

## Appendix Table A.I

### Deutsche Bank: Time-Varying Effect of Competitor Banks' Quote Revisions

This table estimates DM/US\$ quote revisions by Deutsche Bank (DB) as a function of two lagged quote revisions by competitor banks and five own lags:

$$QM_{\tau}^{DB} = a + \sum_{k=1}^5 \sum_{i=1}^2 b_i^k QM_{(\tau-i)^k}^k + \sum_{i=1}^5 c_i^{DB} QM_{(\tau-i)^{DB}}^{DB}$$

where  $b_i^k = e_i^k + f_i^k * 1 / [(\tau - (\tau - i)^k) / 60]$  ;  $c_i^{DB} = g_i^{DB} + h_i^{DB} * 1 / [(\tau - (\tau - i)^{DB}) / 60]$

$QM_{\tau}^{DB}$  is measured as the per-minute percentage change in DB's midpoint quotes between time  $\tau-1$  and  $\tau$ ;  $QM_{(\tau-i)^k}^k$  denotes the  $i$ th preceding per-minute quote change by competitor banks  $k =$  Societe Generale (SG), Chemical Bank (CH), Rabobank (RB), Den Norske Bank (DN), and BHF Bank (BH).  $QM_{(\tau-i)^{DB}}^{DB}$  represents DB's own lagged indications.  $f_i^k$  and  $h_i^{DB}$  are coefficients which capture the time lapse between regressor banks' lagged quote revisions and DB's adjustment at time  $\tau$ . The sample comprises 14 pooled Bundesbank intervention periods between Oct. 1, 1992 and Sept. 30, 1993. Table I lists their Reuters headline descriptions. -120/-60, -60/-25, -25/0, 0/+25 +25/+60 and -60/+60 are time intervals in minutes which define subsamples around Bundesbank intervention reports. The time stamp on intervention headline entries is denoted as time 0. Due to the time-varying nature of the model, marginal effects are reported in lieu of individual coefficient estimates. For instance,  $\delta QM_{\tau}^{DB} / \delta QM_{(\tau-1)SG}^{SG}$  measures the incremental impact of SG's time  $\tau-1$  quote changes on DB's time  $\tau$  quote revisions. Statistical significance is denoted by \* (\*\*) at the 5% (1%) level using robust standard errors with Newey-West (1987) serial-correlation and heteroscedasticity correction.

[Insert Appendix Table A.I here]

Appendix Table A.I

Marginal Effects	-120/-60 min.		-60/-25 min.		-25/0 min.		0/+25 min.		+25/+60 min.		-60/+60 min.	
	$f_i^k=h_i^{DB}=0$	$f_i^k \neq h_i^{DB} \neq 0$	$f_i^k=h_i^{DB}=0$	$f_i^k \neq h_i^{DB} \neq 0$	$f_i^k=h_i^{DB}=0$	$f_i^k \neq h_i^{DB} \neq 0$	$f_i^k=h_i^{DB}=0$	$f_i^k \neq h_i^{DB} \neq 0$	$f_i^k=h_i^{DB}=0$	$f_i^k \neq h_i^{DB} \neq 0$	$f_i^k=h_i^{DB}=0$	$f_i^k \neq h_i^{DB} \neq 0$
a	0.05 (0.12)	0.06 (0.26)	-0.70 (-1.29)	-0.66 (-1.37)	-0.65 (-1.46)	-0.65 (-1.53)	0.39 (0.84)	0.41 (0.95)	0.27 (0.54)	0.51 (1.01)	-0.23 (-0.95)	-0.15 (-0.64)
$\delta QM^{DB} / \delta QM^{SG}_{(\tau-1)SG}$	0.04 (0.80)	0.03 (0.61)	0.07 (1.09)	0.10 (1.20)	0.004 (0.05)	0.04 (0.48)	-0.008 (-0.10)	0.0005 (0.006)	0.05 (-1.06)	-0.03 (-0.68)	-0.02 (-0.49)	-0.02 (-0.76)
$\delta QM^{DB} / \delta QM^{SG}_{(\tau-2)SG}$	0.07 (1.69)	0.06 (1.29)	0.08 (1.36)	0.06 (0.71)	0.16* (1.97)	0.06* (1.99)	-0.02 (-0.42)	0.02 (0.35)	-0.03 (-0.23)	-0.11 (-1.25)	0.04 (0.93)	0.02 (0.58)
$\delta QM^{DB} / \delta QM^{CH}_{(\tau-1)CH}$	0.10 (1.57)	0.03 (0.53)	0.09 (0.74)	0.23 (1.69)	-0.05 (-0.40)	-0.03 (-0.22)	0.16 (1.32)	0.27* (2.16)	0.14 (0.73)	0.16 (0.82)	0.08 (1.29)	0.08 (1.31)
$\delta QM^{DB} / \delta QM^{CH}_{(\tau-2)CH}$	0.08 (1.43)	0.02 (0.26)	-0.19 (-1.70)	-0.08 (-0.57)	0.18* (2.48)	0.20** (3.04)	0.01 (0.20)	0.08 (0.92)	0.02 (0.18)	0.03 (0.30)	-0.003 (-0.07)	0.03 (0.54)
$\delta QM^{DB} / \delta QM^{RB}_{(\tau-1)RB}$	0.02 (0.20)	-0.003 (-0.04)	0.10 (1.53)	0.11 (1.68)	0.02 (0.33)	0.005 (0.07)	-0.19 (-0.23)	-0.02 (-0.17)	0.06 (1.40)	-0.02 (-0.31)	0.06* (2.03)	0.06* (2.32)
$\delta QM^{DB} / \delta QM^{RB}_{(\tau-2)RB}$	0.008 (0.26)	-0.007 (-0.20)	-0.03 (-0.49)	-0.05 (-0.78)	0.03 (0.98)	0.006 (0.11)	0.03 (0.56)	0.05 (0.46)	0.05 (1.48)	0.03 (0.86)	-0.004 (-0.13)	-0.18 (-0.50)
$\delta QM^{DB} / \delta QM^{DN}_{(\tau-1)DN}$	0.22 (1.85)	0.13 (1.71)	0.30** (2.64)	0.16 (1.39)	0.23* (2.12)	0.27 (1.03)	0.22 (1.39)	0.22 (1.41)	0.005 (0.06)	-0.04 (-0.58)	0.17** (3.13)	0.12* (2.26)
$\delta QM^{DB} / \delta QM^{DN}_{(\tau-2)DN}$	0.14 (1.83)	0.05 (0.57)	-0.002 (-0.02)	-0.11 (-0.95)	0.07 (0.69)	0.21 (1.28)	0.0001 (0.001)	0.0004 (0.002)	-0.11 (-0.87)	-0.17 (-1.44)	0.01 (0.26)	-0.003 (-0.05)
$\delta QM^{DB} / \delta QM^{BH}_{(\tau-1)BH}$	0.03 (1.59)	0.17 (1.75)	0.37 (1.10)	0.54 (1.48)	0.29 (1.13)	0.25 (0.99)	0.09 (0.20)	0.04 (0.09)	-0.03 (-0.13)	0.09 (0.34)	0.16 (1.16)	0.20 (1.45)
$\delta QM^{DB} / \delta QM^{BH}_{(\tau-2)BH}$	0.03 (0.43)	-0.04 (-0.53)	0.45 (1.44)	0.40 (1.30)	0.20 (1.13)	0.18 (1.20)	0.34 (0.85)	0.27 (0.83)	0.14 (0.80)	0.06 (0.33)	0.28* (2.05)	0.23 (1.71)
$\delta QM^{DB} / \delta QM^{DB}_{(\tau-1)DB}$	-0.07* (-1.98)	-0.09* (-2.47)	-0.22** (-3.72)	-0.29** (-4.74)	-0.21** (-3.27)	-0.30** (-3.12)	-0.34* (-2.40)	-0.30* (-2.11)	-0.12** (-2.71)	-0.18** (-3.30)	-0.20** (-5.06)	-0.23** (-5.82)
$\delta QM^{DB} / \delta QM^{DB}_{(\tau-2)DB}$	0.005 (0.13)	-0.02 (-0.51)	0.006 (0.15)	-0.05 (-0.94)	-0.22 (-0.26)	-0.10 (-1.07)	-0.19 (-1.28)	-0.15 (-0.13)	-0.003 (-0.08)	0.005 (0.12)	-0.02 (-0.41)	-0.03 (-0.63)
$\delta QM^{DB} / \delta QM^{DB}_{(\tau-3)DB}$	0.03 (0.60)	0.01 (0.27)	0.08 (0.89)	0.10 (1.08)	-0.10 (-0.97)	-0.08 (-0.89)	-0.09 (-1.28)	-0.16 (-1.53)	-0.13 (-1.86)	-0.11* (-2.25)	-0.004 (0.08)	0.007 (1.13)
$\delta QM^{DB} / \delta QM^{DB}_{(\tau-4)DB}$	0.04 (0.87)	0.004 (0.10)	0.03 (0.76)	0.05 (1.27)	0.06 (1.10)	0.06 (1.25)	-0.19 (-1.50)	-0.33 (-1.66)	0.09* (2.08)	0.06 (1.31)	0.03 (0.87)	0.03 (0.91)
$\delta QM^{DB} / \delta QM^{DB}_{(\tau-5)DB}$	0.11 (1.82)	0.06 (0.91)	-0.03 (-1.08)	-0.006 (-0.17)	0.05 (1.10)	0.05 (0.68)	0.007 (0.11)	-0.05 (-0.42)	-0.03 (-1.02)	0.004 (0.13)	0.004 (0.23)	0.004 (0.26)
N	437		303		238		210		253		1004	
R <sup>2</sup>	0.02	0.07	0.03	0.15	0.05	0.12	0.07	0.05	0.03	0.04	0.03	0.07
DW	2.04	2.02	2.04	2.09	2.00	2.06	2.01	2.06	2.00	2.03	2.00	2.01

