESTERDAY CLOSE	CHANGE		YEAR TO DATE	COMMENT
Plantronics N PLT	$16 97	–$6 03	–26 2%	–63 9%	Maker of cellular-phone headsets says earnings will be 16 cents to 19 cents a share in its fourth quarter, analysts had expected 36 cents
Three-Five Systems N TFS	$12 39	–$3 26	–20 8%	–31 2%	Maker of liquid-crystal displays expects to break even in the first quarter, analysts had forecast a profit of 8 cents a share
Flextronics International NNM FLEX	$19 00	–$4 38	–18 7%	–33 3%	Several analysts lower their earnings estimates for the electronics manufacturing service provider
Solectron N SLR	$19 09	–$2 40	–11 2%	–43 7%	The contract manufacturer of electronics is cutting 8,200 jobs, or 10 percent of its workers, and will miss profit forecasts for the current quarter because demand is falling
Exfo Electro-Optical Engineering NNM EXFO	$25 25	+$2 00	+8 60%	–3 4%	Maker of gear for testing fiber optic equipment reports fiscal second-quarter profit, excluding costs, that tops analysts' estimates The company cites higher-than-expected demand
Oracle NNM ORCL	$14 38	–$1 06	–6 88%	–50 5%	Software maker is cutting its work force by up to 2 percent, or 900 jobs, in an attempt to bolster its sagging profits

Compiled from staff reports, The Associated Press, Bloomberg News Bridge News Dow Jones, Reuters

By MICHAEL BRICK

After weeks of anticipation, investors were disappointed yesterday after the Federal Reserve cut interest rates less than they had wanted.

Stocks fell sharply, with technology issues suffering big losses The afternoon selloff partly reflected the misplaced bets of investors who had hoped the Fed would reduce short-term interest rates by three-quarters of a percentage point. Instead, the central bank cut its target for the federal funds rate by a widely anticipated half a point, to 5 percent.

The Nasdaq composite index fell 93 74 points, or 4 8 percent, to 1,857.44. The Nasdaq is down 24 8 percent so far this year The Dow Jones industrial average fell 238.35 points, or 2.4 percent, to 9,720 76. It fell below 10,000 last week as investors' fears spread beyond the technology sector, and it has now declined 9.9 percent this year.

The Standard & Poor's 500-stock index fell 28.19 points, or 2 4 percent, to 1,142 62 It has declined 13 5 percent this year.

The Fed made its announcement around 2 15 p m. Eastern time. Until then, the stock market was sluggish, showing modest gains. Immediately afterward, the Nasdaq dropped about seven-tenths of a percent, then jumped back up about 2 percent.

"The indecision is rampant," said Jeffrey D. Saut, chief investment strategist for Raymond James & Associates "It's up, it's down, it's down, it's up."

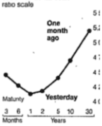
After that, though, stocks began a rapid and steady descent. The losses carved deeply into technology stocks, which some investors had hoped would surge, at least temporarily, after the move by the Fed

"Investors just don't know how they want to be positioned," said Brett Gallagher, a vice president of Julius Baer Investment Management, who manages $400 million in equity holdings for foundations and wealthy individuals. After some hasty adjustments, they seemed struck by a realization that "the next scheduled releases we're going to see are going to be first-quarter earnings and we don't expect those to be brilliant."

Intel fell $2 44, to $24.63; **Cisco** fell $1.75, to $19.06, and **JDS Uniphase** fell $3.13, to $21 50

Treasury Yield Cu...

Yields of selected Trea... securities Short-term ... ities are shown on a bond equivalent basis Horizontal scale ratio scale



Source Bloomberg Financial Markets

The New York T...

Key Rates

Percent

	Yesterday	Day Ago	Ye... Ag...
Prime rate	**8 00**	8 50	8
Discount rate	**4.50**	5 00	5
Federal funds	**5.13**	5 38	5
3-month T-bills	**4.34**	4 37	5
6-month T-bills	**4.16**	4 22	5
10-yr T-infl	**3.30**	3 29	4
10-yr T-note	**4.75**	4 81	6
30-yr T-bond	**5.26**	5 29	5
Telephone bd	**7.67**	7 70	8
Municipal bds	**5.27**	5 27	6

Sources Salomon Smith Barney, Telerate, The Bond Buyer

their purchases in the energy se... and in the stocks of intrinsically ...clical companies, said Jon Bron... director of equities for North... Trust, the money management ... of the Northern Trust Company

Alcoa rose 35 cents, to $36.28, ... **International Paper** gained $1 1... $37.36.

Treasury Prices Rise

By Bloomberg News

Treasury bond prices rose yes...day after the Federal Reserve l...ered interest rates to 5 percent ... signaled another rate cut could c... as early as next month — before ...

Reckonings

PAUL KRUGMAN

Half a Loaf

It could have been the one-two punch that turned the world economy around. On Monday the Bank of Japan met to set monetary policy in the world's second-largest economy, amid hopes that last year's disastrous decision to raise interest rates would be decisively reversed Yesterday the Federal Reserve's Open Market Committee met to set interest rates for the world's biggest economy, amid hopes that it would act decisively to stop the slide in America's economic growth

Alas, both central banks pulled their punches Not that they refused to act the Fed cut interest rates half a percentage point, and the Bank of Japan announced what amounted to a humiliating reversal of policy But in each case the measures taken were half-hearted — moves in the right direction, but almost certainly too weak to do the job And since both central banks faced problems in which market psychology is key, in both cases half a loaf may be as bad as no loaf at all. For if the measures taken in the last two days fail — which they almost certainly will — the fact that each central bank tried to turn the economy around but failed will damage its credibility, and make it all the harder to engineer a recovery in the future

Start with Japan Last year the Bank of Japan somehow managed to convince itself that the right cure for an economy suffering persistent deflation was to raise interest rates Now it has grudgingly conceded that deflationary monetary policy is, you ...

that much harder for any later effort to break the vicious cycle of deflationary psychology.

The situation in the United States is not nearly so grim We don't have a long history of deflation in consumer prices But we do have rapidly deflating stock prices, and equally rapidly deflating consumer and business confidence The Bank of Japan needs to break a vicious circle of self-fulfilling expectations of deflation; the Fed needs to break a vicious circle of self-fulfilling deflation of expectations. This isn't just word play, there is a real similarity in the problems facing the two institutions

Central banks do it partway.

The big difference is that the Fed has a powerful conventional tool at its disposal; since U S. interest rates remain well above zero, there is still room for substantial cuts.

But yesterday the Fed applied that tool half-heartedly, with a rate cut that almost nobody thinks is large enough to do the trick The official statement that went with the cut contained the code words "the Federal Reserve will need to monitor developments closely." I take this to mean that the Fed itself suspects strongly that another emergency

The New York Times

Fed Disappoints Wall Street With Half-Point Cut in Rates

By Richard W. Stevenson

March 20, 2001

WASHINGTON, March 20 - The Federal Reserve cut interest rates today by half a percentage point, continuing its aggressive effort to resuscitate the faltering economy but disappointing investors who had hoped for more.

Stock prices fell sharply after the Fed's announcement. The Dow Jones industrial average and the broader Standard & Poor's 500-stock index both dropped more than 2 percent, while technology-heavy Nasdaq composite index lost more than 4 percent.