DIVIDEND RESTRICTIONS AND SEARCH FOR INCOME

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BdE-CEMFI Workshop

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➢ **Miller-Modigliani (1961) dividend irrelevance proposition**
  - Stock total return: dividends + Δ in the stock price level
  - Investors are indifferent between these two sources of return

➢ **Evidence: investors are NOT indifferent (<u>search for income</u>)**
  - Baker and Wurgler (2004): Higher prices
  - Hartzmark and Solomon (2013): Free income stream

➢ **Consequences of search for income…**
  - It might affect portfolio composition
  - It could impact price formation in the stock market

➢ **Research question(s). Is search for income relevant for…**
- … asset allocation decisions?
- … the pricing of stocks?

➢ **Challenge. Identifying search for income**
- Hartzmark and Solomon (2013): Price pressure on stocks

➢ **Study the response of mutual funds to Dividend Restrictions (DR) on euro area banks during the pandemic**

➢ **Dividend Restrictions (DR) on euro area banks**

- **DR: an unexpected policy to an unexpected shock**
  - March 2020: ECB cancels bank dividends and buybacks
  - Motivation: capital preservation

- **Key features of DR**
  - ECB recommendation: not binding but effective
  - Supervisory-driven
  - All banks affected by DR (system-wide DR)
    → No new information about *individual* banks

➢ **Banks are large dividend-payers**
- Bank assets are opaque, so shareholders are compensated (Forti and Schiozer, 2015)
- Signaling needed to avoid runs (Floyd et al., 2015)

→ Dividend yield of non-financial firms and bank stocks in the EuroStoxx 600
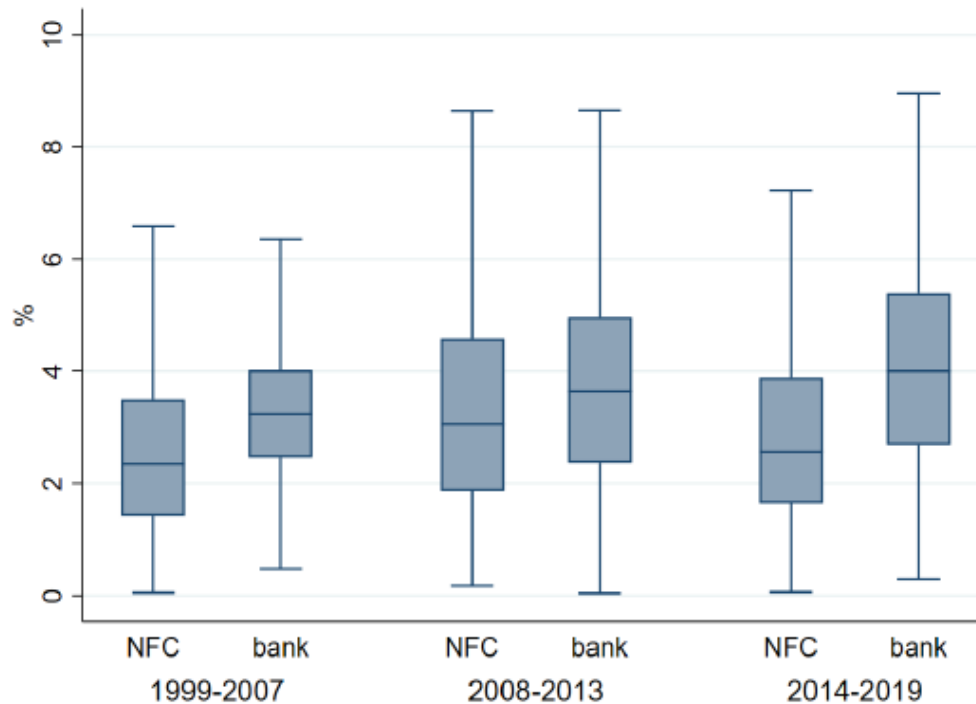
Source: Own elaboration and Refinitiv (Datastream)

➢ **Mutual funds are large players in the marketplace**

- **Income funds** pay out dividends themselves
  1. These funds "need" to invest in dividend-payers
  2. Then pass on dividends earned to shareholders

- **Search for income is likely important in income funds** (Harris et al., 2015)

- **Working hypothesis**
  - Income funds should be more responsive to DR

➢ **Following the implementation of DR…**

1. **Dividend-seeking funds sell more bank stocks**

2. **Bank stocks more exposed to these funds underperform their peers**
   - Cumulative abnormal returns near 4% lower one day after the policy announcement

3. **Dividend-seeking funds search for income in other assets**
   - Contingent convertible bonds (CoCos)

1. **Search for income**

   - Asset allocation
     Daniel et al. (2021), Harris et al. (2015), Jiang and Sun (2020)

   - Price pressure on dividend payers
     Hartzmark and Solomon (2013), Baker and Wurgler (2004)

2. **Banking literature**

   - Understand the effects of DR
     Acharya et al. (2011), Acharya et al. (2017), Andreeva et al. (2023), Dautovic et al. (2023), Martínez-Miera and Vegas (2021)

➢ Mutual fund holdings of bank stocks with <u>Lipper</u>

- **Granular holdings**
- - Funds report their portfolios, at the security-level
- - Monthly reporting (usually)

- **Fund characteristics include their size, flows, fees…**

- **Data coverage**
- - Euro area Equity, Bond and Mixed Asset funds
- - 12,000+ funds, 3,000+ funds with exposure to bank stocks

(more info)