**Appendix Table A.II**

**Societe Generale: Time-Varying Effect of Competitor Banks' Quote Revisions**

This table estimates DM/US\$ quote revisions by Societe Generale (SG) as a function of two lagged quote revisions by competitor banks and five own lags:

$$QM_{\tau}^{SG} = a + \sum_{k=1}^5 \sum_{i=1}^2 b_i^k QM_{(\tau-i)^k}^k + \sum_{i=1}^5 c_i^{SG} QM_{(\tau-i)^{SG}}^{SG}$$

where  $b_i^k = e_i^k + f_i^k * 1 / [(\tau - (\tau - i)^k) / 60]$  ;  $c_i^{SG} = g_i^{SG} + h_i^{SG} * 1 / [(\tau - (\tau - i)^{SG}) / 60]$

$QM_{\tau}^{SG}$  is measured as the per-minute percentage change in SG's midpoint quotes between time  $\tau-1$  and  $\tau$ ;  $QM_{(\tau-i)^k}^k$  denotes the  $i$ th preceding per-minute quote change by competitor banks  $k =$  Deutsche Bank (DB), Chemical Bank (CH), Rabobank (RB), Den Norske Bank (DN), and BHF Bank (BH).  $QM_{(\tau-i)^{SG}}^{SG}$  represents SG's own lagged indications.  $f_i^k$  and  $h_i^{SG}$  are coefficients which capture the time lapse between regressor banks' lagged quote revisions and SG's adjustment at time  $\tau$ . The sample comprises 14 pooled Bundesbank intervention periods between Oct. 1, 1992 and Sept. 30, 1993. Table I lists their Reuters headline descriptions. -120/-60, -60/-25, -25/0, 0/+25 +25/+60 and -60/+60 are time intervals in minutes which define subsamples around Bundesbank intervention reports. The time stamp on intervention headline entries is denoted as time 0. Due to the time-varying nature of the model, marginal effects are reported in lieu of individual coefficient estimates. For instance,  $\delta QM^{SG} / \delta QM_{(\tau-1)DB}^{DB}$  measures the incremental impact of DB's time  $\tau-1$  quote changes on SG's time  $\tau$  quote revisions. Statistical significance is denoted by \* (\*\*) at the 5% (1%) level using robust standard errors with Newey-West (1987) serial-correlation and heteroscedasticity correction.

[Insert Appendix Table A.II here]

