



# Exchange-Rate Dynamics Chapter 10



Martin D. D. Evans

# Exchange Rates, Order Flows and Macro Data Releases

---

## Outline:

1. Macro Perspective:
  1. The Event-Study Rationale
  2. Event-Study Regressions
  3. Event Study Results
  
2. Micro Perspective I: High Frequency Dynamics
  1. Data Releases in the Portfolio Shifts Model
  2. Empirical Evidence
  
3. Micro Perspective II: Low Frequency Dynamics
  1. Daily Effects
  2. Longer-Term Effects

# 10.1 The Macro Perspective

## Event-Study Results

---

**Table 1: Event Study Estimates**

Data Release	DEM(EUR)		GBP	
	$\beta$	$R^2$	$\beta$	$R^2$
CPI	3.92	0.00	-5.16	0.00
Fed Funds Rate	-1.23***	0.20	-0.66***	0.13
GDP	-13.80***	0.18	-8.15***	0.10
Housing Starts	-25.13*	0.02	-15.28	0.01
Initial Unemployment Claims	-0.16***	0.04	-0.09***	0.02
Nonfarm Payrolls	-0.13***	0.21	-0.10***	0.21
PPI	-1.23	0.00	-8.37*	0.02
Retail Sales	-14.16***	0.15	-12.12***	0.19
Trade Balance	-10.09***	0.24	-7.13***	0.20
Unemployment	57.51***	0.07	48.69***	0.09

Source: Faust, Rogers, Wang, and Wright (2007) \*, \*\*, and \*\*\* denote significance at the 10%, 5% and 1% levels, respectively. Coefficient estimates are multiplied by 10,000.