➢ **Exposures to banks dropped more in income funds after DR**

Exposures to bank stocks (market value), income funds VS. non-income funds
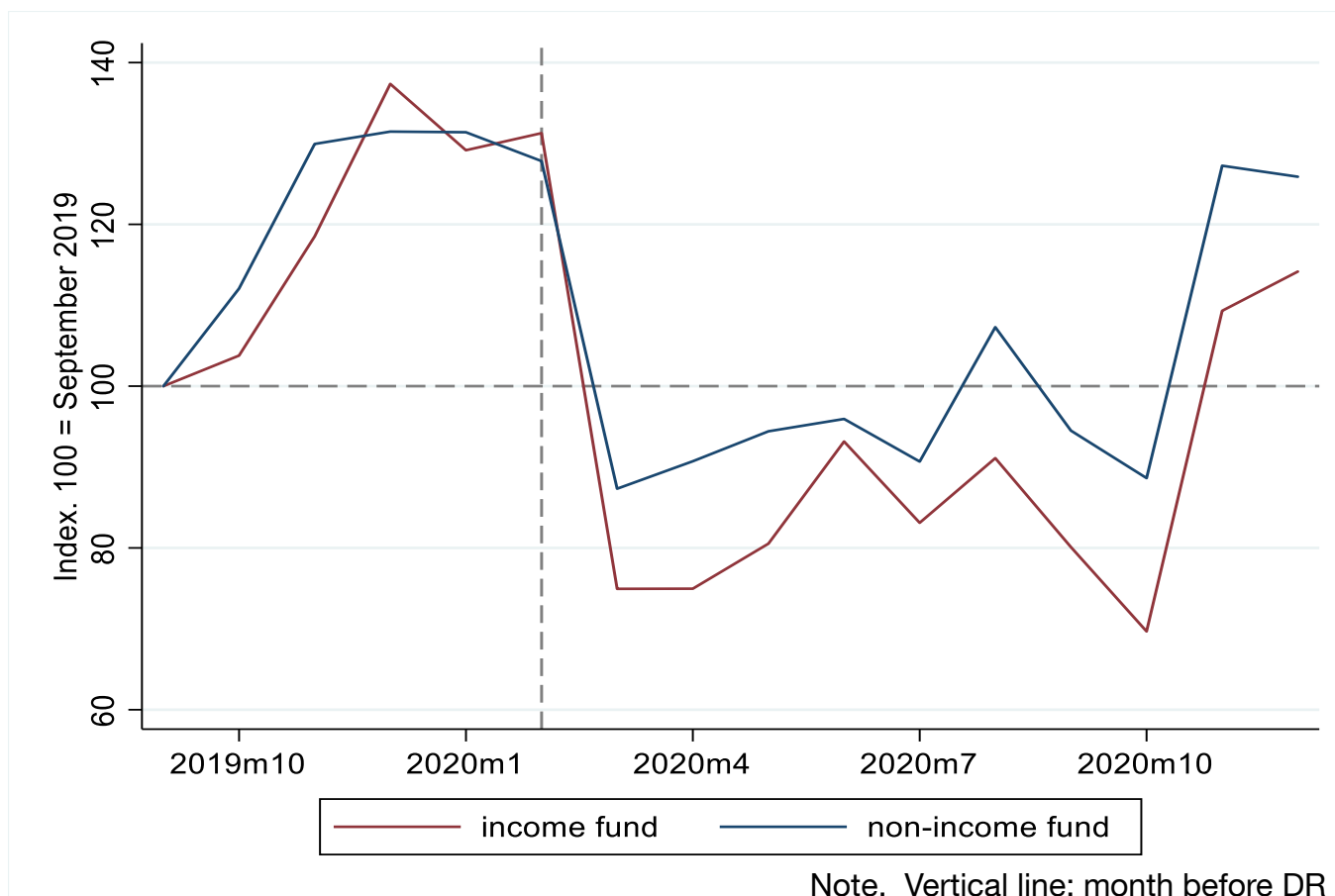
Note. Vertical line: month before DR

➢ **Research question(s). Is search for income relevant for…**
- … asset allocation decisions?
- … the pricing of stocks?

A. Fund preferences for bank stocks after DR
- Reaction of income funds vs non-income funds

B. Price implications for bank stocks

C. Fund preferences for alternative assets after DR
- Reaction of income funds vs non-income funds
- Stocks vs CoCos

$$exit_{ift} = \alpha + \beta_1\, income_f + \rho\, F_{ft} + \omega_{it} + \varepsilon_{ift}$$

Dependent variable

➢ $exit$ → probability of selling bank stock *i* by fund *f* at month *t*
(1 when fund sells the entire stock exposure, 0 otherwise)

Independent variables

➢ $income$ → identifies income-oriented funds

➢ F_{ft} → fund-level covariates (size, fund return, flows, fees)

➢ ω_{it} → bank-time fixed effects, <u>important because DR are</u>
<u>uninformative *within* each bank</u>

$$exit_{ift} = \alpha + \beta_1 \, income_f + \rho \, F_{ft} + \omega_{it} + \varepsilon_{ift}$$

explanatory variables / dependent variable	Dependent variable: exit			
	(1)	(2)	(3)	(4)
income	0.040*** (0.012)	0.040*** (0.012)	0.040*** (0.012)	0.038*** (0.013)
R2	0.121	0.122	0.173	0.411
Observations	9392	9392	9392	9231
Controls and fixed effects				
Fund-level controls	Y	Y	Y	Y
Security-level controls	N	Y	.	.
Fund family x Month	Y	Y	Y	Y
Fund asset type x Month	Y	Y	Y	Y
Bank x Month	N	N	Y	Y
Bank x Fund family	N	N	N	Y

➢ **Income funds more probable to sell bank stocks**

(full results)

$$exit_{if} = \alpha + \beta_1 \, income_f \; + \; \rho \, F_f + \omega_i + \varepsilon_{if}$$

explanatory variables / dependent variable	Dependent variable: exit											
	Sep-19	**Oct-19**	**Nov-19**	**Dec-19**	**Jan-20**	**Feb-20**	**Mar-20**	**Apr-20**	**May-20**	**Jun-20**	**Jul-20**	**Aug-20**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
income	-0.005	0.019	-0.002	-0.001	0.01	0.008	0.042***	0.019	0.036**	0.012	0.018	-0.002
	(0.007)	(0.020)	(0.005)	(0.014)	(0.009)	(0.013)	(0.016)	(0.017)	(0.017)	(0.020)	(0.017)	(0.008)
R-squared	0.468	0.550	0.487	0.364	0.525	0.549	0.502	0.506	0.496	0.405	0.499	0.615
N	2,947	3,417	3,864	3,948	4,045	4,193	4,141	3,932	3,741	3,434	3,172	3,541
Fixed effects and controls												
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fund-family	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fund asset type	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bank x Fund family	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

➤ **Income funds only sold more bank stocks when DR began**

$$exit_{ift} = \alpha + \beta_1\, income_f + \beta_2 Swiss\ banks + \beta_3 income \times Swiss\ banks$$
$$+\rho\, F_{ft} + \omega_{it} + \varepsilon_{ift}$$

➤ **Placebo test: Swiss banks**

➤ **Same sector (banks), <u>not</u> affected by DRs**

➤ **Income funds <u>not</u> more prone to sell stocks of Swiss banks**

explanatory variables / dependent variable	Dependent variable: exit	
sector	Swiss banks	
	(1)	(2)
income	0.044***	0.039***
	(0.012)	(0.013)
Swiss banks	-0.048*	-0.118
	(0.027)	(0.095)
income × Swiss banks	-0.066***	-0.050**
	(0.019)	(0.023)
R2	0.178	0.412
Observations	10444	10263
Fixed effects		
Fund family x Month	Y	Y
Fund asset type x Month	Y	Y
Bank x Month	Y	Y
Bank x Fund family	N	Y
Firm x Month	.	.
Firm x Fund family	.	.