Appendix Table A.II

Marginal Effects	-120/-60 min.		-60/-25 min.		-25/0 min.		0/+25 min.		+25/+60 min.		-60/+60 min.	
	$f_i^k=h^{SG}_i=0$	$f_i^k \neq h^{SG}_i \neq 0$	$f_i^k=h^{SG}_i=0$	$f_i^k \neq h^{SG}_i \neq 0$	$f_i^k=h^{SG}_i=0$	$f_i^k \neq h^{SG}_i \neq 0$	$f_i^k=h^{SG}_i=0$	$f_i^k \neq h^{SG}_i \neq 0$	$f_i^k=h^{SG}_i=0$	$f_i^k \neq h^{SG}_i \neq 0$	$f_i^k=h^{SG}_i=0$	$f_i^k \neq h^{SG}_i \neq 0$
a	0.27 (0.85)	0.21 (0.57)	0.39 (0.50)	0.86 (1.26)	0.55 (1.28)	0.40 (0.85)	0.30 (0.55)	0.92 (1.40)	-0.60 (-1.04)	-0.66 (-1.15)	0.15 (0.50)	0.38 (1.06)
$\delta QM^{SG} / \delta QM^{DB}_{(t-1)DB}$	0.03 (0.50)	0.03 (0.55)	0.05** (2.58)	0.01* (2.18)	-0.02* (-2.34)	0.004* (2.08)	-0.02 (-0.21)	0.009 (0.08)	-0.10 (-1.54)	-0.15 (-1.81)	0.002 (0.04)	0.01 (0.02)
$\delta QM^{SG} / \delta QM^{DB}_{(t-2)DB}$	0.03 (0.50)	0.10 (1.32)	0.02 (0.67)	0.03 (0.74)	0.12* (2.06)	0.08* (2.45)	0.07 (0.85)	0.12 (1.23)	0.06 (0.91)	-0.04 (-0.44)	0.07* (2.40)	0.06* (2.11)
$\delta QM^{SG} / \delta QM^{CH}_{(t-1)CH}$	0.11 (1.35)	0.07 (0.83)	0.20 (1.79)	0.21 (1.32)	-0.02* (-2.30)	0.01* (2.16)	0.25** (3.35)	0.31** (2.94)	0.25 (1.10)	0.36* (2.00)	0.14** (3.27)	0.14** (3.36)
$\delta QM^{SG} / \delta QM^{CH}_{(t-2)CH}$	-0.04 (-0.80)	-0.12 (-1.29)	0.17 (1.39)	0.40 (1.16)	0.08* (2.23)	-0.09* (-2.28)	0.04 (0.67)	0.18 (1.65)	-0.22 (-1.48)	-0.16 (-0.92)	-0.001 (-0.04)	0.02 (0.43)
$\delta QM^{SG} / \delta QM^{RB}_{(t-1)RB}$	0.14 (1.38)	0.12 (1.13)	-0.14 (-0.81)	-0.06 (-0.48)	0.14 (0.82)	0.13 (1.23)	-0.07 (-1.26)	0.01 (0.19)	0.08 (0.66)	-0.05 (-0.37)	0.0001 (0.01)	0.008 (0.12)
$\delta QM^{SG} / \delta QM^{RB}_{(t-2)RB}$	-0.04 (-0.62)	-0.057 (-0.59)	0.03 (0.58)	0.09 (0.72)	0.07 (1.02)	0.12 (1.07)	-0.03 (-0.68)	0.003 (0.06)	0.02 (0.38)	-0.007 (-0.14)	0.03 (1.10)	0.04 (0.87)
$\delta QM^{SG} / \delta QM^{DN}_{(t-1)DN}$	0.25 (1.12)	0.18 (1.00)	-0.05 (-0.41)	0.01 (0.11)	0.16* (2.17)	-0.14* (-2.04)	-0.17 (-1.68)	-0.20 (-1.86)	-0.01 (-0.14)	-0.05 (-0.55)	-0.02 (-0.38)	-0.04 (-0.77)
$\delta QM^{SG} / \delta QM^{DN}_{(t-2)DN}$	0.19 (1.79)	0.21 (1.52)	0.04 (0.35)	-0.14 (-0.77)	0.02 (0.09)	0.13 (0.42)	0.17 (1.36)	0.24 (1.59)	0.09 (0.69)	0.25* (2.16)	0.03 (0.40)	0.002 (0.03)
$\delta QM^{SG} / \delta QM^{BH}_{(t-1)BH}$	-0.13 (-0.56)	0.03 (0.12)	-0.83 (-1.93)	-0.51 (-1.04)	0.13 (0.37)	0.14 (0.48)	-0.21 (-0.71)	-0.17 (-0.59)	-0.13 (-0.69)	0.05 (0.28)	-0.28 (-1.80)	-0.23 (-1.57)
$\delta QM^{SG} / \delta QM^{BH}_{(t-2)BH}$	0.50 (1.34)	0.10 (0.33)	-1.09 (-0.84)	-1.06 (-0.69)	0.03 (0.06)	0.13 (0.23)	-0.30 (-0.61)	-0.50 (-1.02)	0.18 (0.24)	0.64 (1.12)	-0.32 (-0.77)	-0.33 (-0.75)
$\delta QM^{SG} / \delta QM^{SG}_{(t-1)SG}$	-0.18 (-1.78)	-0.09* (-1.96)	-0.16** (-3.35)	-0.21* (-2.24)	-0.05 (-0.46)	-0.39** (-2.94)	-0.21** (-2.72)	-0.18* (-2.70)	-0.19 (-1.67)	-0.26** (-2.60)	-0.14** (-3.32)	-0.09** (-2.61)
$\delta QM^{SG} / \delta QM^{SG}_{(t-2)SG}$	-0.09 (-0.77)	-0.20* (-2.27)	-0.06 (-1.10)	-0.02 (-0.22)	0.0003 (0.002)	-0.10 (-0.70)	-0.05 (-0.97)	-0.06 (-1.29)	-0.06 (-1.00)	-0.08 (-0.76)	-0.03 (-1.29)	-0.03 (-1.01)
$\delta QM^{SG} / \delta QM^{SG}_{(t-3)SG}$	0.04 (0.61)	0.08 (1.38)	-0.04 (-0.61)	-0.04 (-0.65)	0.03 (0.23)	-0.06 (-0.54)	-0.20** (-2.63)	-0.18* (-2.44)	-0.09 (-1.63)	-0.05 (-0.85)	-0.07 (-1.66)	-0.05 (-1.48)
$\delta QM^{SG} / \delta QM^{SG}_{(t-4)SG}$	-0.02 (-0.51)	0.01 (0.27)	-0.20* (-2.52)	-0.09* (-2.48)	-0.09 (-1.15)	-0.24** (-2.66)	0.10 (1.26)	0.12 (1.68)	0.03 (-0.34)	-0.04 (-0.72)	-0.08 (-1.50)	-0.06 (-1.42)
$\delta QM^{SG} / \delta QM^{SG}_{(t-5)SG}$	0.008 (0.18)	0.04 (0.77)	-0.10 (-1.40)	-0.06 (-0.55)	0.01 (0.18)	-0.20* (-1.96)	0.20* (2.16)	0.18 (1.87)	0.0007 (0.01)	0.03 (0.42)	-0.01 (-0.27)	0.002 (0.05)
N	230		192		127		131		167		617	
R <sup>2</sup>	0.08	0.11	0.02	0.10	0.02	0.22	0.07	0.15	0.03	0.14	0.02	0.07
DW	2.05	2.12	2.08	2.11	2.06	2.12	2.12	2.11	2.01	2.02	2.01	2.00

**Appendix Table A.III**

**Chemical Bank: Time-Varying Effect of Competitor Banks' Quote Revisions**

This table estimates DM/US\$ quote revisions by Chemical Bank (CH) as a function of two lagged quote revisions by competitor banks and five own lags:

$$QM_{\tau}^{CH} = a + \sum_{k=1}^5 \sum_{i=1}^2 b_i^k QM_{(\tau-i)^k}^k + \sum_{i=1}^5 c_i^{CH} QM_{(\tau-i)^{CH}}^{CH}$$

where  $b_i^k = e_i^k + f_i^k * 1 / [(\tau - (\tau - i)^k) / 60]$  ;  $c_i^{CH} = g_i^{CH} + h_i^{CH} * 1 / [(\tau - (\tau - i)^{CH}) / 60]$

$QM_{\tau}^{CH}$  is measured as the per-minute percentage change in CH's midpoint quotes between time  $\tau-1$  and  $\tau$ ;  $QM_{(\tau-i)^k}^k$  denotes the  $i$ th preceding per-minute quote change by competitor banks  $k =$  Deutsche Bank (DB), Societe Generale (SG), Rabobank (RB), Den Norske Bank (DN), and BHF Bank (BH).  $QM_{(\tau-i)^{CH}}^{CH}$  represents CH's own lagged indications.  $f_i^k$  and  $h_i^{CH}$  are coefficients which capture the time lapse between regressor banks' lagged quote revisions and CH's adjustment at time  $\tau$ . The sample comprises 14 pooled Bundesbank intervention periods between Oct. 1, 1992 and Sept. 30, 1993. Table I lists their Reuters headline descriptions. -120/-60, -60/-25, -25/0, 0/+25 +25/+60 and -60/+60 are time intervals in minutes which define subsamples around Bundesbank intervention reports. The time stamp on intervention headline entries is denoted as time 0. Due to the time-varying nature of the model, marginal effects are reported in lieu of individual coefficient estimates. For instance,  $\delta QM_{(\tau-1)}^{CH} / \delta QM_{(\tau-1)}^{DB}$  reflects the incremental impact of DB's time  $\tau-1$  quote changes on CH's time  $\tau$  quote revisions. Statistical significance is denoted by \* (\*\*) at the 5% (1%) level using robust standard errors with Newey-West (1987) serial-correlation and heteroscedasticity correction.