# Micro Perspective I: High Frequency Dynamics

## Data Releases in the Portfolio Shifts Model

---

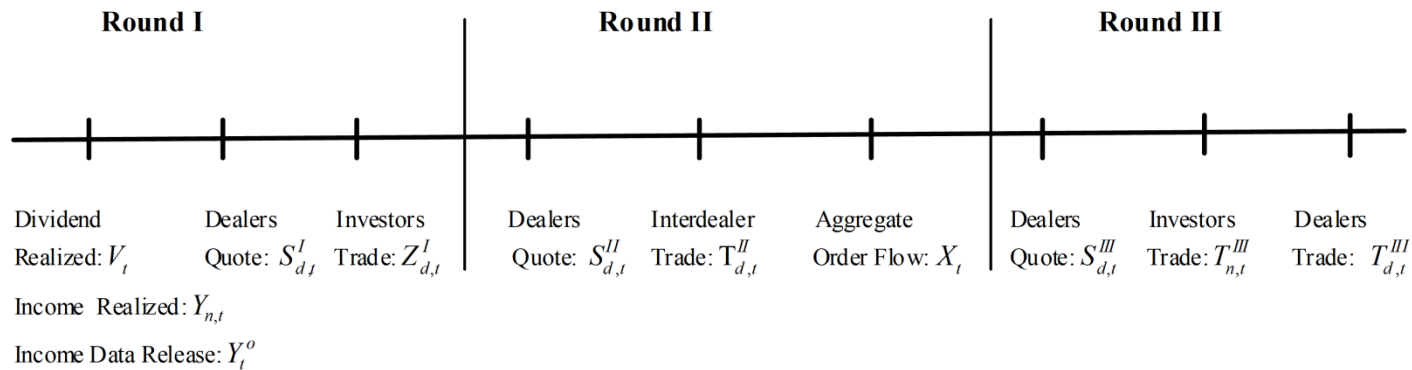


Figure 1: Daily Timing in the Portfolio Shifts Model on Data Release Days

# Micro Perspective I: High Frequency Dynamics

## Empirical Evidence

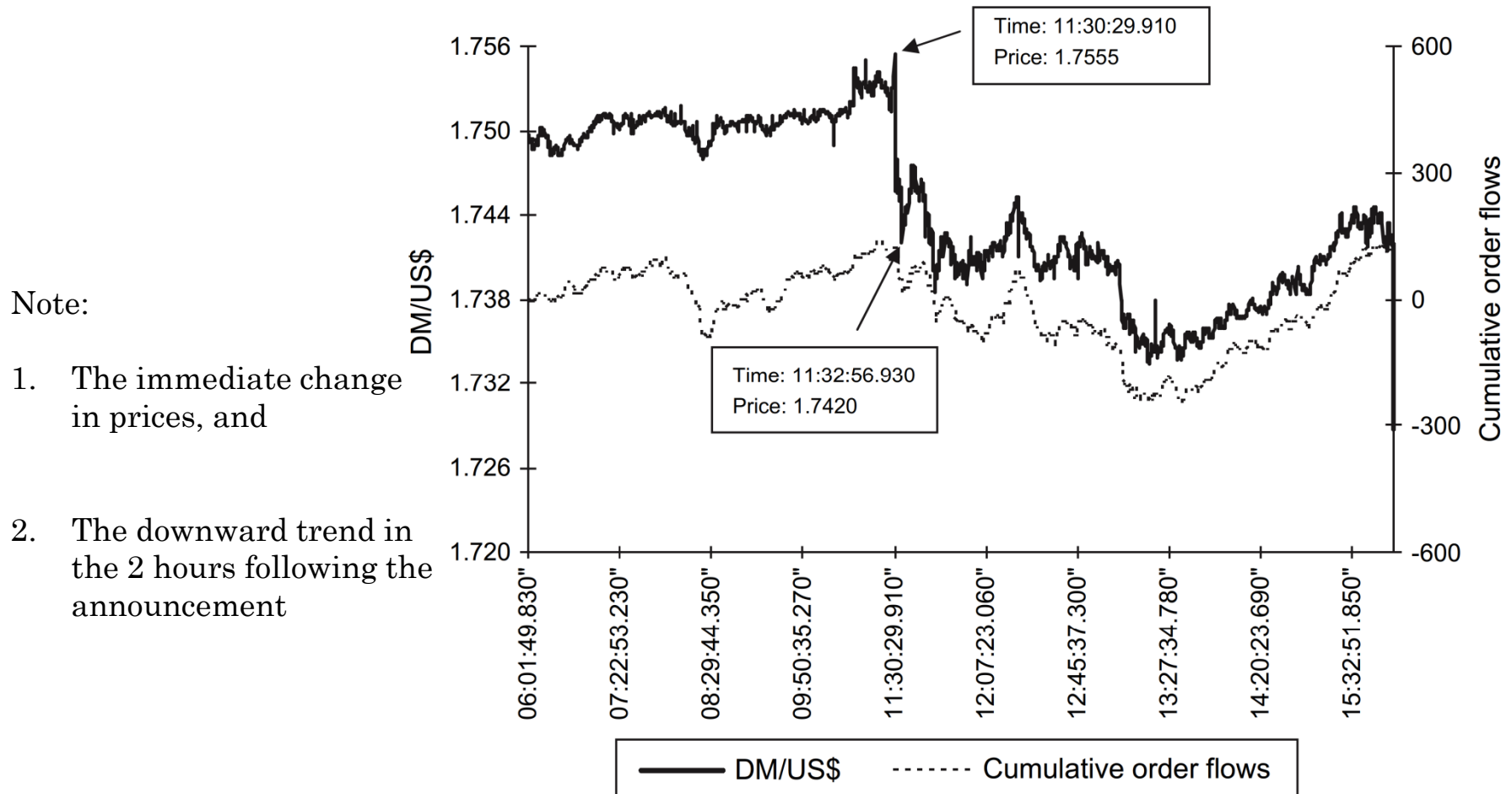


Fig. 1. The price of DM/US\$ and cumulative order flows for Thursday of October 9, 1997.