(more results)

$$CAR_i = \alpha + \beta_1 \, highly\_exposed_i + \varepsilon_i$$

Dependent variable

➢ CAR → cumulative abnormal return since 26th March 2020

Independent variable

➢ $highly\_exposed$ → 1 for banks more exposed to income funds

1. Market value of income fund holdings in each stock
2. Aggregation of these holdings for each stock
3. Computation of holdings / stock market capitalization
4. *highly_exposed=1* for banks whose ratio in 75th percentile

$$CAR_i = \alpha + \beta_1\ highly\_exposed_i + \varepsilon_i$$
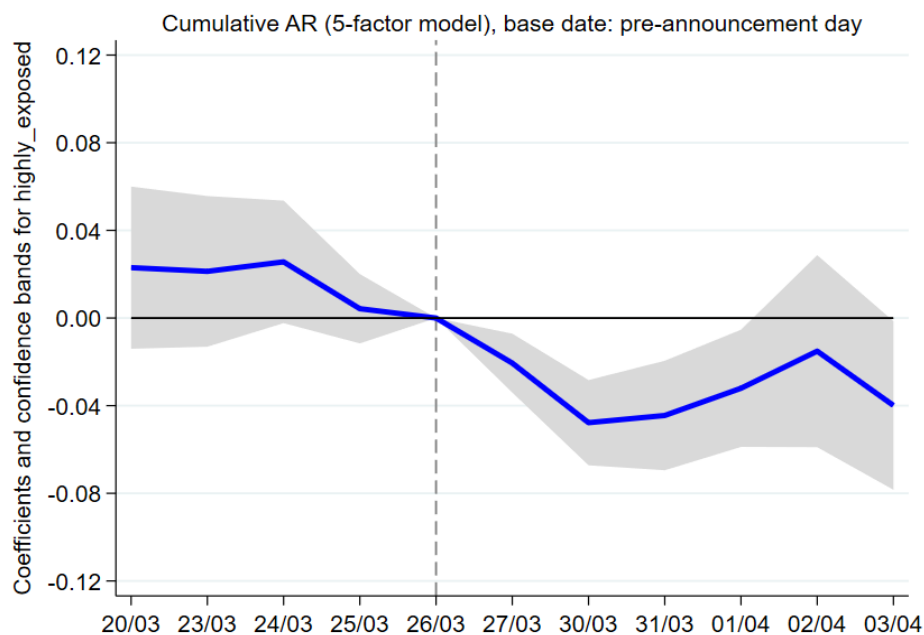
Cumulative AR (5-factor model), base date: pre-announcement day

Note. Vertical line: day before announcement of DR

➢ **CAR more negative in banks more exposed to income funds**

$$CAR_i = \alpha + \beta_1\, highly\_exposed_i + \varepsilon_i$$

Weighted regression
(weights: free-float market cap.)
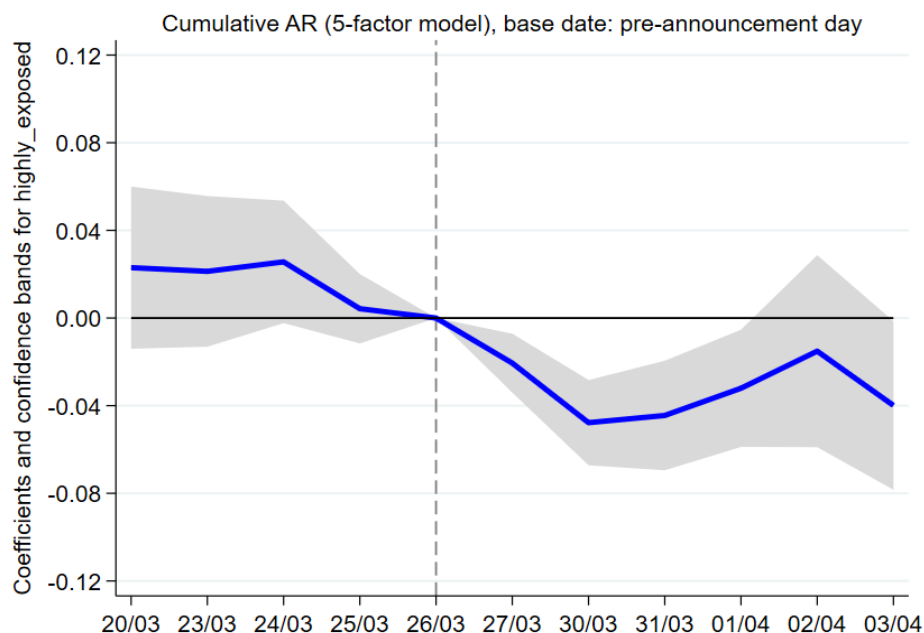
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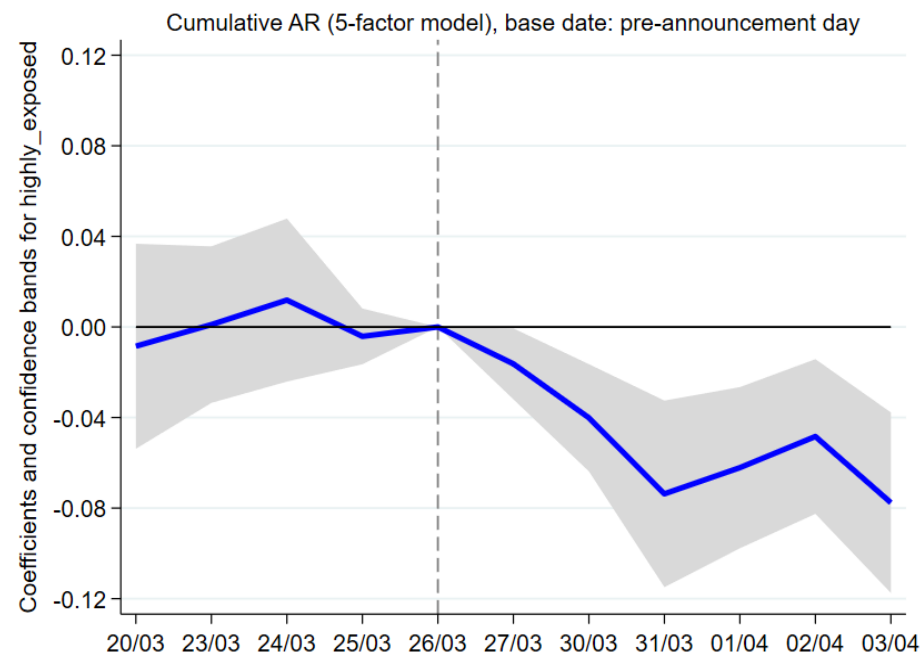
Note. Vertical line: day before announcement of DR