[Insert Appendix Table A.III here]

Appendix Table A.III

Marginal Effects	-120/-60 min.		-60/-25 min.		-25/0 min.		0/+25 min.		+25/+60 min.		-60/+60 min.	
	$f_i^k=h_i^{CH}=0$	$f_i^k \neq h_i^{CH} \neq 0$	$f_i^k=h_i^{CH}=0$	$f_i^k \neq h_i^{CH} \neq 0$	$f_i^k=h_i^{CH}=0$	$f_i^k \neq h_i^{CH} \neq 0$	$f_i^k=h_i^{CH}=0$	$f_i^k \neq h_i^{CH} \neq 0$	$f_i^k=h_i^{CH}=0$	$f_i^k \neq h_i^{CH} \neq 0$	$f_i^k=h_i^{CH}=0$	$f_i^k \neq h_i^{CH} \neq 0$
a	0.02 (0.07)	0.006 (0.03)	0.08 (0.44)	0.12 (1.75)	-1.02 (-1.81)	-0.74 (-1.62)	0.43 (1.30)	0.32 (1.06)	-0.20 (-1.06)	-0.10 (-0.43)	-0.30 (-1.31)	-0.21 (-1.14)
$\delta QM^{CH} / \delta QM^{DB}_{(\tau-1)DB}$	-0.08 (-0.98)	-0.07 (-1.01)	-0.02* (-2.17)	-0.02* (-2.20)	0.07 (1.13)	0.02 (0.31)	0.13 (1.66)	0.03 (0.65)	-0.06 (-1.13)	-0.05 (-0.96)	0.04 (1.10)	0.05 (1.43)
$\delta QM^{CH} / \delta QM^{DB}_{(\tau-2)DB}$	0.09 (1.56)	0.07 (1.73)	0.004 (0.12)	0.02 (0.65)	0.09 (1.63)	0.09* (1.97)	-0.04 (-0.69)	-0.06 (-0.98)	0.007 (0.22)	0.009 (0.25)	0.01 (0.52)	0.006 (0.29)
$\delta QM^{CH} / \delta QM^{SG}_{(\tau-1)SG}$	-0.02 (-0.25)	-0.04 (-0.75)	0.006 (0.18)	0.03 (1.06)	0.10 (1.15)	0.05 (0.78)	-0.03 (-0.55)	-0.04 (-0.80)	0.08 (1.90)	0.10 (1.71)	0.04 (1.13)	0.03 (1.08)
$\delta QM^{CH} / \delta QM^{SG}_{(\tau-2)SG}$	0.02 (0.52)	0.02 (0.53)	0.06 (1.19)	0.02 (0.55)	0.26** (2.72)	0.17** (2.77)	-0.002 (-0.07)	0.003 (0.07)	0.10 (1.35)	0.08 (1.26)	0.07* (2.33)	0.06* (2.13)
$\delta QM^{CH} / \delta QM^{RB}_{(\tau-1)RB}$	0.08 (1.51)	0.04 (0.86)	0.01 (0.40)	0.07 (1.52)	0.14 (1.28)	0.18 (1.90)	-0.04 (-0.75)	0.007 (0.15)	0.05 (1.46)	0.05 (1.81)	0.04 (0.90)	0.06 (1.71)
$\delta QM^{CH} / \delta QM^{RB}_{(\tau-2)RB}$	0.07 (1.64)	0.05 (1.35)	-0.02 (-0.48)	-0.02 (-0.43)	-0.06 (-1.00)	-0.03 (-0.35)	0.02 (0.46)	0.05 (1.47)	-0.06 (-0.33)	0.02 (1.03)	-0.005 (-0.29)	0.03 (1.94)
$\delta QM^{CH} / \delta QM^{DN}_{(\tau-1)DN}$	0.08 (0.91)	0.07 (0.60)	0.04 (1.33)	0.06 (1.78)	-0.15 (-0.71)	-0.24 (-0.79)	0.09 (1.36)	0.04 (0.70)	0.09 (1.20)	0.16 (1.71)	0.07 (0.83)	0.09 (1.14)
$\delta QM^{CH} / \delta QM^{DN}_{(\tau-2)DN}$	0.02 (0.18)	0.06 (0.69)	0.06 (1.61)	0.07 (1.32)	-0.48* (-2.17)	-0.62* (-1.98)	0.28* (2.31)	0.12 (0.55)	0.07* (2.22)	0.05 (0.93)	0.02 (0.66)	-0.008 (-0.21)
$\delta QM^{CH} / \delta QM^{BH}_{(\tau-1)BH}$	0.005 (0.10)	0.08 (1.49)	0.41 (1.18)	0.41 (1.45)	-0.21 (-0.93)	0.08 (0.35)	0.14 (0.62)	0.30 (1.33)	-0.03 (-0.33)	-0.02 (-0.23)	0.09 (1.29)	0.10 (1.48)
$\delta QM^{CH} / \delta QM^{BH}_{(\tau-2)BH}$	-0.10 (-1.74)	-0.22 (-1.67)	0.27 (1.55)	0.29 (1.75)	0.33 (1.38)	0.20 (0.81)	0.20 (1.04)	0.06 (0.31)	0.14 (1.16)	0.14 (1.14)	0.21 (1.87)	0.20 (1.52)
$\delta QM^{CH} / \delta QM^{CH}_{(\tau-1)CH}$	-0.29** (-4.00)	-0.21** (-3.88)	-0.19 (-1.88)	-0.37** (-5.64)	0.009 (0.04)	-0.09 (-0.42)	0.008 (0.17)	-0.24* (-2.11)	-0.15** (-3.52)	-0.05 (-0.83)	-0.07 (-0.87)	-0.07 (-1.11)
$\delta QM^{CH} / \delta QM^{CH}_{(\tau-2)CH}$	0.03 (0.45)	-0.02 (-0.47)	-0.09 (-1.83)	-0.10* (-1.99)	-0.25 (-1.52)	-0.24 (-1.19)	-0.14** (-2.63)	-0.13* (-2.25)	0.02 (0.40)	0.03 (0.53)	-0.04 (-0.80)	-0.07 (-1.65)
$\delta QM^{CH} / \delta QM^{CH}_{(\tau-3)CH}$	-0.08 (-0.84)	-0.01 (-0.31)	-0.04 (-0.53)	-0.09 (-1.19)	0.43* (2.16)	0.40* (2.10)	0.02 (0.41)	-0.02 (-0.32)	-0.06 (-0.73)	-0.04 (-0.70)	0.10 (1.51)	0.09 (1.66)
$\delta QM^{CH} / \delta QM^{CH}_{(\tau-4)CH}$	-0.05 (-1.03)	-0.007 (-0.15)	-0.07 (-1.19)	-0.05 (-0.88)	-0.20 (-1.17)	-0.31** (-1.65)	-0.09 (-1.78)	-0.09 (-1.12)	-0.06 (-0.75)	-0.10 (-1.44)	-0.08 (-1.69)	-0.08 (-1.49)
$\delta QM^{CH} / \delta QM^{CH}_{(\tau-5)CH}$	-0.02 (-0.34)	-0.05 (-0.82)	-0.03 (-0.51)	-0.03 (-0.49)	-0.16 (-1.18)	-0.14 (-1.05)	0.02 (0.36)	0.03 (0.55)	-0.009 (-0.19)	-0.05 (-0.85)	-0.05 (-0.90)	-0.04 (-1.14)
N	259		190		143		147		184		664	
R <sup>2</sup>	0.08	0.25	0.05	0.43	0.14	0.13	0.03	0.15	0.01	0.04	0.04	0.05
DW	2.13	2.08	1.98	2.06	1.92	2.01	2.01	2.06	2.02	2.01	1.99	2.03

