Trading in 401(k) Plans during the Financial Crisis

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Main Questions:

- Did 401(k) investors change behavior during the crisis?
- Explore trading motivations:
  - *Return chasing* vs. *response to market volatility*
- How did information influence trading?
- Did prior trading experience affect trading in turmoil?

Incidence of 401(k) trading:

	Entire period (1/06-3/09)	Pre-crisis (1/06-8/08)	Crisis (9/08-3/09)	*Change (Crisis-Pre-crisis)*
# traders	64,811	61,246	81,113	***32%***
# participants	2,252,589	2,225,837	2,374,880	***7%***
% participants trading	2.5%	2.4%	2.9%	***23%***
Net flow to equities (%)	-3.5%	-1.2%	-11.1%	***789%***

Characteristics of traders:

	(1) Entire period	(2) Diff: Crisis - Pre-crisis	(3) Diff: Active- Infrequent traders	(4) Diff: Active - First-time crisis traders
Age (mean years)	46.2	0.1 ***	1.9 ***	2.6 ***
% male	63%	-2% ***	7% ***	13% ***
Av. account balance	114765	-14986 ***	50183 ***	87802 ***
Plan tenure (years)	10.8	-0.7 ***	1.9 ***	3.8 ***
% rich	31%	-2% ***	1% ***	6% ***
% poor	34%	2% ***	-1% ***	-6% ***
% homeowner	75%	-3% ***	4% ***	13% ***
% web-registered	86%	-4% ***	3% ***	13% ***
No. of observations	683,399			

Determinants of net flows to equities (total effect):

$$NET\_FLOW\_PCT_{i,j,t} = \beta_0 + \beta_1 TRADING_t + \beta_2 TRADING_t * CRISIS_t + \beta_3 DEMO_{i,t} + \beta_4 PLAN_{j,t} + \varepsilon_{i,j,t}$$

	(1) Pre-crisis (1/06-8/08)	(2) Crisis (9/08-3/09)
I. Market shock test		
Equity market volatility month t (%)	-1.68 ***	-3.80 ***
II. Momentum/contrarian test		
Equity bond spread month t (%)	0.33 ***	0.01 ***
Equity bond spread month t-1	0.53 ***	-0.53 ***
Equity bond spread month t-2	0.37 ***	0.21 ***
III. Information salience test		
Report month (=1)	-0.07 *	2.16 ***
No. of obs.	2,131,938	
R^2	0.05	

Determinants of net flows to equities by type of trader (total effect):

$$NET\_FLOW\_PCT_{i,j,t} = \beta_0 + \beta_1 TRADING_t + \beta_2 CRISIS_t * TYPE_i$$
$$+ \beta_3 TRADING_t * CRISIS_t * TYPE_i + \beta_4 DEMO_{i,t} + \beta_5 PLAN_{j,t} + \varepsilon_{i,j,t}$$

	(1) Pre-crisis (1/06-8/08)	(2) Crisis: active traders (9/08-3/09)	(3) Crisis: infrequent traders (9/08-3/09)	(4) Crisis: first-time traders (9/08-3/09)
I. Market shock test				
Equity market volatility month t (%)	-1.85 ***	-1.69 ***	-4.42 ***	-6.80 ***
II. Momentum/contrarian test				
Equity bond spread month t (%)	0.32 ***	0.09 *	0.06 ***	-0.03 ***
Equity bond spread month t-1	0.53 ***	-0.40 ***	-0.70 ***	-0.84 ***
Equity bond spread month t-2	0.36 ***	0.29	0.29 ***	0.39 ***
III. Information salience test				
Report month (=1)	-0.11 ***	2.79 ***	4.00 ***	2.85 ***
No. of obs.	2,131,938			
R^2	0.06			

So during the financial crisis…

- More people traded, though inertia still dominated.
- More assets shifted out of equities.
- Greater sensitivity to market volatility, but contrarian influences offset; Salience of information boosted equity holdings.
- Changes mainly caused by inexperienced traders.

Thank you!