

Eonia Dynamics and Volatility Transmission in the European Money Market

Some Comments by Ben Craig

ZEW Conference

November 22, 2006

Recap of Main Results

- The new operational procedures of March 2004 reduce the maturity of the main refinancing operations, and synchronize the timing of the interest rate decisions with the maintenance period.
- The period before March 2004 (when the new operational procedures were installed) differs from the period after March 2004 for the volatility of the Eonia.

Recap of Main Results

- The reduction of the volatility of the Eonia translates into a reduction in volatility along the yield curve.
- This is especially true of the “non-seasonal” volatility.

A “Natural Experiment”

- Before and after the rules are in place.

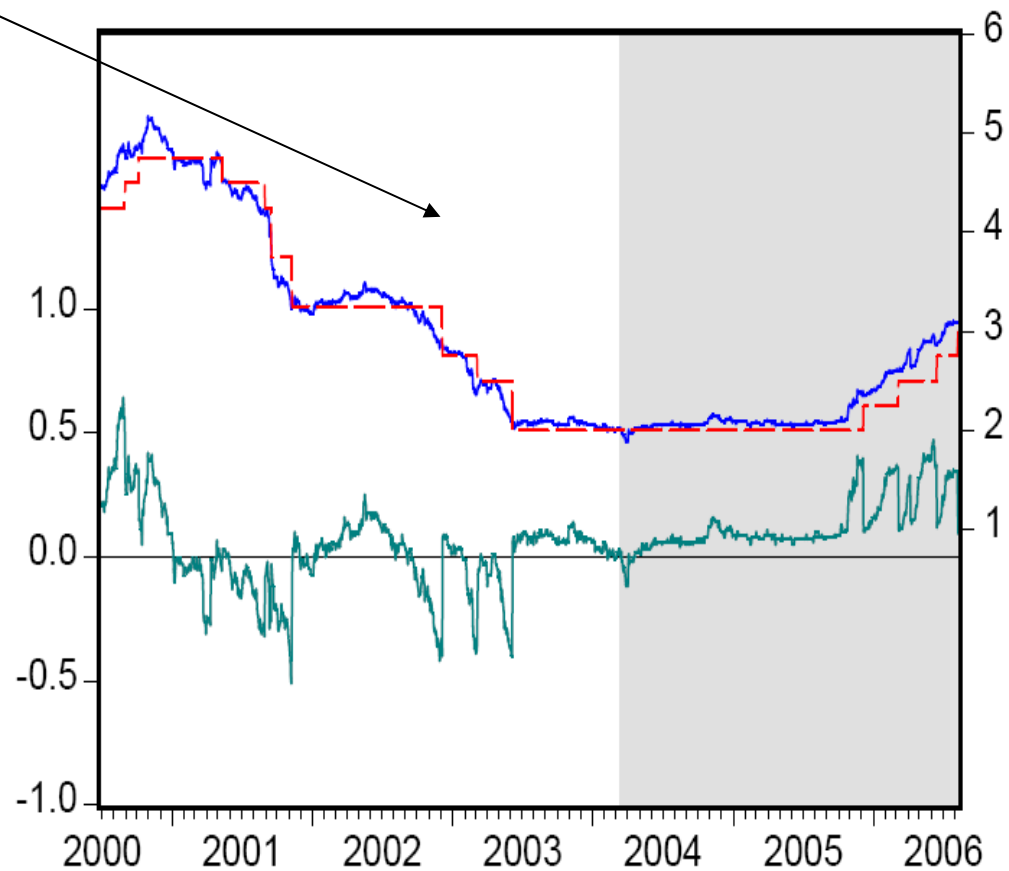
Figure 2: Forward spread



Right scale: One-month/one-month forward rate (solid line) and ECB policy

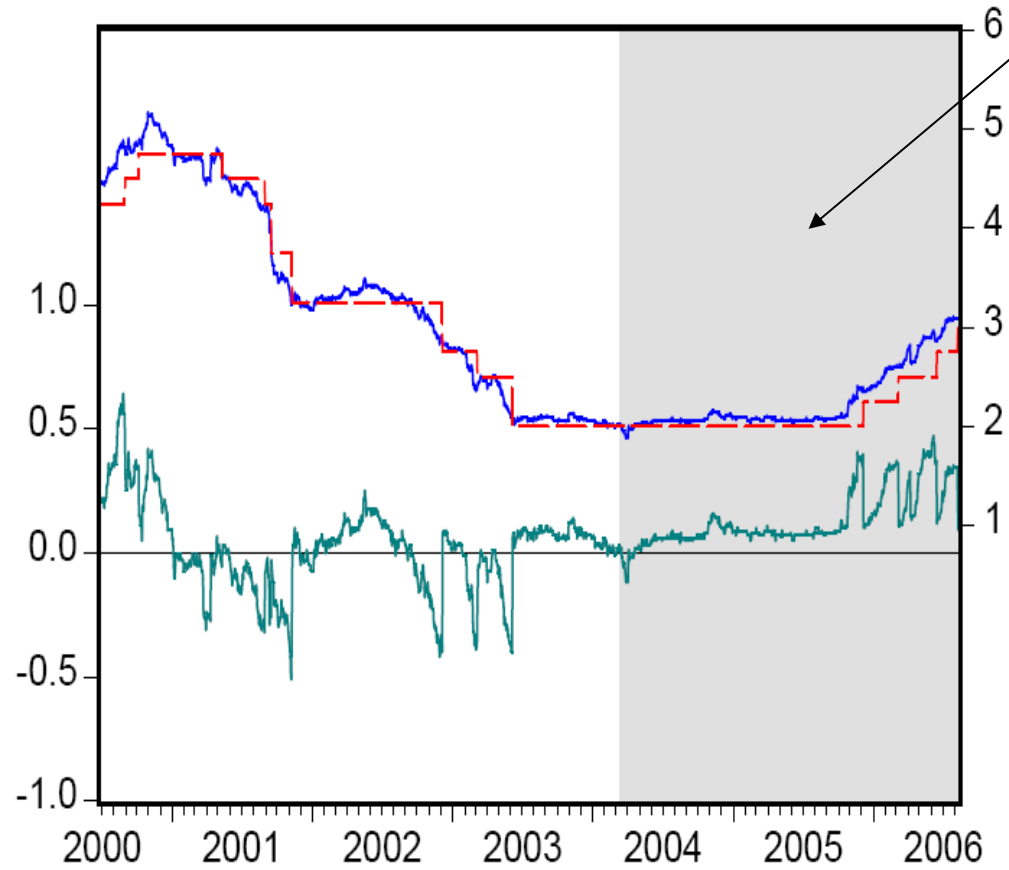
Before

Figure 2: Forward spread



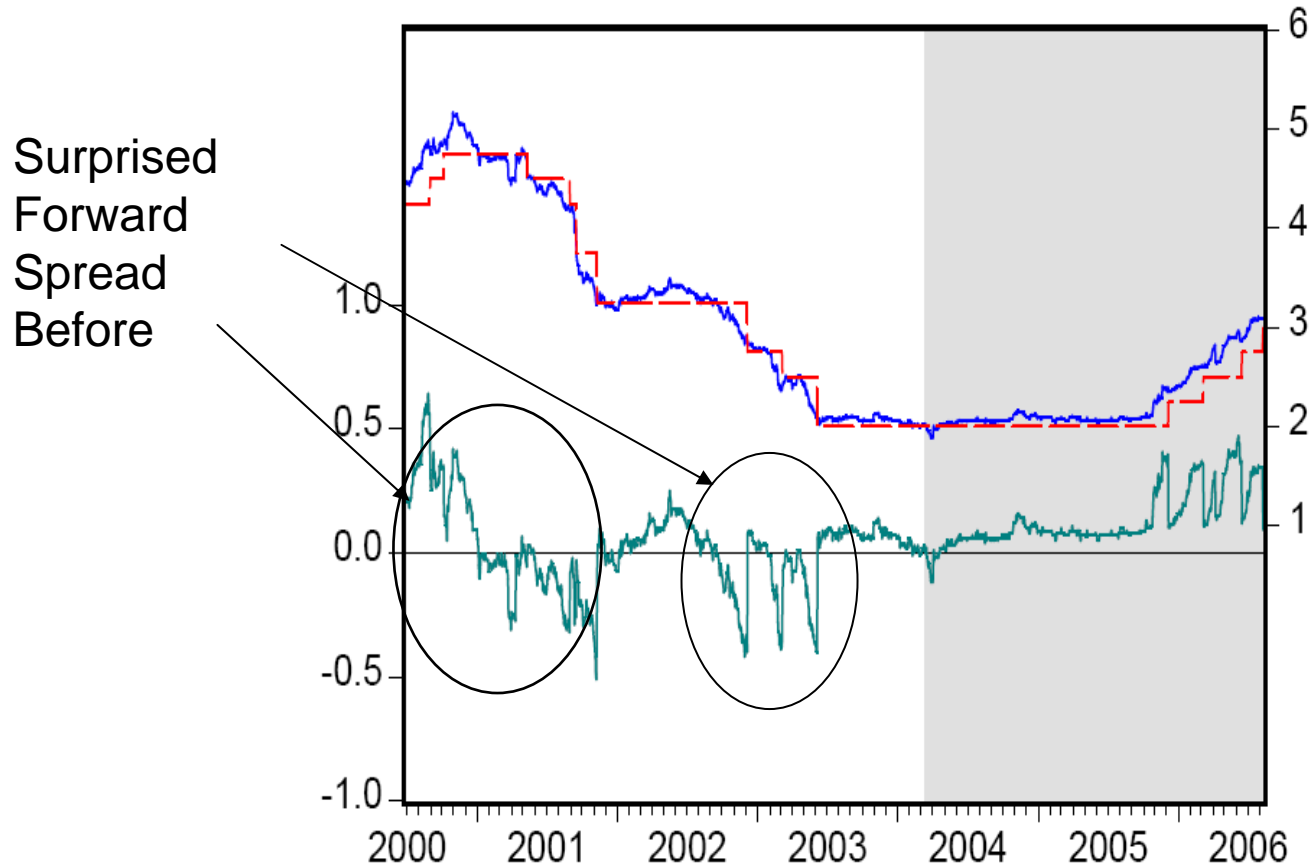
Right scale: One-month/one-month forward rate (solid line) and ECB policy