➢ **CAR more negative in banks more exposed to income funds**
➢ **Similar results if more weight is assigned to liquid stocks**

➢ **Income funds should invest in alternative income-securities**

➢ **Bank stocks (restricted payouts) vs CoCos (not restricted)**

- CoCo = Contingent convertible debt issued by banks
    - Risky, going-concern, perpetual securities
    - Maintained coupon payments in the pandemic
    - High coupons (coupon yield > dividend yield)
- We can keep our *within-bank* analysis (i.e. control for time-varying shocks to banks)

➢ **Income funds should tilt holdings tw. CoCos vs stocks**

$$exit_{ibft} = \alpha + \delta_2 stock_i$$
$$+ \theta_1\ income_f$$
$$+ \beta_1\ income_f \times stock_i$$
$$+ \Delta\ price_{i,t-1} + \rho\ F_{ft} + \omega_{bt} + \varepsilon_{ibft}$$

> # Fewer sales of bank CoCos (*income*)

explanatory variables / dependent variable	Dependent variable: exit				
funds	non-income	income	all	all	
	(1)	(2)	(3)	(4)	(5)
stock	-0.030*	0.187***	-0.016	-0.005	
	(0.017)	(0.042)	(0.016)	(0.020)	
income			-0.070***	-0.094***	-0.065***
			(0.016)	(0.024)	(0.018)
income x stock			0.117***	0.141***	0.111***
			(0.020)	(0.028)	(0.022)
R2	0.129	0.307	0.145	0.334	0.367
Observations	10289	2460	12785	12605	12605
Fixed effects					
Security-level controls	Y	Y	Y	Y	.
Fund family x Month	Y	Y	Y	Y	Y
Fund asset type x Month	Y	Y	Y	Y	Y
Bank x Month	Y	Y	Y	Y	.
Security x Month	N	N	N	N	Y
Bank x Fund family	N	N	N	Y	Y

$$exit_{ibft} = \alpha + \delta_2 stock_i$$
$$+ \theta_1\ income_f$$
$$+ \beta_1\ income_f \times stock_i$$
$$+ \Delta\ price_{i,t-1} + \rho\ F_{ft} + \omega_{bt} + \varepsilon_{ibft}$$

> ## Fewer sales of bank CoCos (*income*)

> ## More sales of bank stocks as before (*income x stock*)

explanatory variables / dependent variable	Dependent variable: exit				
funds	non-income	income	all	all	
	(1)	(2)	(3)	(4)	(5)
stock	-0.030*	0.187***	-0.016	-0.005	
	(0.017)	(0.042)	(0.016)	(0.020)	
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Security-level controls	Y	Y	Y	Y	.
Fund family x Month	Y	Y	Y	Y	Y
Fund asset type x Month	Y	Y	Y	Y	Y
Bank x Month	Y	Y	Y	Y	.
Security x Month	N	N	N	N	Y
Bank x Fund family	N	N	N	Y	Y

$$exit_{ibft} = \alpha + \delta_2 stock_i$$
$$+ \beta_1\ income_f \times stock_i$$
$$+ \Delta\ price_{i,t-1} + \rho_{ft} + \omega_{bt} + \varepsilon_{ibft}$$

➤ **Results hold when we restrict "action" to stocks and CoCos in hands of the same fund (fund x time FE)**

explanatory variables / dependent variable	Dependent variable: exit				
	(1)	(2)	(3)	(4)	(5)
stock	-0.024	0.243***	-0.015	0.049*	
	(0.023)	(0.052)	(0.022)	(0.028)	
income x stock			0.168***	0.194***	0.147***
			(0.039)	(0.061)	(0.042)
R2	0.375	0.480	0.382	0.578	0.736
Observations	9938	2359	12314	914	914
Fixed effects					
Security-level controls	Y	Y	Y	Y	.
Fund x Month	Y	Y	Y	.	.
Bank x Month	Y	Y	Y	.	.
Fund x Bank x Month	N	N	N	Y	.
Security x Month	N	N	N	N	Y

$$exit_{ibft} = \alpha + \delta_2 stock_i$$
$$+ \beta_1\ income_f \times stock_i$$
$$+\ \Delta\ price_{i,t-1} + \rho_{ft} + \omega_{bt} + \varepsilon_{ibft}$$

➤ **Results hold when we restrict "action" to stocks and CoCos in hands of the same fund (fund x time FE)**

➤ **And to stocks and CoCos of the same bank and in hands of the same fund (fund x bank x time FE)**

explanatory variables / dependent variable	Dependent variable: exit				
	(1)	(2)	(3)	(4)	(5)
stock	-0.024	0.243***	-0.015	0.049*	
	(0.023)	(0.052)	(0.022)	(0.028)	
income x stock			0.168***	0.194***	0.147***
			(0.039)	(0.061)	(0.042)
R2	0.375	0.480	0.382	0.578	0.736
Observations	9938	2359	12314	914	914
Fixed effects					
Security-level controls	Y	Y	Y	Y	.
Fund x Month	Y	Y	Y	.	.
Bank x Month	Y	Y	Y	.	.
Fund x Bank x Month	N	N	N	Y	.
Security x Month	N	N	N	N	Y

➢ **Results robust to trading variables different from *exit***

➢ **Results robust to alternative identifications of income funds**

➢ **Further placebo tests**
  - Portfolio decisions with euro-area based NFCs

➢ **Heterogeneous effects of the ban on dividends**
  - Non-payers banks
  - Non-compliant banks

➢ **Checks on price effects in stocks**

➢ **Checks on substitution between stocks and CoCos**

1. **DR are a good opportunity to uncover search for income**

2. **Income funds more sensitive to DR, negative price impact**

3. **Implications**

   • Asset pricing literature, which builds on the MM proposition of dividend irrelevance

   • Supervisors should handle DR with care

Thanks for your attention

BACKGROUND MATERIAL

1.