**Appendix Table A.IV**

**Rabobank: Time-Varying Effect of Competitor Banks' Quote Revisions**

This table estimates DM/US\$ quote revisions by Rabobank (RB) as a function of two lagged quote revisions by competitor banks and five own lags:

$$QM_{\tau}^{RB} = a + \sum_{k=1}^2 \sum_{i=1}^5 b_i^k QM_{(\tau-i)^k}^k + \sum_{i=1}^5 c_i^{RB} QM_{(\tau-i)^{RB}}^{RB}$$

where  $b_i^k = e_i^k + f_i^k * 1 / [(\tau - (\tau - i)^k) / 60]$  ;  $c_i^{RB} = g_i^{RB} + h_i^{RB} * 1 / [(\tau - (\tau - i)^{RB}) / 60]$

$QM_{\tau}^{RB}$  is measured as the per-minute percentage change in RB's midpoint quotes between time  $\tau-1$  and  $\tau$ ;  $QM_{(\tau-i)^k}^k$  denotes the  $i$ th preceding per-minute quote change by competitor banks  $k =$  Deutsche Bank (DB), Societe Generale (SG), Chemical Bank (CH), Den Norske Bank (DN), and BHF Bank (BH).  $QM_{(\tau-i)^{RB}}^{RB}$  represents RB's own lagged indications.  $f_i^k$  and  $h_i^{RB}$  are coefficients which capture the time lapse between regressor banks' lagged quote revisions and RB's adjustment at time  $\tau$ . The sample comprises 14 pooled Bundesbank intervention periods between Oct. 1, 1992 and Sept. 30, 1993. Table I lists their Reuters headline descriptions. -120/-60, -60/-25, -25/0, 0/+25 +25/+60 and -60/+60 are time intervals in minutes which define subsamples around Bundesbank intervention reports. The time stamp on intervention headline entries is denoted as time 0. Due to the time-varying nature of the model, marginal effects are reported in lieu of individual coefficient estimates. For instance,  $\delta QM^{RB} / \delta QM_{(\tau-1)DB}^{DB}$  measures the incremental impact of DB's time  $\tau-1$  quote changes on RB's time  $\tau$  quote revisions. Statistical significance is denoted by \* (\*\*) at the 5% (1%) level using robust standard errors with Newey-West (1987) serial-correlation and heteroscedasticity correction.

[Insert Appendix Table A.IV here]

Appendix Table A.IV

Marginal Effects	-120/-60 min.		-60/-25 min.		-25/0 min.		0/+25 min.		+25/+60 min.		-60/+60 min.	
	$f_i^k=h_i^{RB}=0$	$f_i^k \neq h_i^{RB} \neq 0$	$f_i^k=h_i^{RB}=0$	$f_i^k \neq h_i^{RB} \neq 0$	$f_i^k=h_i^{RB}=0$	$f_i^k \neq h_i^{RB} \neq 0$	$f_i^k=h_i^{RB}=0$	$f_i^k \neq h_i^{RB} \neq 0$	$f_i^k=h_i^{RB}=0$	$f_i^k \neq h_i^{RB} \neq 0$	$f_i^k=h_i^{RB}=0$	$f_i^k \neq h_i^{RB} \neq 0$
a	-0.01 (-0.05)	-0.06 (-0.20)	0.44 (1.58)	0.22 (0.81)	0.55 (1.10)	0.75 (1.94)	-0.19 (-0.61)	0.007 (0.02)	0.06 (0.11)	0.09 (0.21)	0.08 (0.37)	0.01 (0.06)
$\delta QM^{RB} / \delta QM^{DB}_{(\tau-1)DB}$	0.07 (1.34)	0.03 (0.71)	-0.05 (-1.89)	-0.05* (-1.98)	0.19* (2.47)	0.03 (0.59)	0.36* (2.22)	0.44* (2.42)	0.20 (1.58)	0.21 (1.66)	0.09 (1.37)	0.09 (1.35)
$\delta QM^{RB} / \delta QM^{DB}_{(\tau-2)DB}$	0.0005 (0.001)	-0.05 (-0.65)	0.01** (3.43)	0.02** (2.57)	0.03 (0.38)	0.01 (0.11)	-0.02 (-0.27)	0.08 (0.69)	0.10 (1.45)	0.14** (3.15)	0.04 (1.09)	0.04 (1.57)
$\delta QM^{RB} / \delta QM^{SG}_{(\tau-1)SG}$	0.03 (0.65)	0.09 (1.24)	-0.004 (-0.08)	-0.07 (-1.67)	0.15 (1.19)	0.04 (0.44)	0.01 (0.37)	0.004 (0.11)	0.10 (1.46)	0.10 (1.50)	0.05 (1.41)	0.04 (1.23)
$\delta QM^{RB} / \delta QM^{SG}_{(\tau-2)SG}$	-0.04 (-0.61)	0.01 (0.15)	-0.04 (-1.24)	-0.006 (-0.20)	0.20 (1.32)	0.35** (3.64)	0.01 (0.23)	-0.03 (-0.43)	0.03 (0.45)	-0.04 (-0.39)	-0.02 (-0.64)	-0.008 (-0.34)
$\delta QM^{RB} / \delta QM^{CH}_{(\tau-1)CH}$	0.11 (1.13)	0.10 (1.11)	0.27 (1.34)	0.61 (1.58)	0.34 (0.33)	0.79* (2.02)	0.12* (2.00)	0.02 (0.11)	-0.03 (-0.09)	0.15 (0.46)	0.18 (1.91)	0.15 (1.21)
$\delta QM^{RB} / \delta QM^{CH}_{(\tau-2)CH}$	0.20 (1.34)	0.26 (1.68)	-0.15 (-0.71)	0.07 (0.46)	-0.04 (-0.16)	-0.05 (-0.21)	-0.13* (-2.05)	-0.05 (-0.38)	-0.13 (-0.27)	0.16 (0.43)	-0.04 (-0.68)	-0.08 (-0.83)
$\delta QM^{RB} / \delta QM^{DN}_{(\tau-1)DN}$	0.02 (0.27)	-0.005 (-0.05)	0.004 (0.04)	-0.07 (-0.87)	0.87 (1.90)	0.22 (0.74)	0.15 (0.71)	0.36 (1.34)	0.33 (0.40)	0.06 (0.47)	0.18 (1.55)	0.11 (0.97)
$\delta QM^{RB} / \delta QM^{DN}_{(\tau-2)DN}$	0.001 (0.02)	-0.04 (-0.53)	-0.03 (-0.45)	-0.08 (-0.94)	-0.27 (-1.00)	-0.75** (-3.20)	0.02 (0.06)	-0.07 (-0.32)	0.09 (0.45)	-0.12 (-0.50)	-0.06 (-0.78)	-0.09 (-1.13)
$\delta QM^{RB} / \delta QM^{BH}_{(\tau-1)BH}$	0.29 (1.72)	0.32* (2.11)	0.34 (1.83)	0.28 (1.56)	-0.59 (-1.21)	-0.24 (-0.69)	0.51 (1.04)	0.20 (0.49)	-0.05 (-0.12)	-0.07 (-0.23)	0.13 (0.82)	0.19 (1.35)
$\delta QM^{RB} / \delta QM^{BH}_{(\tau-2)BH}$	0.33* (2.03)	0.38* (2.28)	0.29 (1.33)	0.20 (0.94)	-0.22 (-0.71)	-0.32 (-1.14)	0.08 (0.24)	0.06 (0.16)	0.04 (0.16)	0.14 (0.70)	0.12 (0.87)	0.16 (1.19)
$\delta QM^{RB} / \delta QM^{RB}_{(\tau-1)RB}$	-0.22** (-3.13)	-0.22** (-2.91)	-0.27** (-3.61)	-0.30** (-3.85)	-0.40** (-3.79)	-0.59** (-3.91)	-0.19 (-1.61)	-0.37* (-2.01)	-0.24* (-2.41)	-0.27 (-1.64)	-0.20** (-4.30)	-0.25** (-3.27)
$\delta QM^{RB} / \delta QM^{RB}_{(\tau-2)RB}$	-0.03 (-0.49)	-0.03 (-0.48)	-0.15* (-2.48)	-0.12 (-1.73)	-0.27 (-1.85)	-0.40** (-2.84)	-0.09 (-0.78)	-0.10 (-0.94)	0.03 (0.34)	0.05 (0.75)	-0.05 (-1.03)	-0.06 (-1.29)
$\delta QM^{RB} / \delta QM^{RB}_{(\tau-3)RB}$	0.06 (0.45)	0.09 (0.91)	-0.29** (-2.70)	-0.26** (-3.33)	0.10 (0.70)	0.10 (0.86)	-0.15 (-0.35)	-0.09 (-1.23)	-0.19 (-1.68)	-0.09 (-1.02)	-0.12 (-1.64)	-0.11* (-2.11)
$\delta QM^{RB} / \delta QM^{RB}_{(\tau-4)RB}$	0.04 (0.79)	0.03 (0.52)	-0.16* (-2.43)	-0.14* (-2.22)	-0.005 (-0.03)	-0.11 (-0.64)	-0.03 (-0.46)	-0.15 (-1.57)	0.39 (1.62)	-0.20* (-2.04)	-0.18 (-1.60)	-0.16 (-1.76)
$\delta QM^{RB} / \delta QM^{RB}_{(\tau-5)RB}$	-0.005 (-0.08)	-0.04 (-0.71)	-0.06 (-1.41)	-0.06 (-1.34)	0.04 (0.31)	0.05 (0.49)	0.02 (0.17)	-0.04 (-0.66)	-0.07 (-0.94)	-0.05 (-0.62)	-0.05 (-1.17)	-0.06 (-1.44)
N	229		198		123		102		133		556	
R <sup>2</sup>	0.05	0.05	0.14	0.23	0.25	0.50	0.10	0.26	0.16	0.29	0.08	0.12
DW	2.14	2.15	2.00	2.10	2.11	1.89	2.37	2.34	2.11	2.16	2.01	2.00