Figure 2: Forward spread



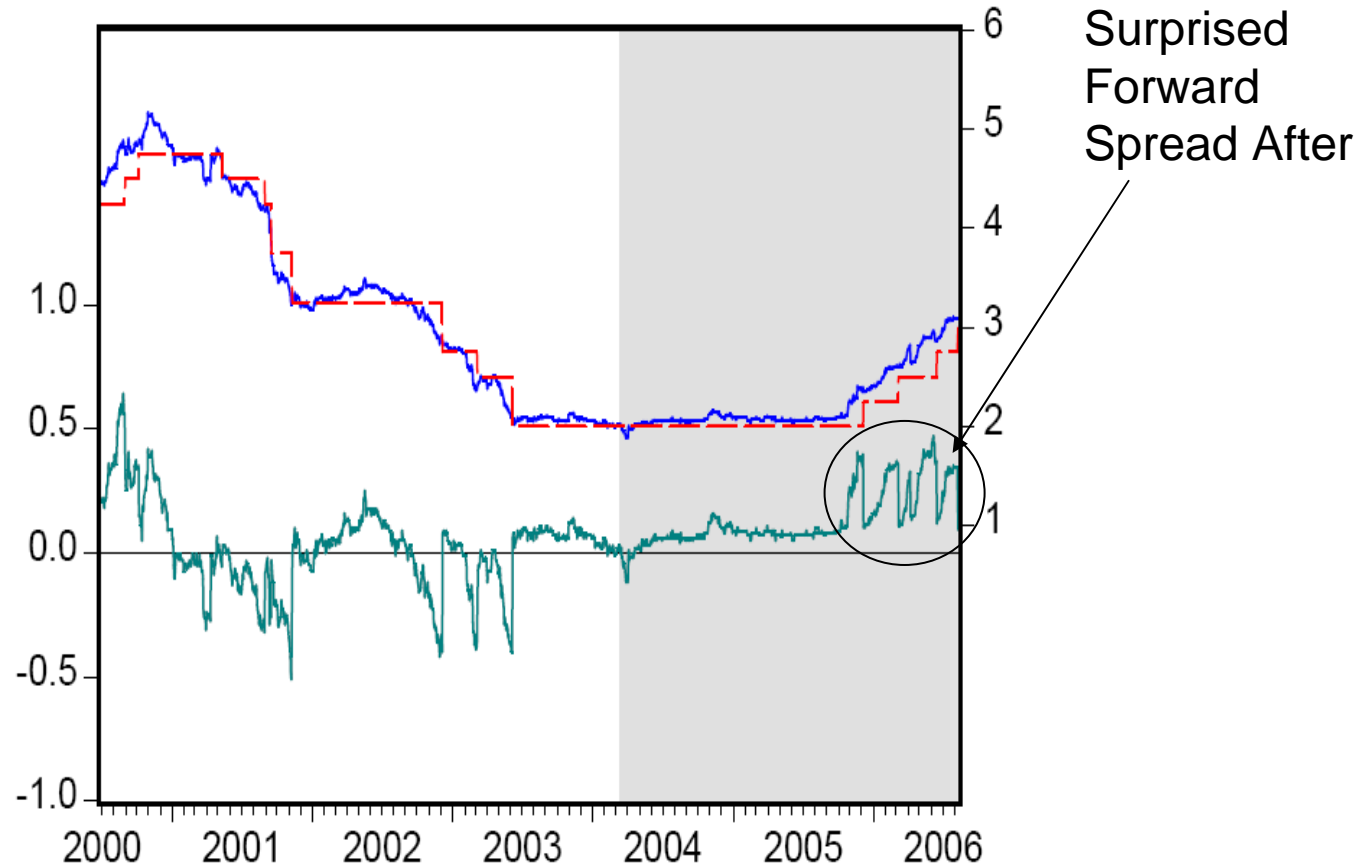
Right scale: One-month/one-month forward rate (solid line) and ECB policy

Figure 2: Forward spread



Right scale: One-month/one-month forward rate (solid line) and ECB policy

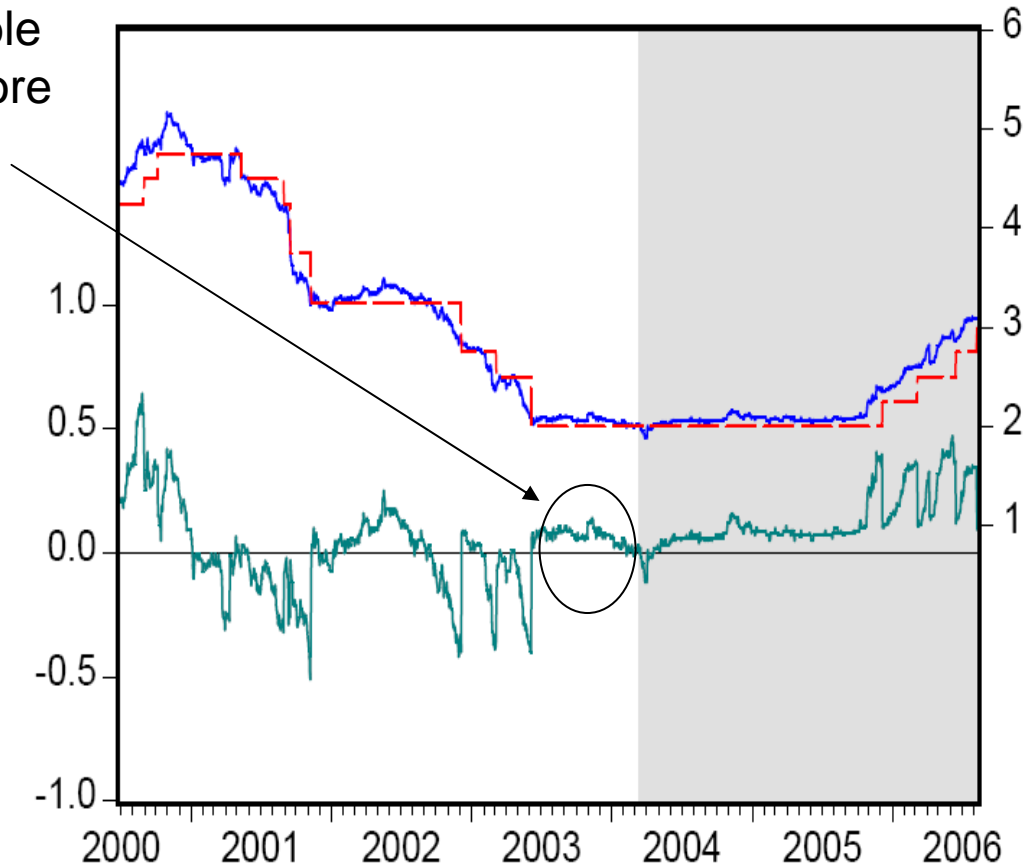
Figure 2: Forward spread



Right scale: One-month/one-month forward rate (solid line) and ECB policy

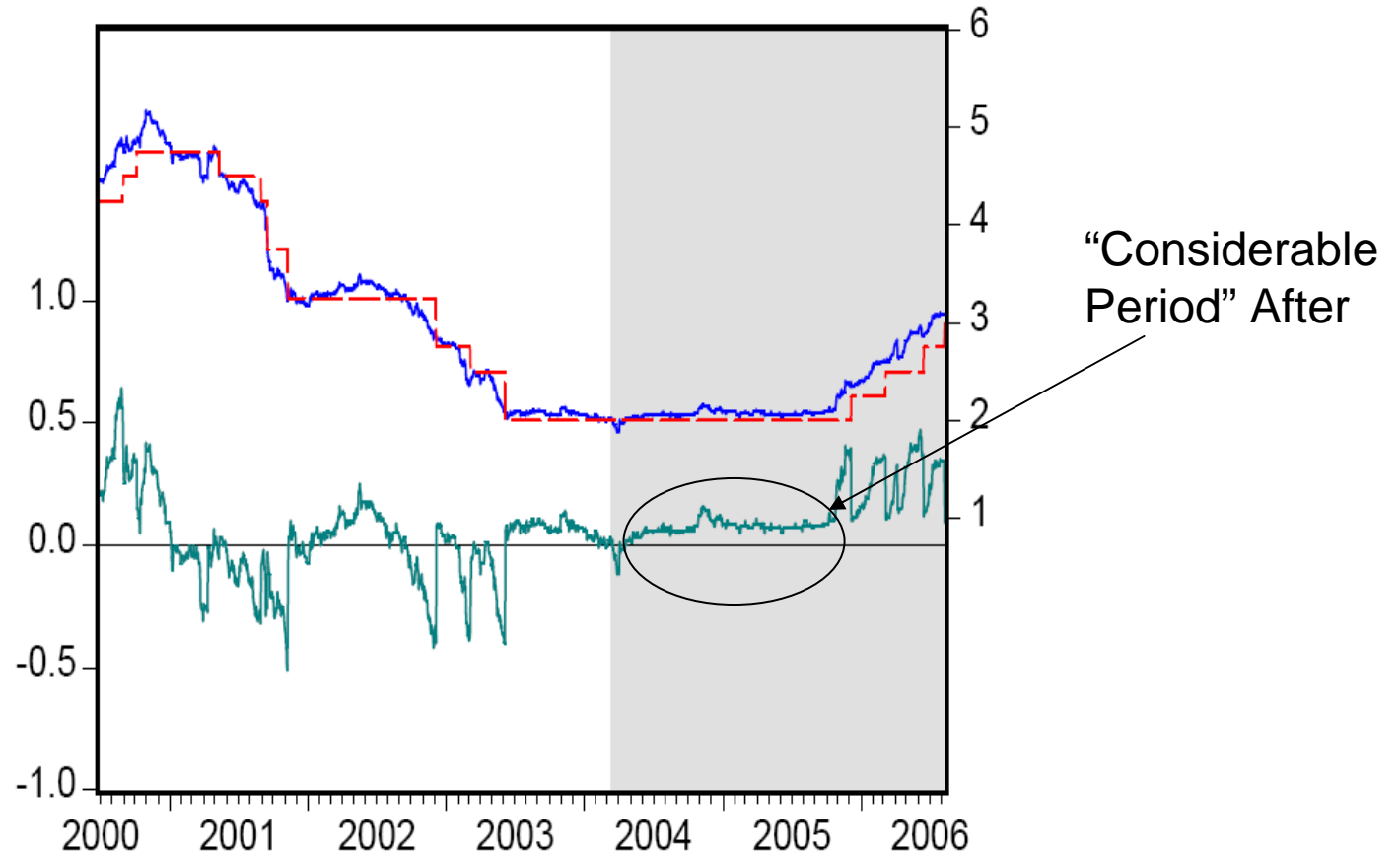
Figure 2: Forward spread

“Considerable
Period” Before



Right scale: One-month/one-month forward rate (solid line) and ECB policy

Figure 2: Forward spread



Right scale: One-month/one-month forward rate (solid line) and ECB policy

Was Sherlock Holmes Right?