CPR EURO HIGH DIVIDEND - P

FR0007024047

INVESTMENT STRATEGY (Source: Amundi Group)

The fund's investment objective is to outperform the MSCI EMU index over an investment period of 8 years minimum by investing in companies that are paying out higher dividends than the European average. Stocks are selected on the basis of actual and estimated dividends, as well as their sustainability. New investment process since October 2011.

2.

JPMorgan Investment Funds -

Europe Strategic Dividend Fund

POLICIES

Main investment exposure At least 67% of assets invested in high dividend-yielding equities of companies that are domiciled, or carrying out the main part of their economic activity, in a European country. In search of income, the Sub-Fund may have significant positions in specific sectors or countries from time to time.

Quarter over quarter change in total assets. ECB statistics vs Lipper
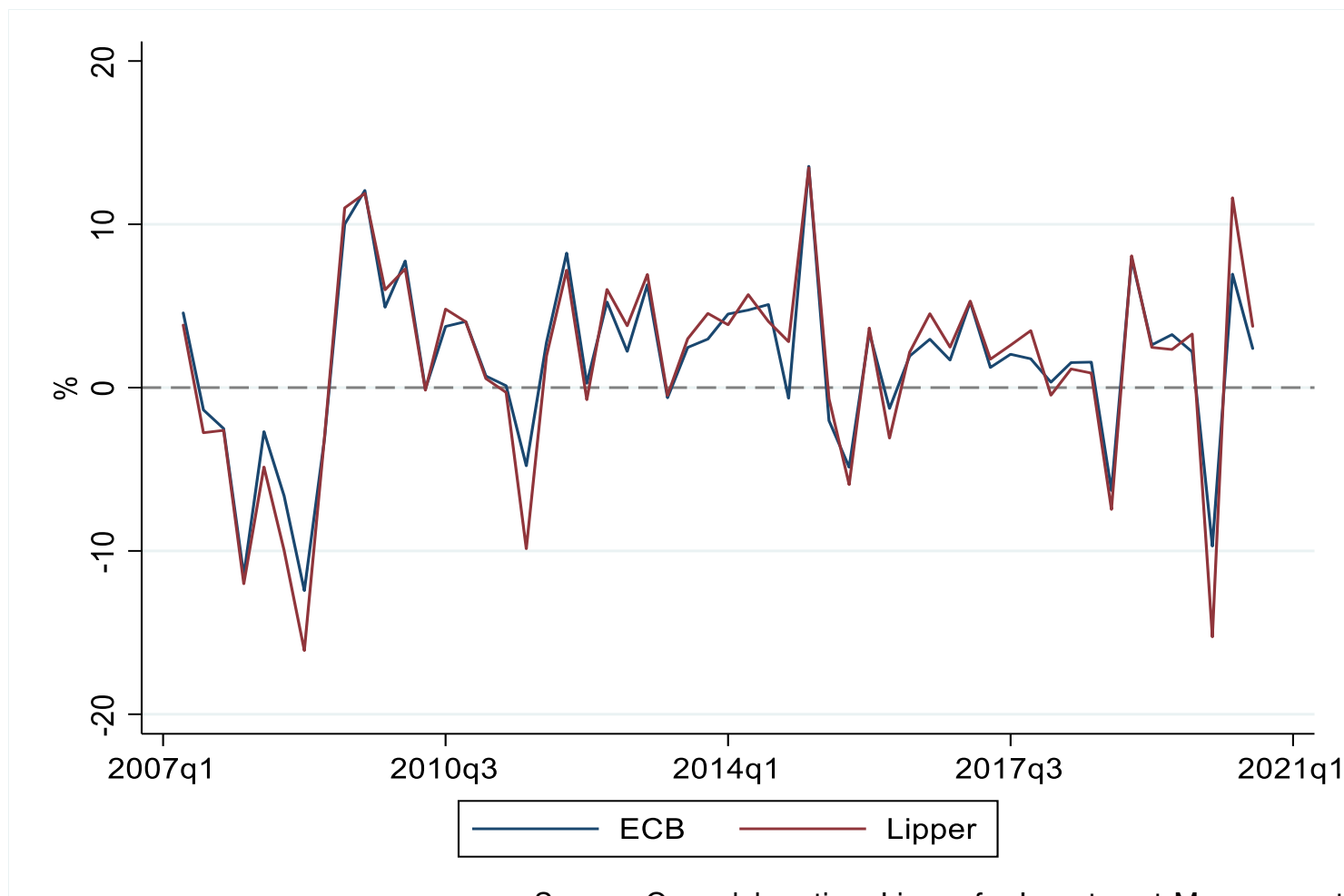
Source: Own elaboration, Lipper for Investment Management and Statistical Data Warehouse (European Central Bank)

Figures A1.2. Representativeness of Lipper funds

Figure A1.2.i. Holdings of stocks in Lipper and in official statistics (SHSS). Quarter over quarter change, market value of holdings

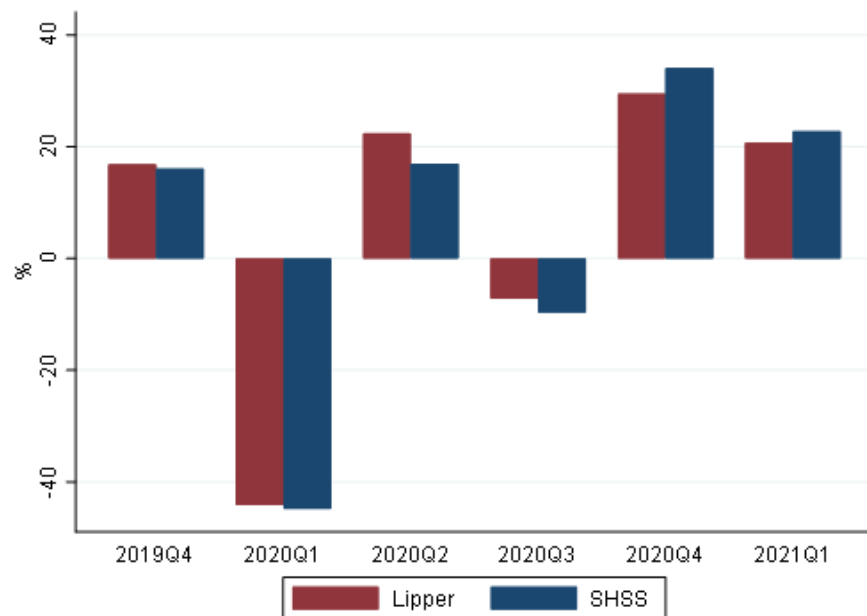Source. Own elaboration, Lipper for Investment Management and the Securities Holdings Statistics by Sector (SHSS) of the European Central Bank

Note. The figure shows the quarter over quarter change in the market value of holdings of stocks. The SHSS stands for holdings of mutual funds based in the euro area according to the ECB ("official statistics"). For Lipper funds, we restrict the sample to vehicles that report in all quarters before calculating the change in holdings.