**Appendix Table A.V**

**Den Norske Bank: Time-Varying Effect of Competitor Banks' Quote Revisions**

This table estimates DM/US\$ quote revisions by Den Norske Bank (DN) as a function of two lagged quote revisions by competitor banks and five own lags:

$$QM_{\tau}^{DN} = a + \sum_{k=1}^5 \sum_{i=1}^2 b_i^k QM_{(\tau-i)^k}^k + \sum_{i=1}^5 c_i^{DN} QM_{(\tau-i)^{DN}}^{DN}$$

where  $b_i^k = e_i^k + f_i^k * 1 / [(\tau - (\tau - i)^k) / 60]$  ;  $c_i^{DN} = g_i^{RB} + h_i^{RB} * 1 / [(\tau - (\tau - i)^{RB}) / 60]$

$QM_{\tau}^{DN}$  is measured as the per-minute percentage change in DN's midpoint quotes between time  $\tau-1$  and  $\tau$ ;  $QM_{(\tau-i)^k}^k$  denotes the  $i$ th preceding per-minute quote change by competitor banks  $k =$  Deutsche Bank (DB), Societe Generale (SG), Chemical Bank (CH), Rabobank (RB), and BHF Bank (BH).  $QM_{(\tau-i)^{DN}}^{DN}$  represents DN's own lagged indications.  $f_i^k$  and  $h_i^{DN}$  are coefficients which capture the time lapse between regressor banks' lagged quote revisions and DN's adjustment at time  $\tau$ . The sample comprises 14 pooled Bundesbank intervention periods between Oct. 1, 1992 and Sept. 30, 1993. Table I lists their Reuters headline descriptions. -120/-60, -60/-25, -25/0, 0/+25 +25/+60 and -60/+60 are time intervals in minutes which define subsamples around Bundesbank intervention reports. The time stamp on intervention headline entries is denoted as time 0. Due to the time-varying nature of the model, marginal effects are reported in lieu of individual coefficient estimates. For instance,  $\delta QM^{DN} / \delta QM_{(\tau-1)}^{DB}$  measures the incremental impact of DB's time  $\tau-1$  quote changes on DN's time  $\tau$  quote revisions. Statistical significance is denoted by \* (\*\*) at the 5% (1%) level using robust standard errors with Newey-West (1987) serial-correlation and heteroscedasticity correction.

[Insert Appendix Table A.V here]