Dependent variable: $\log(\sigma_t^2)$

EGARCH

ω_1	0.585** (12.10)
ω_2	0.805** (11.98)
ω_3	0.277** (4.77)

New framework

ρ_{within}^{new}	-0.996** (6.83)
ρ_{end}^{new}	-0.498** (2.60)

Seasonal effects

ρ^{begin}	-2.326** (5.77)
ρ^{end}	1.562** (8.82)
ρ^{last}	1.151** (4.62)

Other effects

$\rho^{Jan\ 2002}$	1.003* (2.37)
$\rho^{Sep11,\ 2001}$	1.463* (2.42)
$\rho^{ubidday}$	5.484** (7.98)
ω_0	-3.264** (9.58)

Dependent variable: $\log(\sigma_t^2)$

EGARCH

ω_1 0.585**
(12.10)

ω_2 0.805**
(11.98)

ω_3 0.277**
(4.77)

New framework

ρ_{within}^{new} -0.996**
(6.83)

ρ_{end}^{new} -0.498**
(2.60)

Seasonal effects

ρ^{begin} -2.326**
(5.77)

ρ^{end} 1.562**
(8.82)

ρ^{last} 1.151**
(4.62)

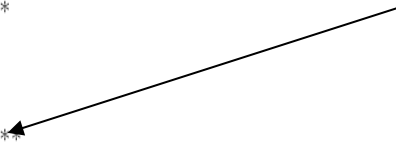
Other effects

$\rho^{Jan\ 2002}$ 1.003*
(2.37)

$\rho^{Sep11,\ 2001}$ 1.463*
(2.42)

$\rho^{ubidday}$ 5.484**
(7.98)

ω_0 -3.264**
(9.58)



Dependent variable: $\log(\sigma_t^2)$

EGARCH

ω_1 0.585**
(12.10)

ω_2 0.805**
(11.98)

ω_3 0.277**
(4.77)

New framework

ρ_{within}^{new} -0.996**
(6.83)

ρ_{end}^{new} -0.498**
(2.60)

Seasonal effects

ρ^{begin} -2.326**
(5.77)

ρ^{end} 1.562**
(8.82)

ρ^{last} 1.151**
(4.62)

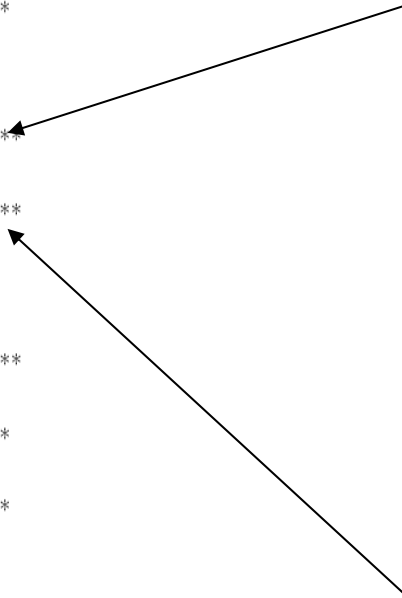
Other effects

$\rho^{Jan\ 2002}$ 1.003*
(2.37)

$\rho^{Sep11,\ 2001}$ 1.463*
(2.42)

$\rho^{ubidday}$ 5.484**
(7.98)

ω_0 -3.264**
(9.58)



Dependent variable: $\log(\sigma_t^2)$

EGARCH

ω_1	0.585** (12.10)
ω_2	0.805** (11.98)
ω_3	0.277** (4.77)

New framework

ρ_{within}^{new}	-0.996** (6.83)
ρ_{end}^{new}	-0.498** (2.60)

Seasonal effects

ρ^{begin}	-2.326** (5.77)
ρ^{end}	1.562** (8.82)
ρ^{last}	1.151** (4.62)

Other effects

$\rho^{Jan\ 2002}$	1.003* (2.37)
$\rho^{Sep11,\ 2001}$	1.463* (2.42)
$\rho^{ubidday}$	5.484** (7.98)
ω_0	-3.264** (9.58)



Dependent variable: $\log(\sigma_t^2)$

EGARCH

ω_1	0.585** (12.10)
ω_2	0.805** (11.98)
ω_3	0.277** (4.77)

New framework

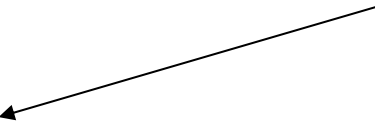
ρ_{within}^{new}	-0.996** (6.83)
ρ_{end}^{new}	-0.498** (2.60)

Seasonal effects

ρ^{begin}	-2.326** (5.77)
ρ^{end}	1.562** (8.82)
ρ^{last}	1.151** (4.62)

Other effects

$\rho^{Jan\ 2002}$	1.003* (2.37)
$\rho^{Sep11,\ 2001}$	1.463* (2.42)
$\rho^{ubidday}$	5.484** (7.98)
ω_0	-3.264** (9.58)



Dependent variable: $\log(\sigma_t^2)$

EGARCH

ω_1	0.585** (12.10)
ω_2	0.805** (11.98)
ω_3	0.277** (4.77)

New framework

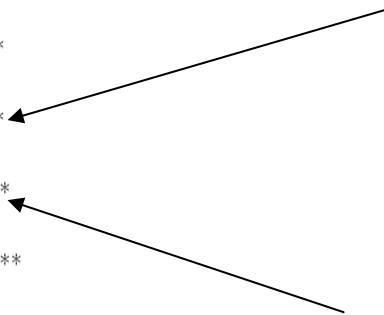
ρ_{within}^{new}	-0.996** (6.83)
ρ_{end}^{new}	-0.498** (2.60)

Seasonal effects

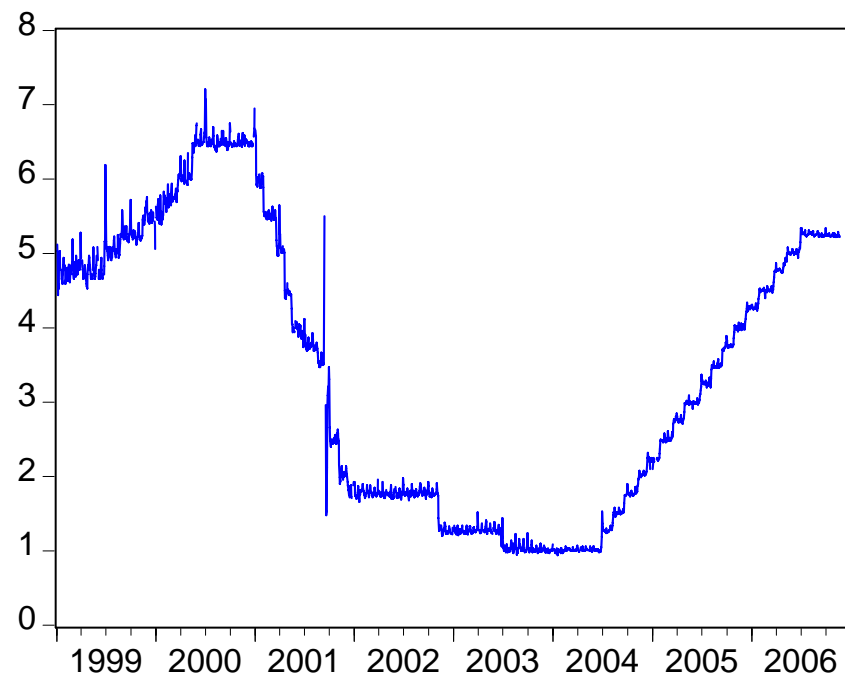
ρ^{begin}	-2.326** (5.77)
ρ^{end}	1.562** (8.82)
ρ^{last}	1.151** (4.62)

Other effects

$\rho^{Jan\ 2002}$	1.003* (2.37)
$\rho^{Sep11,\ 2001}$	1.463* (2.42)
$\rho^{ubidday}$	5.484** (7.98)
ω_0	-3.264** (9.58)

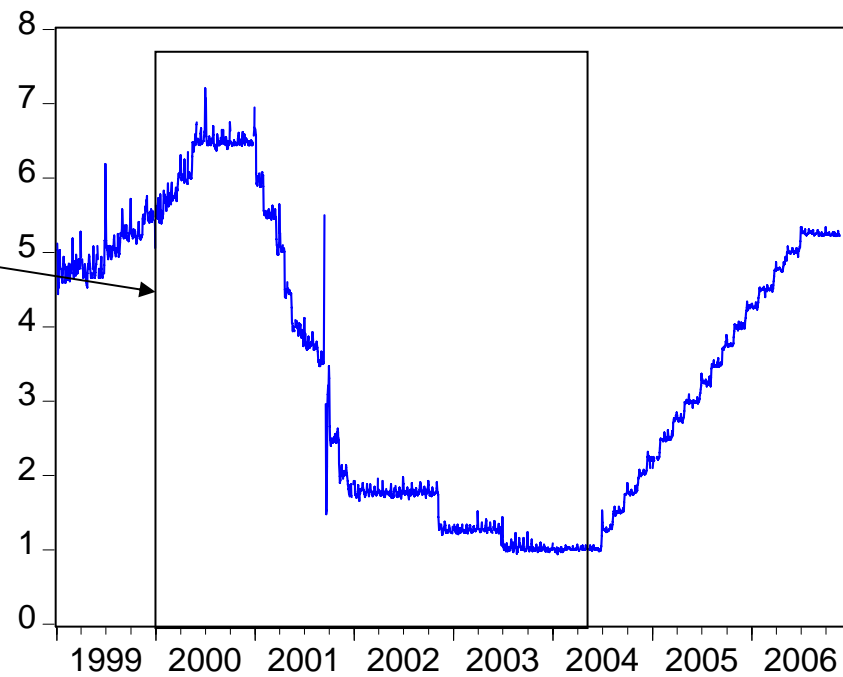


And yet....