Figure A1.2.ii. Holdings of CoCos in Lipper and in official statistics (SHSS). Quarter over quarter change, market value of holdings
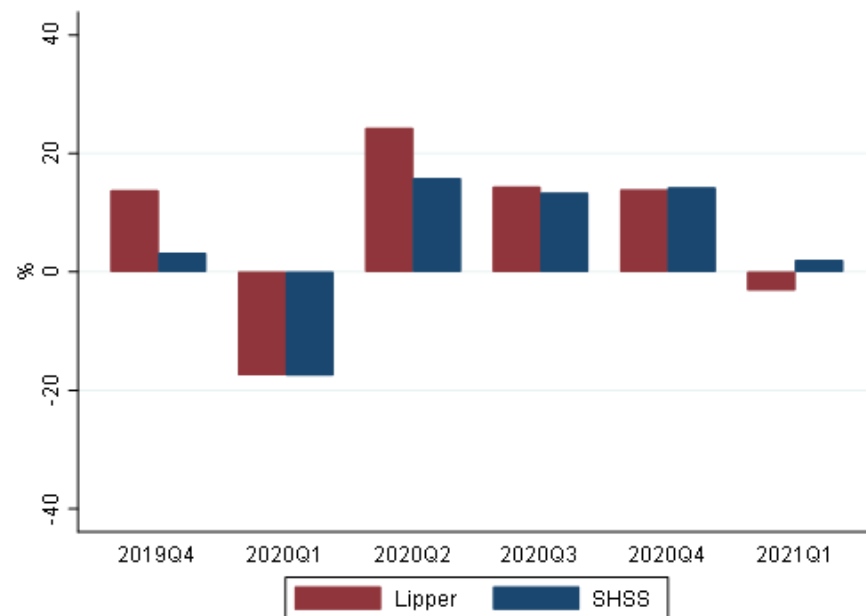
Source. Own elaboration, Lipper for Investment Management and the Securities Holdings Statistics by Sector (SHSS) of the European Central Bank

Note. The figure shows the quarter over quarter change in the market value of holdings of CoCos. The SHSS stands for holdings of mutual funds based in the euro area according to the ECB ("official statistics"). For Lipper funds, we restrict the sample to vehicles that report in all quarters before calculating the change in holdings.

Panel A. Income funds	number observations	mean	standard deviation	p10	p25	p75	p90
Dependent variable							
exit (in stocks)	2,120	0.11	0.32	0.00	0.00	0.00	1.00
exit (in CoCos)	552	0.04	0.20	0.00	0.00	0.00	0.00
Fund characteristics							
size	2,672	648.14	2,743.91	21.66	48.73	196.84	743.31
return (t-1)	2,672	-0.02	0.07	-0.12	-0.07	0.03	0.06
fees	2,672	1.16	0.51	0.41	0.97	1.50	1.87
netflow	2,672	-0.27	4.47	-2.78	-1.25	0.45	2.29
income	2,682	1.00	0.00	1.00	1.00	1.00	1.00
retail	2,682	0.53	0.38	0.00	0.12	0.93	0.98
Firm / Securty characteristics							
Δ price (t-1)	2,682	-17.85	14.07	-38.61	-32.30	-6.39	-2.34
market value (EUR bn)	2,682	14.60	12.10	0.75	2.28	20.80	34.40

BANCO DE ESPAÑA
Eurosistema

Panel B. Non-income funds	number observations	mean	standard deviation	p10	p25	p75	p90
Dependent variable							
exit (in stocks)	8,050	0.05	0.22	0.00	0.00	0.00	0.00
exit (in CoCos)	2,938	0.08	0.27	0.00	0.00	0.00	0.00
Fund characteristics							
size	11,036	453.07	867.15	18.52	48.00	484.75	1,138.16
return (t-1)	10,988	-0.03	0.08	-0.15	-0.09	0.03	0.05
fees	10,988	1.23	0.65	0.32	0.75	1.70	2.10
netflow	10,988	-0.06	7.17	-5.28	-2.31	1.05	3.87
income	11,053	0.00	0.00	0.00	0.00	0.00	0.00
retail	11,053	0.37	0.34	0.00	0.03	0.71	0.89
Firm / Securty characteristics							
Δ price (t-1)	11,053	-17.85	14.32	-38.11	-32.30	-4.89	-2.09
market value (EUR bn)	11,027	11.70	11.50	0.52	1.03	19.50	33.90

explanatory variables / dependent variable	Dependent variable: exit			
	(1)	(2)	(3)	(4)
income	0.040***	0.040***	0.040***	0.038***
	(0.012)	(0.012)	(0.012)	(0.013)
other fund-level variables				
size	-0.000*	-0.000*	-0.000**	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
return (t-1)	0.110	0.115	0.109	0.119
	(0.080)	(0.080)	(0.082)	(0.086)
fees	-0.019**	-0.018**	-0.017**	-0.019**
	(0.008)	(0.008)	(0.008)	(0.009)
netflow	-0.001**	-0.001**	-0.001**	-0.001**
	(0.000)	(0.000)	(0.000)	(0.000)
retail	0.062***	0.063***	0.060***	0.056***
	(0.014)	(0.014)	(0.014)	(0.016)
security-level variables				
Δ price (t-1)		-0.002***		
		(0.000)		
R-squared	0.121	0.122	0.173	0.411
N	9392	9392	9392	9231
Fixed effects				
Fund family x Month	Y	Y	Y	Y
Fund asset type x Month	Y	Y	Y	Y
Bank x Month	N	N	Y	Y
Bank x Fund family	N	N	N	Y