Appendix Table A.V

Marginal Effects	-120/-60 min.		-60/-25 min.		-25/0 min.		0/+25 min.		+25/+60 min.		-60/+60 min.	
	$f_i^k=h_i^{DN}=0$	$f_i^k \neq h_i^{DN} \neq 0$	$f_i^k=h_i^{DN}=0$	$f_i^k \neq h_i^{DN} \neq 0$	$f_i^k=h_i^{DN}=0$	$f_i^k \neq h_i^{DN} \neq 0$	$f_i^k=h_i^{DN}=0$	$f_i^k \neq h_i^{DN} \neq 0$	$f_i^k=h_i^{DN}=0$	$f_i^k \neq h_i^{DN} \neq 0$	$f_i^k=h_i^{DN}=0$	$f_i^k \neq h_i^{DN} \neq 0$
a	0.23 (0.91)	0.28 (1.21)	0.16 (0.45)	0.08 (0.27)	0.40 (0.90)	0.05 (0.17)	-0.33 (-0.76)	-0.23 (-0.52)	0.46 (1.14)	0.28 (0.75)	0.05 (0.25)	0.01 (0.05)
$\delta QM^{DN} / \delta QM^{DB}_{(\tau-1)DB}$	0.03 (0.80)	0.05 (1.28)	0.05* (2.49)	0.05* (1.99)	0.01 (0.22)	-0.06 (-0.98)	0.14 (1.60)	0.15* (1.98)	0.007 (0.27)	0.08 (1.60)	0.03* (2.29)	0.04* (2.49)
$\delta QM^{DN} / \delta QM^{DB}_{(\tau-2)DB}$	0.08** (2.56)	0.14** (2.71)	-0.06 (-1.85)	-0.05* (-2.05)	0.13** (2.77)	0.03 (0.55)	0.004 (0.05)	-0.004 (-0.05)	-0.26* (-2.48)	-0.56** (-3.83)	-0.06* (-2.26)	-0.08* (1.99)
$\delta QM^{DN} / \delta QM^{SG}_{(\tau-1)SG}$	0.15** (3.51)	0.16** (3.42)	-0.002 (-0.05)	-0.02 (-0.32)	-0.009 (-0.13)	0.04 (0.57)	0.10 (1.59)	0.10* (2.10)	0.007 (0.24)	-0.01 (-0.58)	0.05 (1.86)	0.004 (0.21)
$\delta QM^{DN} / \delta QM^{SG}_{(\tau-2)SG}$	-0.04 (-0.64)	-0.02 (-0.43)	-0.01 (-0.21)	0.02 (0.31)	0.13* (2.30)	0.05 (0.76)	-0.04 (-0.76)	-0.07 (-1.11)	0.09 (1.81)	0.07 (1.24)	0.05 (1.04)	0.001 (0.03)
$\delta QM^{DN} / \delta QM^{CH}_{(\tau-1)CH}$	0.05 (1.03)	0.05 (1.08)	0.20* (2.25)	0.24** (3.11)	0.39* (2.02)	0.59** (5.19)	-0.01 (-0.09)	0.09 (0.66)	0.34 (1.60)	0.41 (1.94)	0.21** (2.61)	0.23* (2.52)
$\delta QM^{DN} / \delta QM^{CH}_{(\tau-2)CH}$	0.05 (1.17)	0.05 (0.63)	0.09 (0.61)	0.11 (0.63)	0.09 (1.20)	0.06 (0.72)	0.19** (3.02)	0.35* (2.23)	0.19 (1.46)	0.06 (0.48)	0.18* (2.33)	0.10* (2.17)
$\delta QM^{DN} / \delta QM^{RB}_{(\tau-1)RB}$	0.12 (1.62)	0.08 (1.46)	0.05 (0.47)	0.01 (0.13)	-0.02 (-0.20)	-0.05 (-0.64)	0.11 (1.59)	0.19* (2.14)	0.05 (0.63)	0.008 (0.16)	0.07 (1.72)	-0.003 (-0.08)
$\delta QM^{DN} / \delta QM^{RB}_{(\tau-2)RB}$	0.12* (2.53)	0.12* (2.55)	-0.05 (-1.42)	-0.05 (-0.50)	-0.06 (-1.40)	0.09 (1.70)	0.001 (0.02)	0.22 (1.67)	0.06 (1.91)	0.05 (1.68)	0.003 (0.17)	-0.01 (-0.02)
$\delta QM^{DN} / \delta QM^{BH}_{(\tau-1)BH}$	-0.05 (-0.50)	-0.08 (-0.70)	-0.34 (-1.14)	-0.38 (-1.03)	-0.05 (-0.20)	0.03 (0.15)	0.18 (0.77)	0.07 (0.24)	0.10 (0.66)	0.18 (1.35)	0.19 (1.85)	-0.02 (-0.22)
$\delta QM^{DN} / \delta QM^{BH}_{(\tau-2)BH}$	0.18* (2.14)	0.17 (1.20)	0.004 (0.02)	-0.06 (-0.46)	0.77** (2.99)	0.57** (2.78)	0.18 (0.82)	-0.08 (-0.39)	-0.27 (-1.24)	-0.16 (-0.84)	0.18 (1.55)	-0.10 (-0.81)
$\delta QM^{DN} / \delta QM^{DN}_{(\tau-1)DN}$	-0.10 (-1.19)	-0.11 (-1.35)	-0.12 (-1.32)	-0.10 (-1.36)	-0.23* (-2.44)	-0.25** (-2.72)	-0.35** (-3.31)	-0.45** (-4.22)	-0.03 (-0.46)	-0.03 (-0.32)	-0.04 (-0.75)	-0.11* (-2.28)
$\delta QM^{DN} / \delta QM^{DN}_{(\tau-2)DN}$	0.09 (1.51)	0.05 (0.67)	0.009 (0.14)	-0.003 (-0.06)	-0.24** (-2.77)	-0.05 (-0.47)	-0.06 (-0.52)	-0.21* (-2.02)	-0.15 (-1.58)	-0.13 (-1.63)	0.02 (0.38)	-0.03 (-0.76)
$\delta QM^{DN} / \delta QM^{DN}_{(\tau-3)DN}$	0.06 (1.22)	0.04 (1.04)	-0.14 (-1.92)	-0.11 (-1.32)	-0.04 (-0.49)	-0.002 (-0.02)	-0.22* (-2.01)	-0.36** (-3.14)	-0.05 (-0.69)	-0.10 (-1.45)	0.03 (0.54)	-0.04 (-0.98)
$\delta QM^{DN} / \delta QM^{DN}_{(\tau-4)DN}$	-0.006 (-0.18)	-0.02 (-0.43)	-0.009 (-0.12)	-0.44 (-0.55)	0.11 (1.25)	0.20* (2.12)	-0.25 (-1.74)	-0.29* (-2.23)	0.12 (1.72)	0.07 (1.07)	0.14* (2.49)	0.05 (1.02)
$\delta QM^{DN} / \delta QM^{DN}_{(\tau-5)DN}$	-0.05 (-1.18)	-0.07 (-1.58)	-0.01 (-0.09)	-0.005 (-0.05)	0.09 (1.14)	0.09 (1.23)	-0.13 (-1.00)	-0.19* (-1.97)	-0.18 (-1.54)	-0.22* (-2.06)	0.008 (0.19)	-0.04 (-0.74)
N	256		145		103		97		128		473	
R <sup>2</sup>	0.06	0.17	0.03	0.03	0.17	0.27	0.02	0.10	0.07	0.11	0.12	0.14

DW	2.03	2.01	2.11	2.22	2.10	1.90	2.10	2.46	2.17	2.25	2.02	2.05
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Appendix Table A.VI

**BHF Bank: Time-Varying Effect of Competitor Banks' Quote Revisions**

This table estimates DM/US\$ quote revisions by BHF Bank (BH) as a function of two lagged quote revisions by competitor banks and five own lags:

$$QM_{\tau}^{BH} = a + \sum_{k=1} \sum_{i=1} b_i^k QM_{(\tau-i)^k} + \sum_{i=1} c_i^{BH} QM_{(\tau-i)^{BH}}$$

$$\text{where } b_i^k = e_i^k + f_i^k * 1 / [(\tau - (\tau - i)^k) / 60] ; \quad c_i^{BH} = g_i^{BH} + h_i^{BH} * 1 / [(\tau - (\tau - i)^{BH}) / 60]$$

$QM_{\tau}^{BH}$  is measured as the per-minute percentage change in BH's midpoint quotes between time  $\tau-1$  and  $\tau$ ;  $QM_{(\tau-i)^k}^k$  denotes the  $i$ th preceding per-minute quote change by competitor banks  $k = \text{Deutsche Bank (DB), Societe Generale (SG), Chemical Bank (CH), Rabobank (RB), and Den Norske Bank (DN)}$ .  $QM_{(\tau-i)^{BH}}^{BH}$  represents BH's own lagged indications.  $f_i^k$  and  $h_i^{BH}$  are coefficients which capture the time lapse between regressor banks' lagged quote revisions and BH's adjustment at time  $\tau$ . The sample comprises 14 pooled Bundesbank intervention periods between Oct. 1, 1992 and Sept. 30, 1993. Table I lists their Reuters headline descriptions. -120/-60, -60/-25, -25/0, 0/+25 +25/+60 and -60/+60 are time intervals in minutes which define subsamples around Bundesbank intervention reports. The time stamp on intervention headline entries is denoted as time 0. Due to the time-varying nature of the model, marginal effects are reported in lieu of individual coefficient estimates. For instance,  $\delta QM^{BH} / \delta QM_{(\tau-1)DB}^{DB}$  measures the incremental impact of DB's time  $\tau-1$  quote changes on BH's time  $\tau$  quote revisions. Statistical significance is denoted by \* (\*\*) at the 5% (1%) level using robust standard errors with Newey-West (1987) serial-correlation and heteroscedasticity correction.