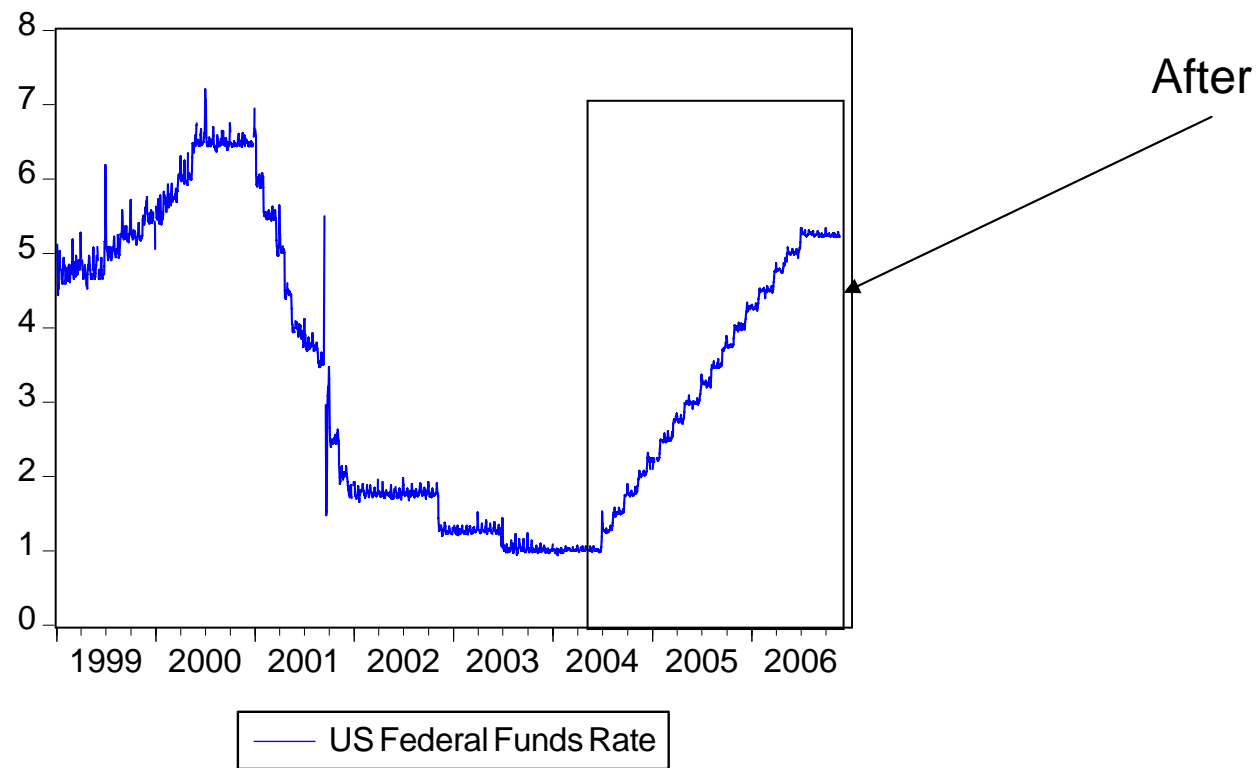


— US Federal Funds Rate

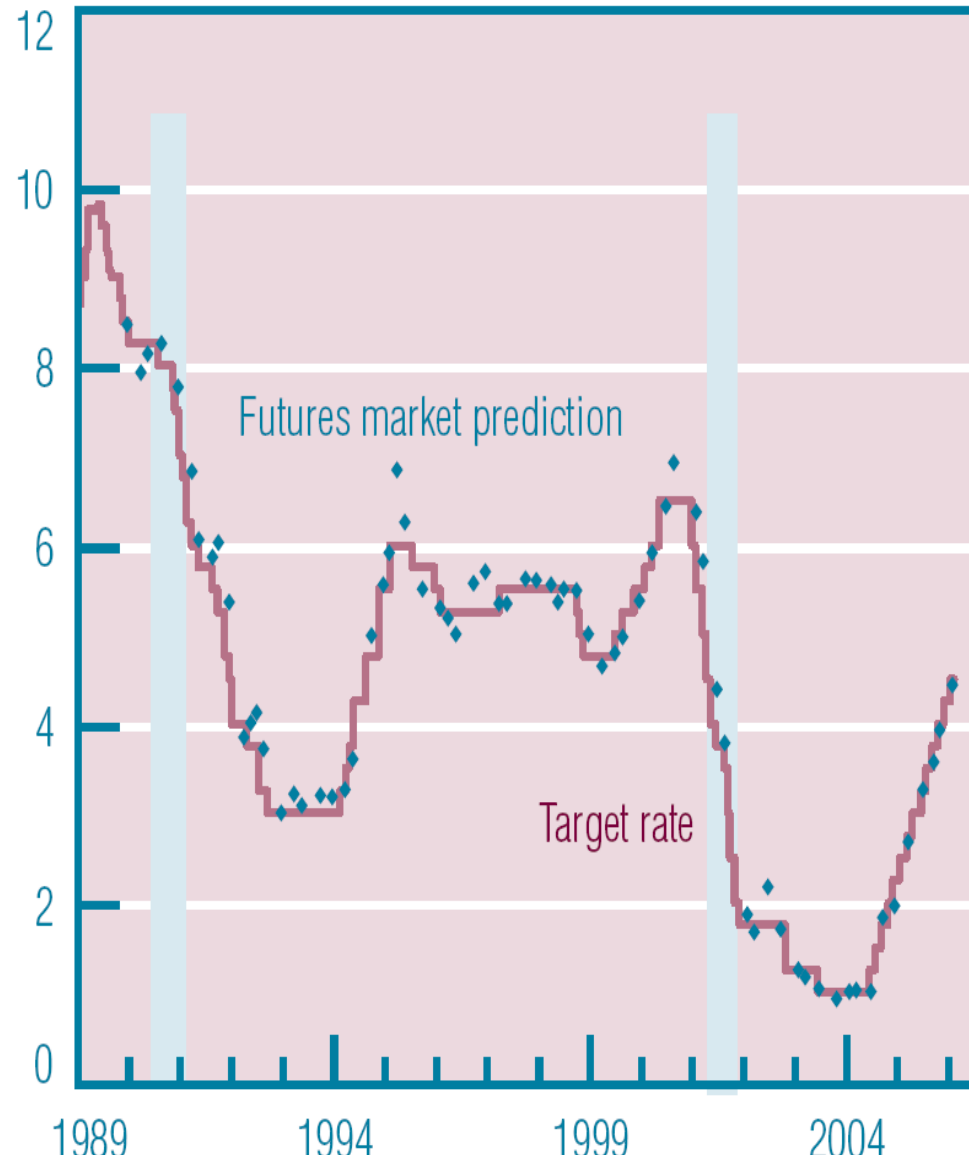
Before

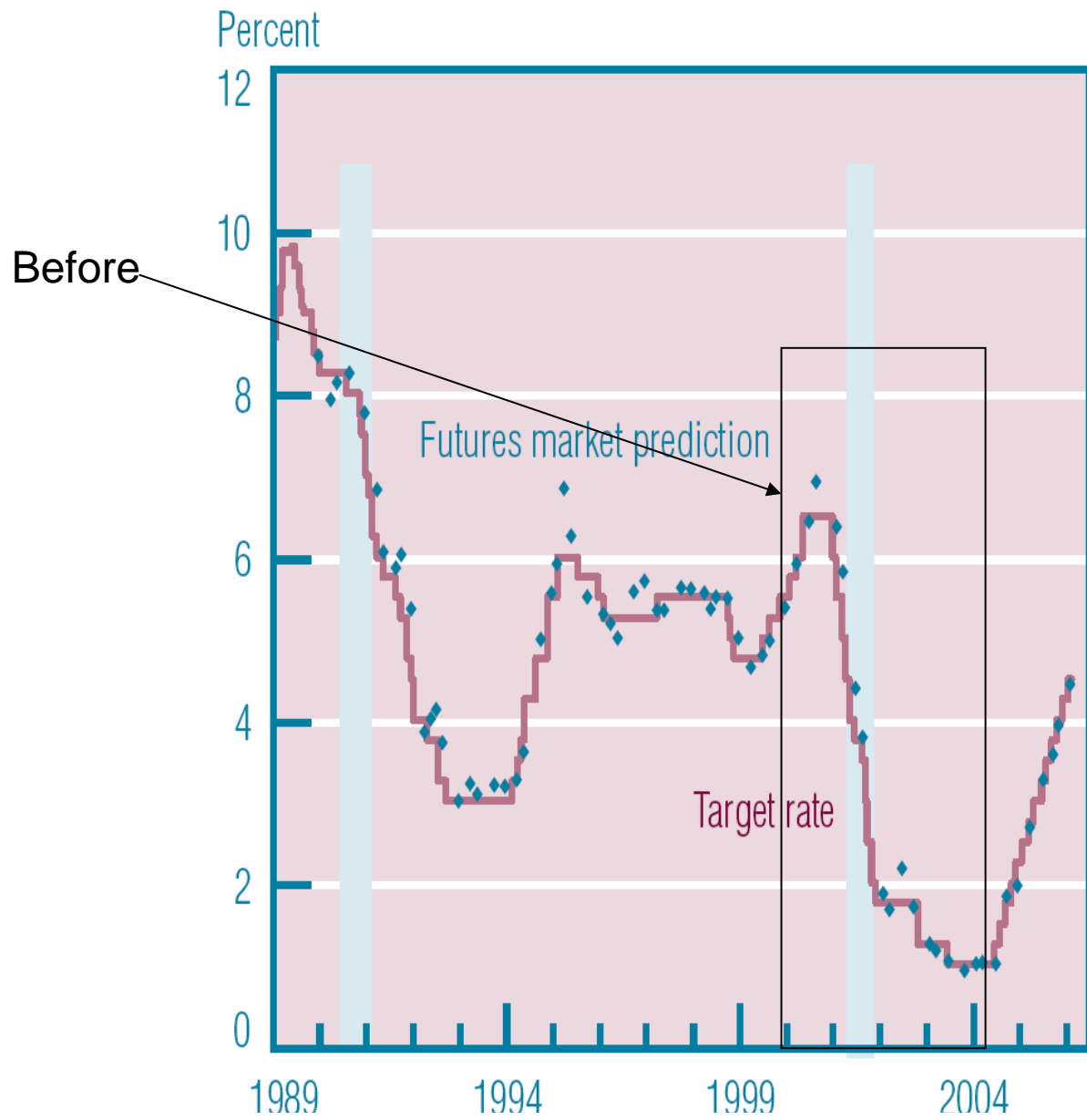


— US Federal Funds Rate

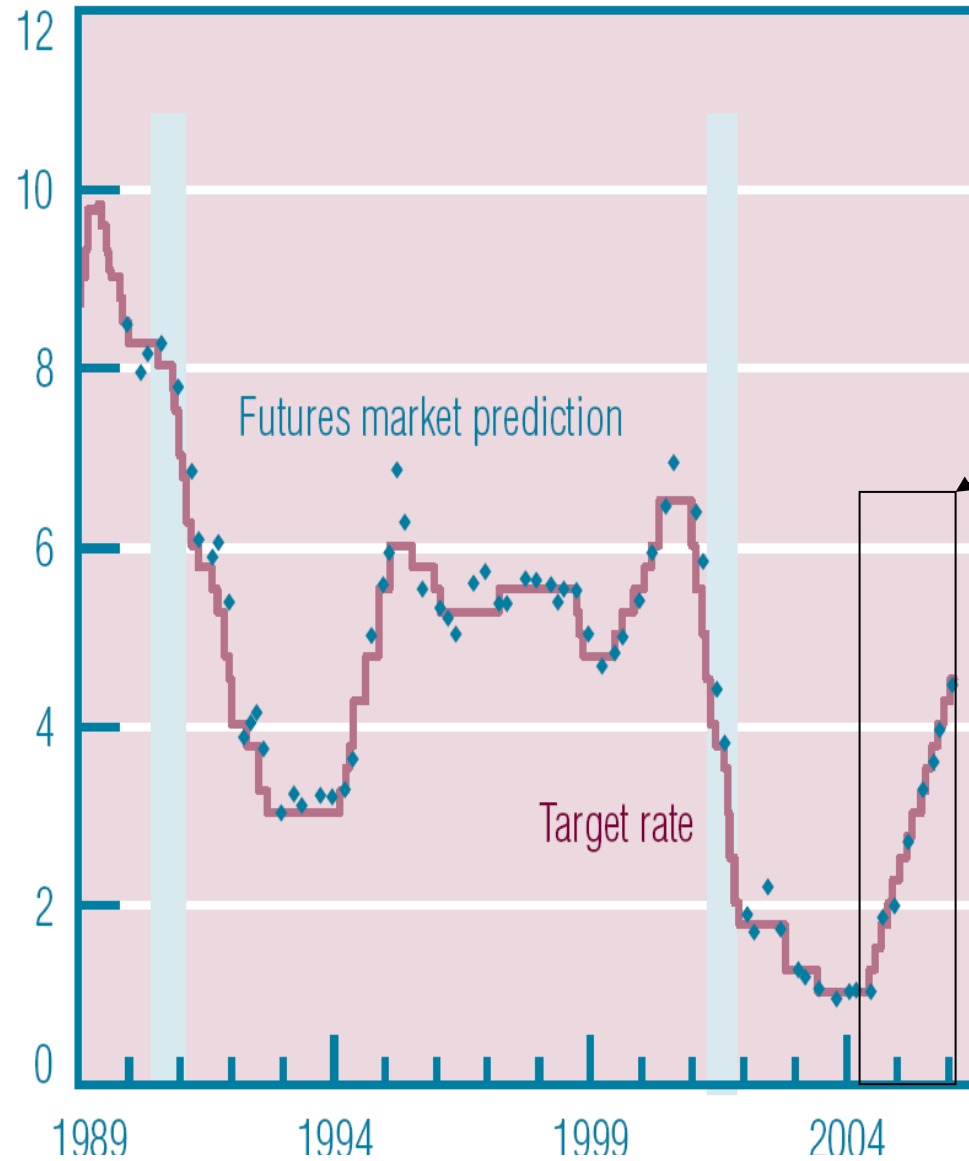