BANCO DE ESPAÑA
Eurosistema

explanatory variables / dependent variable	Dependent variable: exit			
	(1)	(2)	(3)	(4)
income	0.004	0.002		
	(0.008)	(0.013)		
income x policy	0.043***	0.054***	0.060***	0.065***
	(0.014)	(0.018)	(0.017)	(0.017)
other fund-level variables				
size	-0.000***	-0.000***	0.000	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)
return (t-1)	0.053	-0.073	0.287*	0.428***
	(0.036)	(0.074)	(0.149)	(0.149)
fees	-0.005	-0.010	-0.045	-0.046
	(0.006)	(0.009)	(0.047)	(0.051)
netflow	-0.001	-0.001*	0.000	0.000
	(0.000)	(0.001)	(0.001)	(0.001)
retail	0.035***	0.051***		
	(0.010)	(0.014)		
R-squared	0.330	0.418	0.537	0.602
N	19081	9534	9461	8458
Fixed effects				
Fund family x Month	Y	Y	Y	Y
Fund asset type x Month	Y	Y	Y	Y
Bank x Month	Y	Y	Y	Y
Bank x Fund family	Y	Y	Y	.
Fund	N	N	Y	.
Bank x Fund	N	N	N	Y

$$exit_{ift} = \alpha + \beta_1 \, income_f \, + \, \rho \, F_{ft} + \omega_{it} + \varepsilon_{ift}$$

➤ **Euro area NFC: same area/region, not affected by DRs**

➤ **Income funds not more prone to sell stocks of NFCs**

explanatory variables / dependent variable	Dependent variable: exit	
sector	NFCs in the euro area	
	(3)	(4)
income	0.048***	0.047***
	(0.013)	(0.013)
NFC	-0.007	-0.014
	(0.009)	(0.020)
income × NFC	-0.049***	-0.050***
	(0.012)	(0.012)
R2	0.124	0.385
Observations	119597	116407
Fixed effects		
Fund family x Month	Y	Y
Fund asset type x Month	Y	Y
Firm x Month	Y	Y
Firm x Fund family	N	Y

$$AR_i = \alpha + \beta_1\ highly\_exposed_i + \varepsilon_i$$

Abnormal return (not cumulative)

explanatory variables / dependent variable	Dependent variable: Abnormal Returns						
	3-day prepolicy	**2-day prepolicy**	**1-day prepolicy**	**policy date**	**1-day postpolicy**	**2-day postpolicy**	**3-day postpolicy**
	(3)	(4)	(5)	(6)	(7)	(8)	(9)
highly_exposed	0.00426	-0.0197	-0.00512	-0.0206***	-0.0273***	0.00275	0.0131*
	(0.00883)	(0.0127)	(0.00845)	(0.00685)	(0.00761)	(0.00747)	(0.00775)
constant	-0.0211***	-0.00345	0.00632	0.00490	0.00408	-0.0131***	-0.00131
	(0.00479)	(0.00449)	(0.00538)	(0.00378)	(0.00425)	(0.00303)	(0.00373)
R2	0.003	0.048	0.003	0.092	0.125	0.002	0.038
Observations	72	72	72	72	72	72	72

> **AR <u>negative</u> in banks more exposed to income investors** (*constant term* $+ \beta_1 < 0$)
> **AR <u>non-negative</u> in other banks** (*constant term* not significant)
>   - DRs can be seen as uninformative shock to banks´ payouts

$$CAR_i = \alpha + \beta_1 \; highly\_exposed_i + \boxed{\beta_2 div\_yield_i} + \varepsilon_i$$

Weighted regression
(weights: free-float market cap.)

Cumulative AR (5-factor model), base date: pre-announcement day
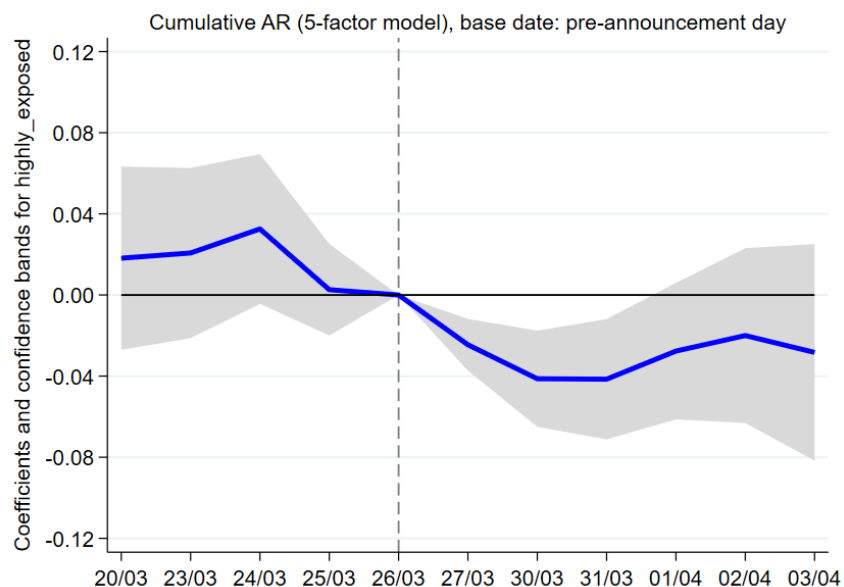
Note. Vertical line: day before announcement of DR
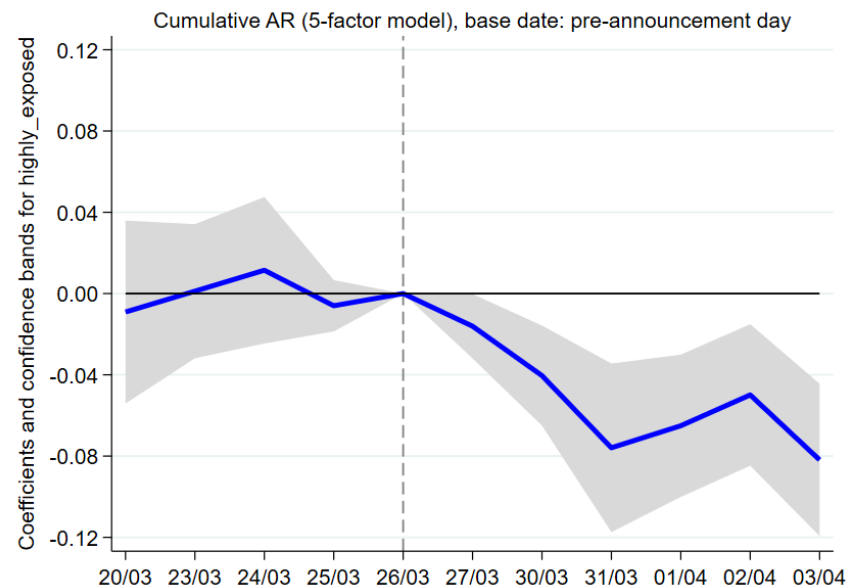
Note. Vertical line: day before announcement of DR