# Micro Perspective I: High Frequency Dynamics

## Empirical Evidence

**Table 2: Variance Decompositions**

	Horizon (minutes)			Horizon (minutes)		
	5	30	60	5	30	60
	trade intensity: $n = 25$			trade intensity: $n = 50$		
(i) No News	0.631	0.989	0.758	1.436	2.314	2.118
(ii) News	3.895**	10.280**	11.768*	5.123**	12.137**	13.597**
(iii) Scheduled News	8.271***	16.083**	17.417*	9.868***	17.807**	19.067**
	trade intensity: $n = 100$			trade intensity: $n = 150$		
(i) No News	3.808	7.475	7.957	7.173	14.862	16.129
(ii) News	7.981**	15.754*	17.101*	11.214**	19.163	20.358
(iii) Scheduled News	13.231***	21.067*	22.163*	16.679**	24.053	24.980

Notes: The table reports the contribution of dispersed information shocks to variance of  $k$ -horizon spot rate changes implied by the model estimates given a constant level of trading intensity  $n$ , and the presence or absence of macro news,  $N$ . Cases in which the news arrival increases the contribution of dispersed information at the 10, 5 and 1 percent significance levels are indicated by “\*”, “\*\*”, and “\*\*\*” respectively. Source: Evans and Lyons (2008a)

# Micro Perspective II: Low Frequency Dynamics

## Daily Effects

**Table 3: Daily Variance Decompositions**

	Version I Combined	US	Version II German	Combined
i) Direct	0.139	0.036	0.104	0.140
ii) Indirect	0.224	0.060	0.166	0.226
iii) Total	0.364	0.096	0.270	0.366
iv) Ratio(Indirect/Direct)	1.612	1.642	1.602	1.612

Notes: The table reports elements of the variance decomposition for spot rate changes implied by the GMM estimates of the model in (10.44) - (10.47). Source Evans and Lyons (2008a)

$$\text{Direct} = \mathbb{E}[\Sigma_S^2(\mathcal{N}_t^{\text{US}}, \mathcal{N}_t^{\text{G}})] / \mathbb{V}(\Delta S_t) \quad \text{Indirect} = \lambda_X^2 \mathbb{E}[\Sigma_X^2(\mathcal{N}_t^{\text{US}}, \mathcal{N}_t^{\text{G}})] / \mathbb{V}(\Delta S_t)$$

# Micro Perspective II: Low Frequency Dynamics

## Longer Term Effects

**Table 4: Order Flow and Return Variance Contributions**

		Days After Announcement		
		0	1	4
<b>A: Order Flow Variance</b>				
US	Capacity	6.357	2.270	3.438
	CPI	3.769	3.878	0.868
	Credit	3.608	4.626	7.038
	Durables	3.319	3.421	2.930
	Factory. Orders	4.403	0.606	1.090
	Fed Funds	1.184	0.004	0.071
	GDP final.	9.718	6.908	0.148
	GDP prelim.	13.159	6.556	12.628
	Leading	3.709	0.212	1.358
	Nonfarm Payroll	3.605	8.617	6.214
	Consumption	9.189	3.369	0.116
	Unemployment	2.982	4.222	2.063
German	Employment	3.633	2.310	2.703
	Retail Sales	4.237	1.247	0.158
	Current A/C	1.146	0.704	0.070
	Cost of Living.	4.020	0.082	0.540
	PPI	1.711	1.063	1.162
	Import Prices	5.228	1.804	5.314



# Micro Perspective II: Low Frequency Dynamics

## Longer Term Effects

---

B: Return Variance				
US	Claims	0.723	0.377	0.034
	Confidence	2.532	0.412	0.054
	NAPM	3.952	0.503	6.027
	New Homes	6.453	0.273	1.549
	Nonfarm Payroll	26.479	2.189	10.174
	Consumption	4.203	7.534	1.304
	PPI	2.199	1.872	0.027
	Trade Balance	4.573	0.919	6.511
German	Trade Balance	3.276	0.577	0.184
	PPI	1.047	0.11	0.914

Notes: The table reports the variance of the order flow (panel A) and returns (panel B) due to the news announcement (listed in the right hand column) as a percentage of the variance due to all shocks impacting on order flow and returns, respectively. Source: Evans and Lyons (2005a)