Percent



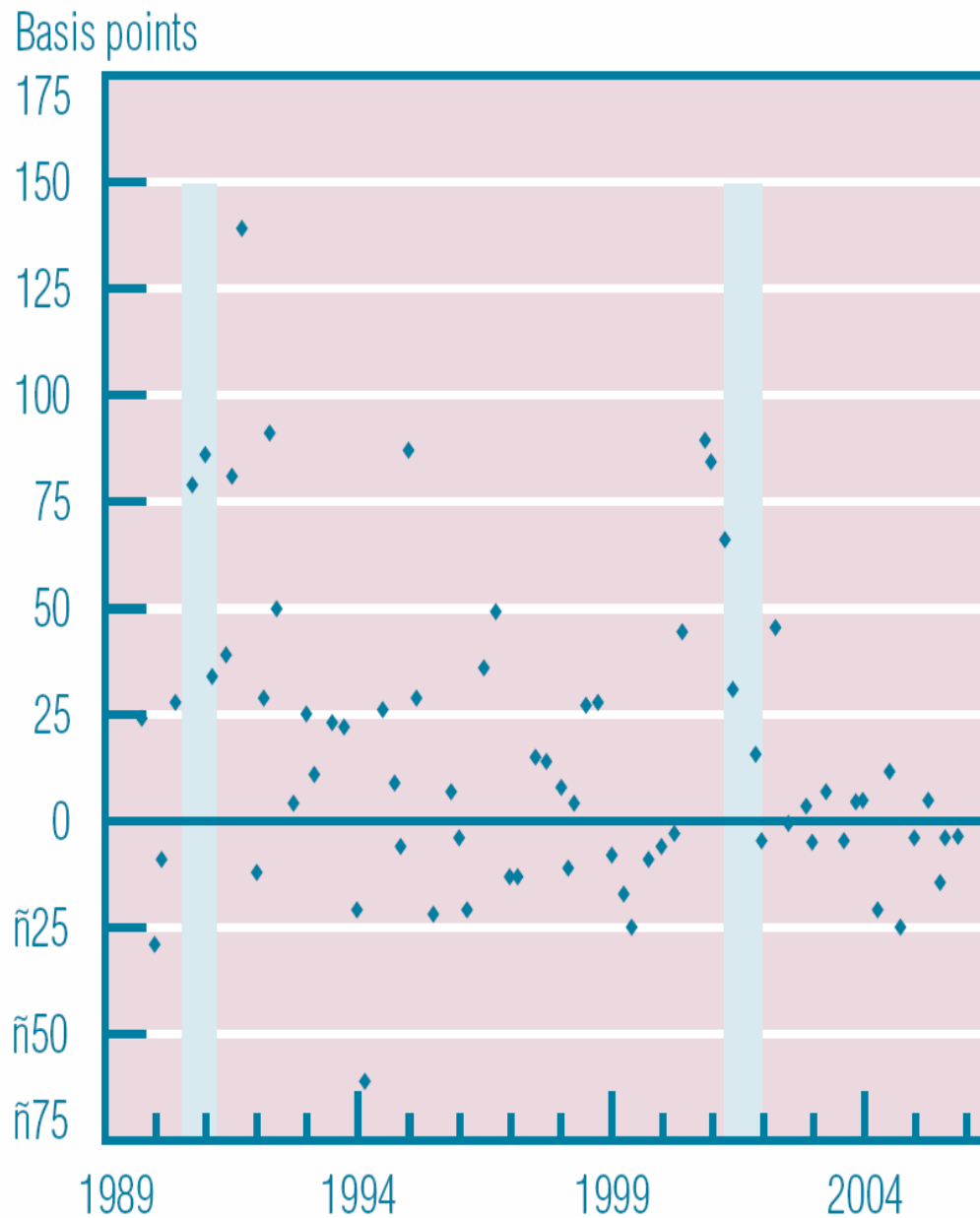


Percent



After

30 Day
prior to
meeting
Futures
Prediction
Error



30 Day
prior to
meeting
Futures
Prediction
Error

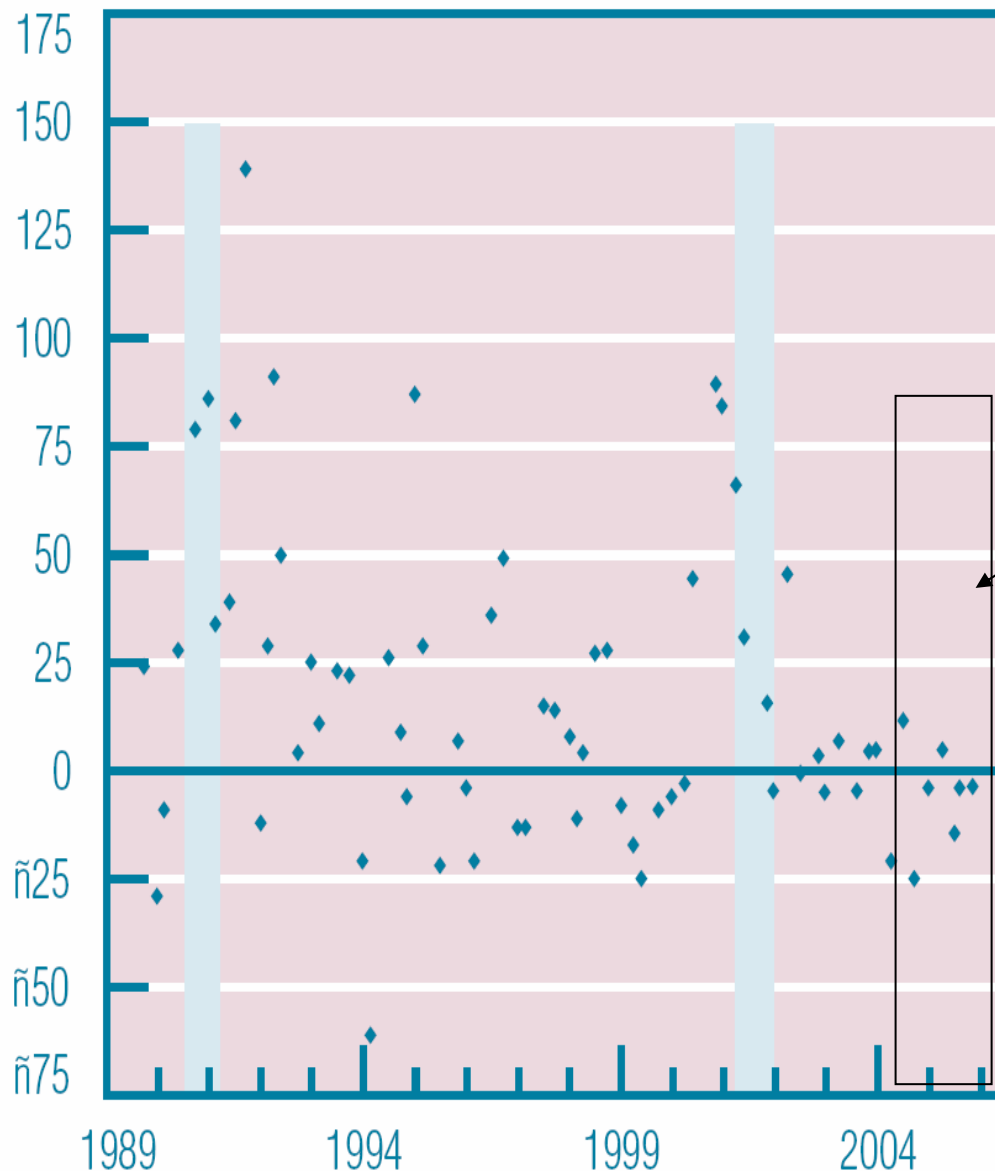
Before

Basis points