[Insert Appendix Table A.VI here]

Appendix Table A.VI

Marginal Effects	-120/-60 min.		-60/-25 min.		-25/0 min.		0/+25 min.		+25/+60 min.		-60/+60 min.	
	$f_i^k=h_i^{BH}=0$	$f_i^k \neq h_i^{BH} \neq 0$	$f_i^k=h_i^{BH}=0$	$f_i^k \neq h_i^{BH} \neq 0$	$f_i^k=h_i^{BH}=0$	$f_i^k \neq h_i^{BH} \neq 0$	$f_i^k=h_i^{BH}=0$	$f_i^k \neq h_i^{BH} \neq 0$	$f_i^k=h_i^{BH}=0$	$f_i^k \neq h_i^{BH} \neq 0$	$f_i^k=h_i^{BH}=0$	$f_i^k \neq h_i^{BH} \neq 0$
a	-0.10 (-0.71)	-0.07 (-0.49)	0.13 (0.80)	0.08 (0.55)	-0.13 (-0.77)	-0.12 (-0.73)	-0.09 (-0.49)	-0.13 (-0.61)	0.24 (1.12)	0.14 (0.74)	0.05 (0.59)	0.07 (0.75)
$\delta QM^{BH} / \delta QM^{DB}_{(\tau-1)DB}$	0.005 (0.11)	-0.003 (-0.06)	-0.03* (-2.19)	0.001 (1.02)	0.07** (3.63)	0.08** (3.99)	0.07 (1.85)	0.10** (2.65)	0.08* (2.36)	0.08** (2.99)	0.03 (1.63)	0.05** (3.06)
$\delta QM^{BH} / \delta QM^{DB}_{(\tau-2)DB}$	-0.03 (-0.34)	-0.07 (-0.89)	-0.03* (-2.43)	-0.01* (-2.02)	0.01 (0.36)	0.02 (0.80)	0.05 (0.98)	0.06 (1.09)	0.05 (1.36)	0.06 (1.74)	0.04 (0.33)	0.008 (0.64)
$\delta QM^{BH} / \delta QM^{SG}_{(\tau-1)SG}$	0.03 (0.76)	0.05 (1.91)	0.02 (0.37)	-0.01 (-0.30)	0.11** (2.62)	0.08 (1.92)	0.04 (1.43)	0.06* (2.26)	-0.0005 (-0.02)	0.02 (0.86)	0.02 (0.90)	0.02 (1.09)
$\delta QM^{BH} / \delta QM^{SG}_{(\tau-2)SG}$	0.04 (1.03)	0.06 (1.52)	0.03 (1.33)	-0.02 (-0.54)	0.14** (2.80)	0.18** (3.16)	0.004 (0.08)	-0.03 (-0.57)	0.02 (0.43)	0.02 (0.66)	0.01 (0.66)	0.007 (0.31)
$\delta QM^{BH} / \delta QM^{CH}_{(\tau-1)CH}$	-0.03 (-0.74)	-0.02 (-0.22)	0.07 (1.79)	0.16** (3.17)	0.27** (3.33)	0.27** (3.86)	0.12 (1.53)	0.21* (2.04)	0.20 (1.38)	0.20 (1.51)	0.13** (3.03)	0.14* (3.25)
$\delta QM^{BH} / \delta QM^{CH}_{(\tau-2)CH}$	-0.04 (-0.41)	-0.07 (-0.52)	0.13 (1.82)	0.18 (1.14)	0.005 (0.08)	-0.07 (-0.76)	-0.005 (-0.07)	0.03 (0.39)	0.12 (1.45)	0.13 (1.76)	0.09* (2.52)	0.10** (2.87)
$\delta QM^{BH} / \delta QM^{RB}_{(\tau-1)RB}$	0.04 (0.57)	0.005 (0.06)	0.04 (1.42)	0.06* (2.27)	-0.06 (-1.86)	-0.06* (-1.96)	0.02 (0.78)	0.04 (1.48)	0.02 (0.49)	0.02 (0.47)	0.01 (0.73)	0.03 (1.74)
$\delta QM^{BH} / \delta QM^{RB}_{(\tau-2)RB}$	-0.02 (-0.70)	0.01 (0.37)	-0.02 (-1.13)	0.04 (1.06)	0.01 (0.46)	0.06 (1.79)	0.02 (0.72)	0.12* (2.04)	0.004 (0.34)	0.005 (0.45)	0.003 (0.36)	0.02 (1.45)
$\delta QM^{BH} / \delta QM^{DN}_{(\tau-1)DN}$	0.14** (2.91)	0.13* (2.17)	0.04 (0.77)	0.03 (0.83)	0.26** (4.07)	0.27** (3.49)	-0.009 (-0.12)	0.03 (0.35)	-0.004 (-0.08)	-0.02 (-0.34)	0.03 (0.94)	0.02 (0.68)
$\delta QM^{BH} / \delta QM^{DN}_{(\tau-2)DN}$	0.008 (0.11)	-0.07 (-0.87)	0.06 (1.49)	0.06 (1.18)	0.05 (0.63)	0.08 (0.83)	-0.05 (-0.66)	0.09 (0.68)	-0.16 (-1.77)	-0.13 (-1.71)	-0.006 (-0.14)	-0.009 (-0.21)
$\delta QM^{BH} / \delta QM^{BH}_{(\tau-1)BH}$	-0.25* (-2.50)	-0.17** (-2.66)	-0.23** (-3.22)	-0.26* (-3.17)	-0.37** (-3.60)	-0.39** (-3.47)	-0.30 (-1.93)	-0.34* (-2.31)	-0.39** (-4.24)	-0.49** (-5.77)	-0.25** (-4.59)	-0.30** (-5.41)
$\delta QM^{BH} / \delta QM^{BH}_{(\tau-2)BH}$	0.06 (0.89)	0.09 (1.08)	-0.07 (-0.75)	-0.15 (-1.56)	-0.13 (-1.43)	0.03 (0.18)	0.12 (0.75)	0.03 (0.18)	-0.21 (-1.80)	-0.16 (-1.56)	-0.02 (-0.43)	-0.07 (-1.25)
$\delta QM^{BH} / \delta QM^{BH}_{(\tau-3)BH}$	0.16 (0.96)	0.20 (1.28)	-0.24* (-2.44)	-0.19* (-2.00)	-0.16 (-1.61)	-0.21* (-2.27)	0.13 (0.97)	0.07 (0.50)	-0.17 (-1.42)	-0.07 (-0.67)	-0.07 (-1.19)	-0.05 (-0.82)
$\delta QM^{BH} / \delta QM^{BH}_{(\tau-4)BH}$	0.05 (0.80)	0.10 (1.60)	-0.05 (-0.69)	0.02 (0.32)	0.09 (0.89)	0.08 (0.81)	0.03 (0.26)	-0.03 (-0.25)	-0.002 (-0.02)	0.16 (1.57)	0.05 (0.79)	0.07 (1.15)
$\delta QM^{BH} / \delta QM^{BH}_{(\tau-5)BH}$	-0.02 (-0.34)	-0.08 (-1.42)	-0.12 (-1.73)	-0.06 (-0.83)	0.12 (1.42)	0.02 (0.19)	0.04 (0.45)	0.03 (0.32)	0.01 (0.21)	-0.07 (-0.80)	-0.01 (-0.30)	-0.02 (-0.46)
N	259		176		95		97		127		495	
R <sup>2</sup>	0.07	0.22	0.08	0.16	0.26	0.32	0.08	0.10	0.07	0.22	0.08	0.14
DW	2.05	2.16	1.86	1.89	2.05	1.93	2.02	1.996	2.00	2.10	1.95	1.99