Seminario sobre Fondos de Inversión

VNIVERSITAT DE VALÈNCIA

SMART MONEY:
A further look at investors' abilities

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Brief revision to prior literature

Looking for answers to two relevant questions:

- *How do investors select among funds?*

  Ippolito (1992) and Sirri and Tufano (1998), among others, highlight the importance of past performance

- *Are they able to anticipate superior returns?*

  This question is still unsolved given the different conclusions observed.

Brief revision to prior literature (II): Different conclusions on Smart Money

- *Seminal papers find this phenomenon…*

  Gruber (1996) and Zheng (1999) conclude that investor anticipate fund returns

- *… but recent papers do not*

  Ke *et al.* (2005) and Braverman *et al.* (2007) say that fund investors are bad performers.

  Sapp and Tiwari (2004) indicate that seminal papers are biased by momentum

Our study

- *All Spanish domestic equity funds*

  Free of survivorship bias. 240 funds.

- *From January 1999 to December 2006*

- *Monthly data of TNA and investors as well as monthly data of money and investor flows*

Our study

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  Free of survivorship bias. 240 funds.

- *From January 1999 to December 2006*

- *Monthly data of TNA and **investors** as well as monthly data of money and **investor** flows*

  This is the first study that analyses investor abilities

Our study

- *All Spanish domestic equity funds from January 1999 to December 2006*
- *Monthly data of TNA and **investors** as well as monthly data of money and **investor** flows*
- *Separate data of inflows and outflows*

Our study

- *All Spanish domestic equity funds from January 1999 to December 2006*
- *Monthly data of TNA and **investors** as well as monthly data of money and **investor** flows*
- *Separate data of **inflows** and **outflows***

Only Keswani and Stolin (2008) have collected a similar dataset, providing evidence of smart purchases

Methodology (I). *Flow measures*

- Our sample includes the exact inflows and outflows. We normalise these flows dividing them by fund size (or number of investors)
- But we also analyse the implicit flows:

$$IPMF_{it} = \frac{TNA_{it} - TNA_{i,t-1}(1+R_{it}) - MGTNA_{it}}{TNA_{i,t-1}}$$

$$IPIF_{it} = \frac{I_{it} - I_{i,t-1} - MGINV_{it}}{I_{i,t-1}}$$

Metodology (II).
Performance measures

- Excess return (over the MSCI Spain Index)
- The alpha of the single factor model (CAPM)

$$R_{it} - R_{ft} = \alpha_i^1 + \beta_i^1 \left(R_{mt} - R_{ft} \right) + \varepsilon_{it}$$

- The alpha of 3-factor model (Fama-French,1993)

$$R_{it} - R_{ft} = \alpha_i^3 + \beta_{iRMRF}^3 RMRF_t + \beta_{iSMB}^3 SMB_t + \beta_{iHML}^3 HML_t + \varepsilon_{it}$$

- The alpha of 4-factor model (Carhart, 1997)

$$R_{it} - R_{ft} = \alpha_i^4 + \beta_{iRMRF}^4 RMRF_t + \beta_{iSMB}^4 SMB_t + \beta_{iHML}^4 HML_t + \beta_{iPR1YR}^4 PR1YR_t + \varepsilon_{it}$$

New money/investors vs old money/investors

- We follow the approach of Keswani and Stolin (2008) comparing the performance of new money portfolios and old money portfolios
- We can also analyse investor portfolios
- Our approach is based on monthly cross-sectional comparison of:

  - TNA (investors) weighted portfolios → Old M/I
  - Inflow-weighted portfolios → New (In) M/I

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  - TNA (investors) weighted portfolios → **Old M/I**
  - Inflow-weighted portfolios → **New (In) M/I**
  - **Outflow-weighted portfolios → Out M/I**

Results. In (Out) M/I vs Old M/I

(I) 3-month and 12-month holding periods present significant negative performance

3-month holding period				
	ER	$\alpha 1$	$\alpha 3$	$\alpha 4$
(1) EWP	-0.0045	-0.0017	-0.0101	-0.0086
	(.017)	(.239)	**(.000)**	**(.000)**

12-month holding period				
	ER	$\alpha 1$	$\alpha 3$	$\alpha 4$
(1) EWP	-0.0200	-0.0102	-0.0441	-0.0426
	(.000)	**(.003)**	**(.000)**	**(.000)**

Results. In (Out) M/I vs Old M/I

(II) Large funds present worse performance

	ER	$\alpha 1$	$\alpha 3$	$\alpha 4$
(1) EWP (3-months)	-0.0045	-0.0017	-0.0101	-0.0086
(2) TNA-weighted	-0.0068	-0.0034	-0.0116	-0.0090
	(.354)	(.427)	(.499)	(.865)
(5) Inv-weighted	-0.0083	-0.0060	-0.0142	-0.0126
	(.109)	**(.033)**	(.053)	(.056)
(1) EWP (12-months)	-0.0200	-0.0102	-0.0441	-0.0426
(2) TNA-weighted	-0.0287	-0.0186	-0.0510	-0.0488
	(.101)	(.111)	(.264)	(.325)
(5) Inv-weighted	-0.0344	-0.0276	-0.0601	-0.0588
	(.006)	**(.001)**	**(.007)**	**(.007)**