30 Day
prior to
meeting
Futures
Prediction
Error

Basis points



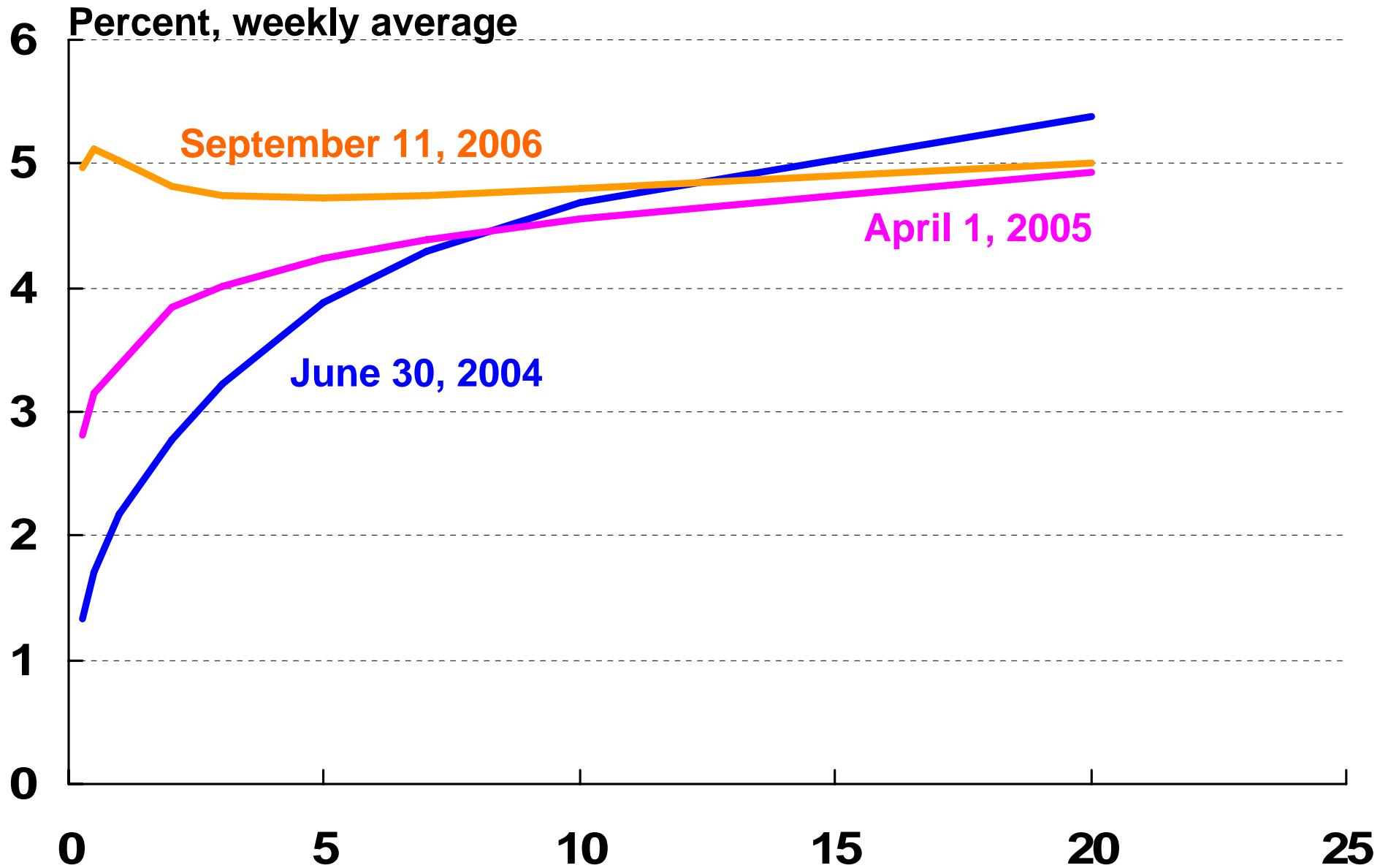
After

Yield Curve

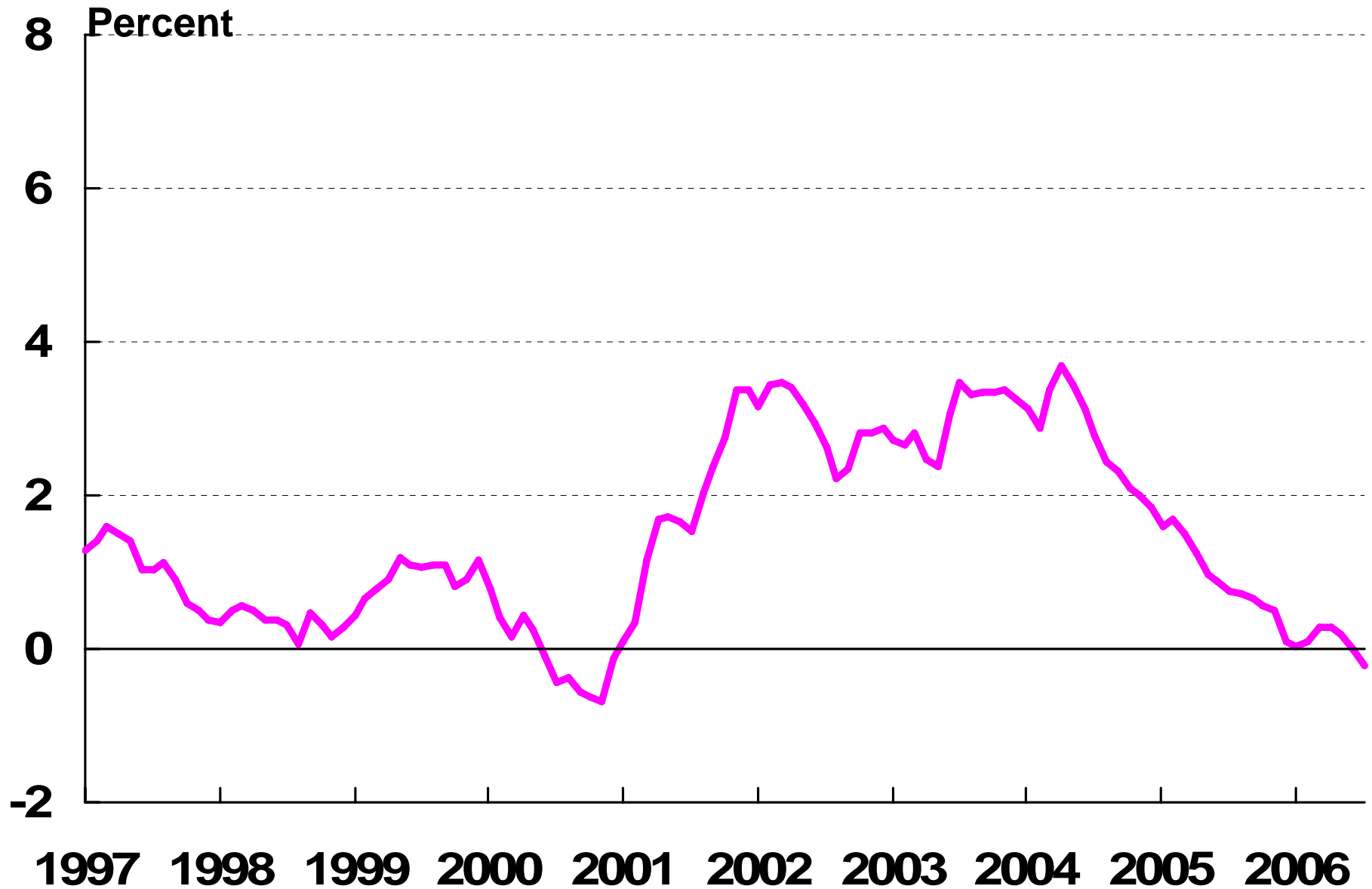
Reduced form...

in a strange time, the world
around.