explanatory variables / dependent variable	Dependent variable: exit				
	(1)	(2)	(3)	(4)	(5)
stock	-0.030*	0.187***	-0.016	-0.005	
	(0.017)	(0.042)	(0.016)	(0.020)	
income			-0.070***	-0.094***	-0.065***
			(0.016)	(0.024)	(0.018)
income x stock			0.117***	0.141***	0.111***
			(0.020)	(0.028)	(0.022)
other fund-level variables					
size	-0.000	-0.000	-0.000**	-0.000**	-0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
return (t-1)	0.126	-0.266	0.071	0.078	0.071
	(0.081)	(0.232)	(0.075)	(0.078)	(0.078)
fees	-0.001	-0.038*	-0.010	-0.013*	-0.012
	(0.008)	(0.023)	(0.007)	(0.008)	(0.008)
netflow	-0.001	-0.001	-0.001*	-0.001	-0.001*
	(0.001)	(0.002)	(0.000)	(0.000)	(0.000)
retail	0.028*	0.080**	0.045***	0.041***	0.040***
	(0.016)	(0.034)	(0.014)	(0.015)	(0.015)
security-level variables					
Δ price (t-1)	-0.001	0.004*	-0.001	-0.001	
	(0.001)	(0.002)	(0.001)	(0.001)	
R-squared	0.129	0.307	0.145	0.334	0.367
N	10289	2460	12785	12605	12605
Fixed effects					
Fund family x Month	Y	Y	Y	Y	Y
Fund asset type x Month	Y	Y	Y	Y	Y
Bank x Month	Y	Y	Y	Y	.
Security x Month	N	N	N	N	Y
Bank x Fund family	N	N	N	Y	Y

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explanatory variables / dependent variable	Dependent variable: exit				
	(1)	(2)	(3)	(4)	(5)
stock	-0.024	0.243***	-0.015	0.049*	
	(0.023)	(0.052)	(0.022)	(0.028)	
income x stock			0.168***	0.194***	0.147***
			(0.039)	(0.061)	(0.042)
security-level variables					
Δ price (t-1)	-0.003***	0.004*	-0.002***	0.005**	
	(0.001)	(0.002)	(0.001)	(0.002)	
R-squared	0.375	0.480	0.382	0.578	0.736
N	9938	2359	12314	914	914
Fixed effects					
Fund x Month	Y	Y	Y	.	.
Bank x Month	Y	Y	Y	.	.
Fund x Bank x Month	N	N	N	Y	Y
Security x Month	N	N	N	N	Y

explanatory variables / dependent variable	Dependent variables				
	netbuy	**netbuy if exit ≠ 1**	**lognetbuy (only defined if exit ≠ 1)**	**dshare (fund assets)**	**dshare (market value of the stock)**
	(1)	(2)	(3)	(4)	(5)
income	-4.463***	-0.984	-1.576	-4.208***	-4.650***
	(1.545)	(1.112)	(1.138)	(1.307)	(1.652)
other fund-level variables					
size	-0.001*	-0.001***	-0.001***	-0.001**	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
return (t-1)	0.917	11.798*	11.880*	-6.501	-1.492
	(10.595)	(6.728)	(6.469)	(9.554)	(11.500)
fees	3.770***	2.196**	2.431**	2.389**	4.506***
	(1.429)	(1.071)	(0.978)	(1.200)	(1.539)
netflow	0.914***	0.861***	0.723***	-0.024	0.937***
	(0.080)	(0.071)	(0.048)	(0.056)	(0.080)
retail	-5.375**	0.102	0.944	-5.269***	-4.841**
	(2.315)	(1.878)	(2.101)	(1.698)	(2.402)
R-squared	0.412	0.349	0.359	0.519	0.414
N	8806	8174	8107	8808	7980
Fixed effects					
Fund family x Month	Y	Y	Y	Y	Y
Fund asset type x Month	Y	Y	Y	Y	Y
Bank x Month	Y	Y	Y	Y	Y

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explanatory variables / dependent variable

sector	payers vs. non-payers			compliant vs. non-compliant banks		
	(1)	(2)	(3)	(4)	(5)	(6)
income	0.043***	0.043***	0.031**	0.043***	0.043***	0.029**
	(0.012)	(0.013)	(0.013)	(0.012)	(0.013)	(0.013)
income x less affected bank	-0.043**	-0.067**	-0.051*	-0.036*	-0.028	-0.010
	(0.022)	(0.034)	(0.027)	(0.021)	(0.031)	(0.031)
income x retail			0.084***			0.098***
			(0.030)			(0.029)
income x less affected bank x retail			-0.064			-0.175***
			(0.054)			(0.059)
other fund-level variables						
size	-0.000**	-0.000*	-0.000**	-0.000**	-0.000*	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
return (t-1)	0.096	0.130	0.130	0.093	0.128	0.129
	(0.079)	(0.083)	(0.083)	(0.079)	(0.083)	(0.083)
fees	-0.004	-0.004	-0.003	-0.003	-0.003	-0.001
	(0.008)	(0.009)	(0.009)	(0.008)	(0.009)	(0.009)
netflow	-0.001	-0.001*	-0.001**	-0.001*	-0.001*	-0.001*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
retail	0.068***	0.058***	0.039**	0.067***	0.058***	0.027*
	(0.014)	(0.015)	(0.016)	(0.014)	(0.015)	(0.016)
retail x less affected bank			-0.100**			0.077**
			(0.039)			(0.033)
R2	0.160	0.391	0.393	0.162	0.393	0.395
Observations	9913	9913	9913	9982	9982	9982
Fixed effects						
Fund family x Month	Y	Y	Y	Y	Y	Y
Fund asset type x Month	Y	Y	Y	Y	Y	Y
Bank x Month	Y	Y	Y	Y	Y	Y
Bank x Fund family	N	Y	Y	N	Y	Y

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	Dependent Variable: $\Delta\ share$	
	(1)	(2)
stock	-0.029***	-0.011
	(0.010)	(0.015)
stock $\times$ income	-0.019*	-0.046**
	(0.011)	(0.019)
$\Delta\ price\ (t-1)$	0.000	0.000
	(0.001)	(0.001)
$R-squared$	0.382	0.636
N	3,800	908
$Fund-Month\ FE$	Y	.
$Bank-Month\ FE$	Y	.
$Fund-Bank-Month\ FE$	N	Y