Results. In (Out) M/I vs Old M/I

(III) Evidence of smart new (not out) money

	ER	$\alpha 1$	$\alpha 3$	$\alpha 4$
(2) TNA-weighted (3-months)	-0.0068	-0.0034	-0.0116	-0.0090
(3) Weighted by money in	-0.0010	0.0015	-0.0068	-0.0044
	(.056)	(.051)	(.066)	(.088)
(4) Weighted by money out	-0.0046	-0.0018	-0.0102	-0.0082
	(.416)	(.503)	(.561)	(.763)
(2) TNA-weighted (12-months)	-0.0287	-0.0186	-0.0510	-0.0488
(3) Weighted by money in	-0.0035	0.0050	-0.0310	-0.0283
	(.000)	**(.000)**	**(.004)**	**(.003)**
(4) Weighted by money out	-0.0175	-0.0082	-0.0426	-0.0412
	(.042)	(.060)	(.183)	(.238)

Results. In (Out) M/I vs Old M/I

(IV)Evidence of smart new (not out) investors

	ER	α1	α3	α4
(5) Investor-weighted (3-months)	-0.0083	-0.0060	-0.0142	-0.0126
(6) Weighted by inv. in	0.0019	0.0037	-0.0052	-0.0009
	(.002)	**(.000)**	**(.000)**	**(.000)**
(7) Weighted by inv. out	-0.0055	-0.0019	-0.0106	-0.0073
	(.243)	**(.048)**	(.098)	**(.012)**
(5) Investor-weighted (12-months)	-0.0344	-0.0276	-0.0601	-0.0588
(6) Weighted by inv. in	0.0043	0.0125	-0.0241	-0.0197
	(.000)	**(.000)**	**(.000)**	**(.000)**
(7) Weighted by inv. out	-0.0201	-0.0094	-0.0437	-0.0404
	(.004)	**(.000)**	**(.006)**	**(.002)**

Results. In (Out) M/I vs Old M/I

(V) New investors seem to be smarter than new money…

	ER	α1	α3	α4
(3-months)				
(3) Weighted by money in – (6) Weighted by investors in	-0.0029	-0.0022	-0.0016	-0.0036
	(.445)	(.404)	(.562)	(.199)
(12-months)				
(3) Weighted by money in – (6) Weighted by investors in	-0.0078	-0.0075	-0.0070	-0.0086
	(.352)	(.249)	(.323)	(.227)

Results. New (Away) M/I vs Old M/I

(V) New investors seem to be smarter than new money…

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But we can't find significant evidence

Positive flow portfolios vs negative flow portfolios

- We analyse the smartness of flows from a long-short strategy perspective
- This is the usual approach in financial literature, hence we also consider implicit flows to compare
- For each flow measure (implicit and exact money/investor flows), we rank funds:

  - with positive vs negative flows;
  - computing equally and flows weighted portfolios;
  - reporting performance differences (with sig.levels)

Results. Positive vs negative *Implicit flows*

We are going to compute Excess Return and $\alpha 4$ (12-month holding periods)

	Positive flow funds		Negative flow funds	
	ER	$\alpha 4$	ER	$\alpha 4$
I Money				
I M weighted				
I Investors				
I I weighted				

Results. Positive vs negative *Implicit flows*

Positive flow portfolios present higher levels of Excess Return…

	Positive flow funds		Negative flow funds	
	ER	$\alpha 4$	ER	$\alpha 4$
I Money	-0.0093		-0.0267	
I M weighted	0.0088		-0.0217	
I Investors	-0.0055		-0.0308	
I I weighted	0.0168		-0.0249	

Results. Positive vs negative *Implicit flows*

... and also higuer levels of $\alpha 4$

	Positive flow funds		Negative flow funds	
	ER	$\alpha 4$	ER	$\alpha 4$
I Money	-0.0093	-0.0306	-0.0267	-0.0506
I M weighted	0.0088	-0.0177	-0.0217	-0.0475
I Investors	-0.0055	-0.0257	-0.0308	-0.0528
I I weighted	0.0168	-0.0106	-0.0249	-0.0465

Implicit flows are smart

Results. Positive vs negative *Implicit flows*

Important: observe that weighted portfolios always present better results

	Positive flow funds		Negative flow funds	
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➔ largest flows are invested in the best performers

Results. Positive vs negative *Implicit flows*

Important question: are these differences statistically significant?

Results. Positive vs negative *Implicit flows*

Important question:
are these gaps statistically significant?