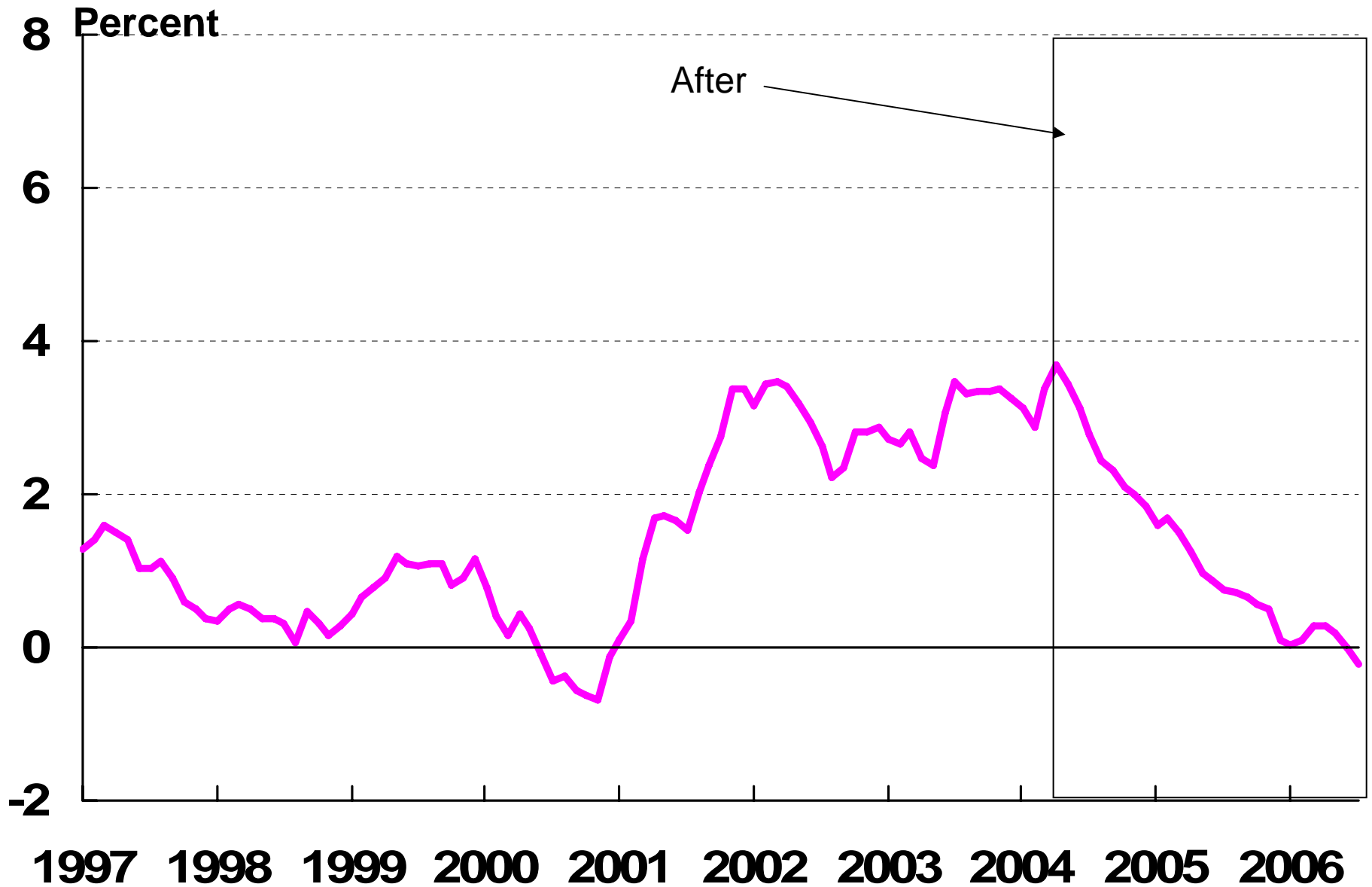
US YIELD CURVE



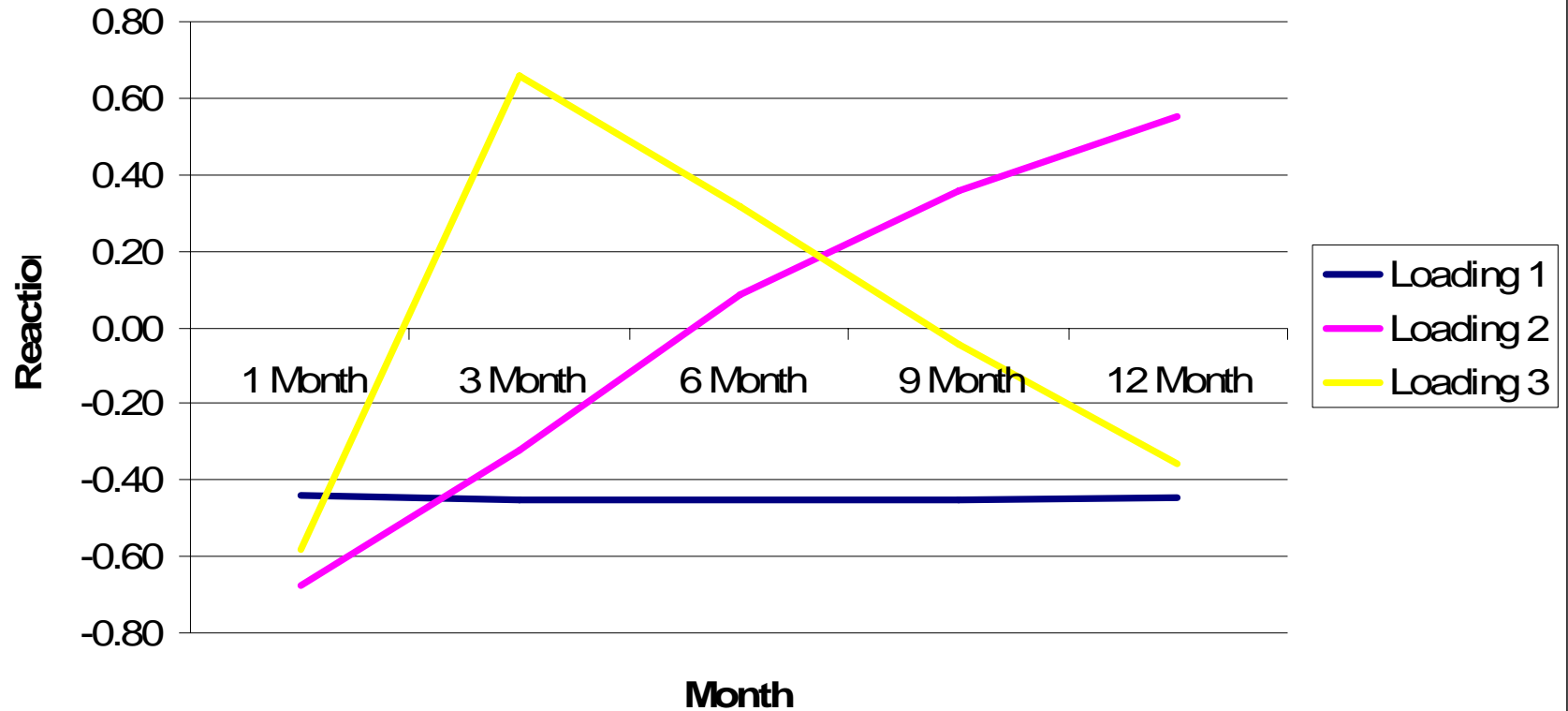
T-BILL SPREAD



T-BILL SPREAD

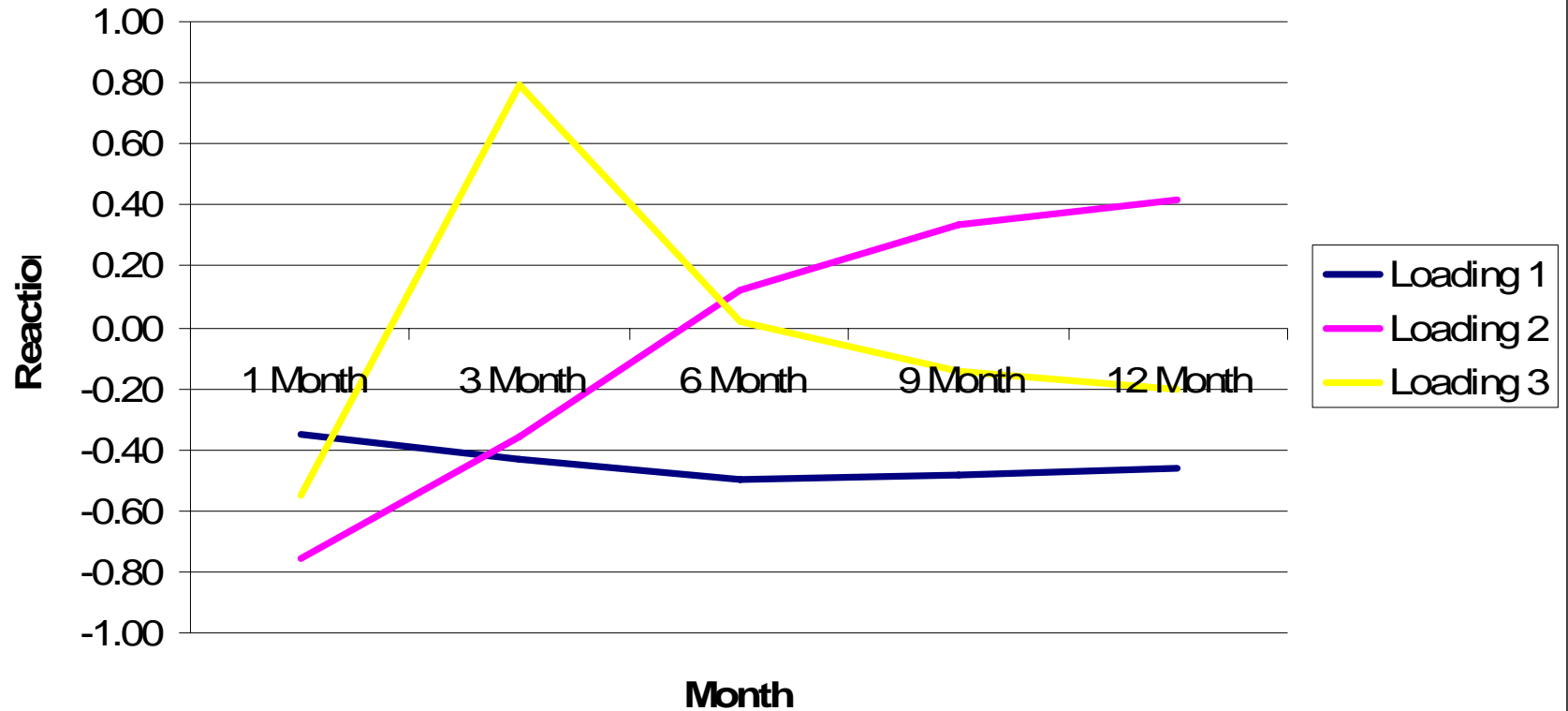


Loadings (levels) principal component analysis

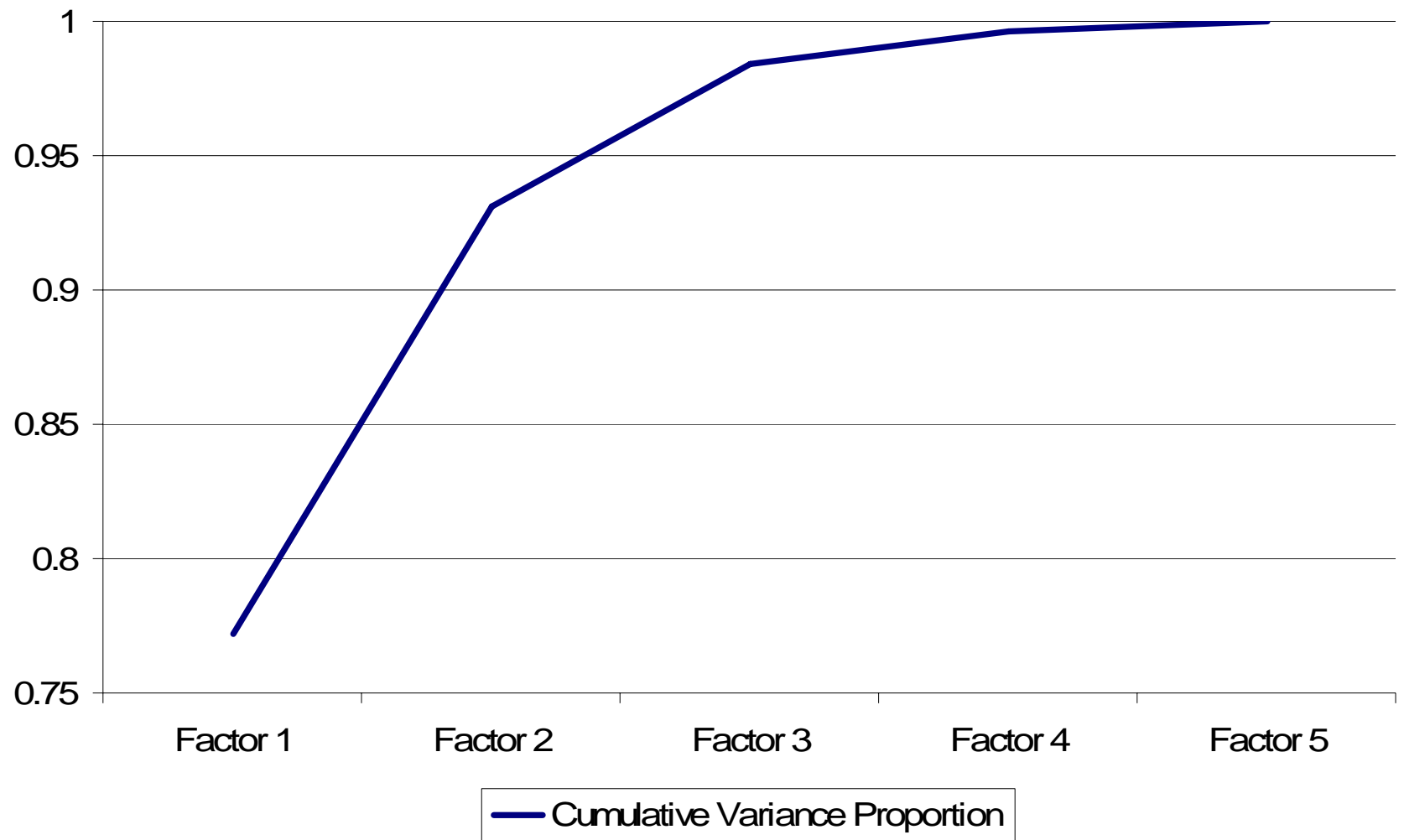


(thank you Joachim Keller)

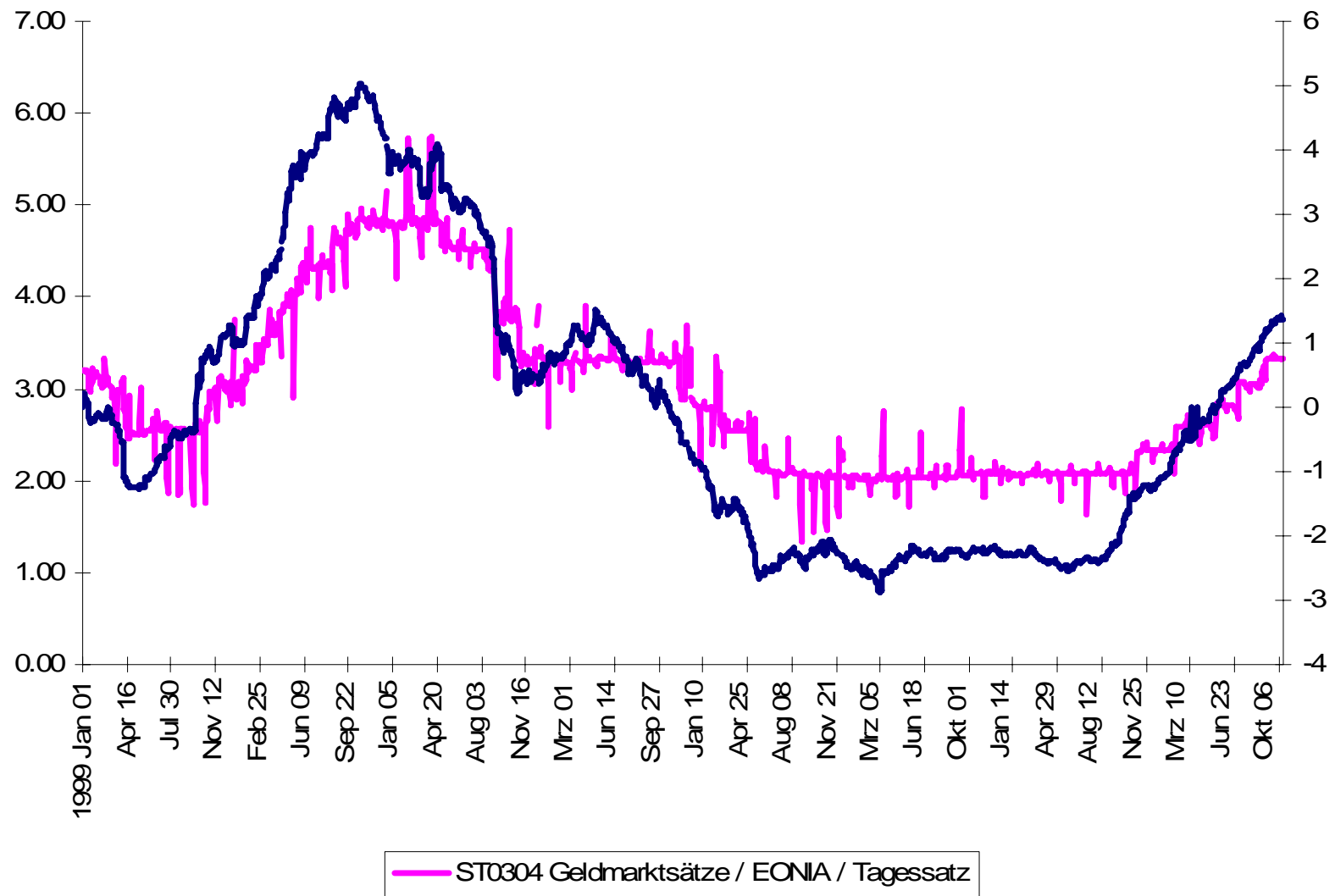
Loadings (differences) principal component analysis



Cumulative Variance Proportion



Eonia and Component Series



Has every other possibility
been ruled out?

Before we say this...

Before we say this...

- We have a great need for specification testing.

Before we say this...

- We have a great need for specification testing.
 - (Arch(6) seems a bit odd.)

Strengths of reduced form.