	Positive flow funds		Negative flow funds		Differences Pos – Neg	
	ER	$\alpha 4$	ER	$\alpha 4$	ER	$\alpha 4$
I Money	-0.0093	-0.0306	-0.0267	-0.0506	**0.0174**	**0.0199**
I M weighted	0.0088	-0.0177	-0.0217	-0.0475	**0.0305**	**0.0298**
I Investors	-0.0055	-0.0257	-0.0308	-0.0528	**0.0252**	**0.0271**
I I weighted	0.0168	-0.0106	-0.0249	-0.0465	**0.0417**	**0.0359**

➔ We find significance at 1% level

Results. Positive vs negative
Implicit flows: ***money vs investors***

Can we find differences statistically significant?

		Differences Pos – Neg	
		ER	$\alpha 4$
(1)	I Money	**0.0174**	**0.0199**
(2)	I M weighted	**0.0305**	**0.0298**
(3)	I Investors	**0.0252**	**0.0271**
(4)	I I weighted	**0.0417**	**0.0359**

Results. Positive vs negative
Implicit flows: ***money vs investors***

Can we find differences statistically significant?

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(3)	I Investors	**0.0252**	**0.0271**
(4)	I I weighted	**0.0417**	**0.0359**

1-3	-0.0078	-0.0072
	0.000	**0.000**
2-4	-0.0112	-0.0061
	0.074	0.244

➔ In equally-weighted portfolios

Results. Positive vs negative *Exact flows*

An additional finding is related to the similar results that we can observe when considering exact flows.

➔ *Hence, we are providing evidence of the limited bias that prior studies have suffered when carrying out these analyses*

Results. Positive vs negative *Exact flows*

An additional finding is related to the similar results that we can observe when considering exact flows.

➔ *Hence, we are providing evidence of the limited bias that prior studies have suffered when carrying out these analyses*

but our study presents a limited bias since it considers monthly information

Individual analyses

- Our study also presents another original approach of smart money: individual analyses
- While prior literature focuses on a global perspective, we consider both a time-series and a cross-sectional point of view
- The first analysis aims at detecting investors' timing abilities considering each fund separately
- On the other hand, the second approach is devoted to find possible selection abilities in each period of the sample

Individual analyses: Investors' timing abilities

- This time-series approach tries to analyse if investors are able to choose the best moments to invest or divest from a fund:

$$P_{i,t+1} - \overline{P}_{t+1} = \alpha_t^1 + \beta_t^1 \left(F_{it} - \overline{F}_t \right) + \varepsilon_t$$

- For each fund, we calculate if prior excess flows anticipate subsequent excess performance
- Observe that flows are computed in relative terms to allow the comparison of all de funds of the category

Individual analyses: Investors' selection abilities

- This analysis tries to shed additional light about the possible smartness of investors when selecting among all the available portfolios

$$P_{i,t+1} - \overline{P}_{t+1} = \alpha_t^2 + \beta_t^2 \left(F_{it} - \overline{F}_t \right) + \varepsilon_t$$

- Again, in this cross-sectional analysis, we calculate if prior excess flows anticipate subsequent excess performance in each month

- In both analyses, positive and significant betas would provide evidence of smart decisions

Results: No evidence of timing abilities

e.g.: 3-month holding period

		Positive β^1		Negative β^1	
		Total	**Sign.**	**Total**	**Sign.**
Excess Return	Implied money flow	59	6	53	6
	Implied investor flow	48	6	64	5
	Money inflows	52	9	60	10
	Investor inflows	40	6	72	5
α_4	Implied money flow	55	8	57	9
	Implied investor flow	52	4	60	9
	Money inflows	51	13	61	10
	Investor inflows	47	5	65	8

Results: Some evidence of selection abilities

e.g.: 12-month holding period

		Positive β^2		Negative β^2	
		Total	**Sign.**	**Total**	**Sign.**
Excess Return	Implied money flow	73	16	12	0
	Implied investor flow	71	24	14	0
	Money inflows	76	12	9	0
	Investor inflows	73	23	12	2
α_4	Implied money flow	70	17	15	0
	Implied investor flow	70	21	15	0
	Money inflows	72	11	13	1
	Investor inflows	75	20	10	1

Conclusions (I)

- The main aim of our study is focused on the determination of the possible investors' abilities to anticipate superior portfolio performance

- Our analyses present some relevant originalities:

  → Our dataset includes information of number of *investors* as well as the usual related to money

  → Our calculations are considered in *relative* terms

  → We have *exact* information of inflows and outflows

  → We calculate *four* classes of performance

  → We analyse Smart Money from an *individual* perspective

Conclusions (II) New flow performance

- We provide general evidence of smart inflows
- This smartness is more marked in 12-month holding periods and for investor flows
- However, we fail to find statistical significance of superior abilities of investors vs. money
- Results obtained with outflows need further research

Conclusions (III) Long-short strategy

- We find that portfolios with positive flows obtain superior performance than those with negative flows
- These better results are statistically significant
- Moreover, largest flows are invested in the best performers
- These findings are significantly more marked when considering investor flows

Conclusions (IV) Individual perspective

- We propose two innovative approaches: a timing perspective for each fund and a selection method in each month
- The first approach does not provide evidence of timing abilities
- However, the second perspective shed more light about the underlying reasons of the Smart Money observed in the overall methods

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