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Swedish public pension funds as shareholders

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Presentation outline

- » Research background;
- » Features of Swedish Pension System;
- » Research questions;
- » Summary of results (Papers 1-4)
- » Conclusions.



Corporate governance

Corporate governance aims at enhancing value maximization by matching scarce managerial talent with scarce capital resources.



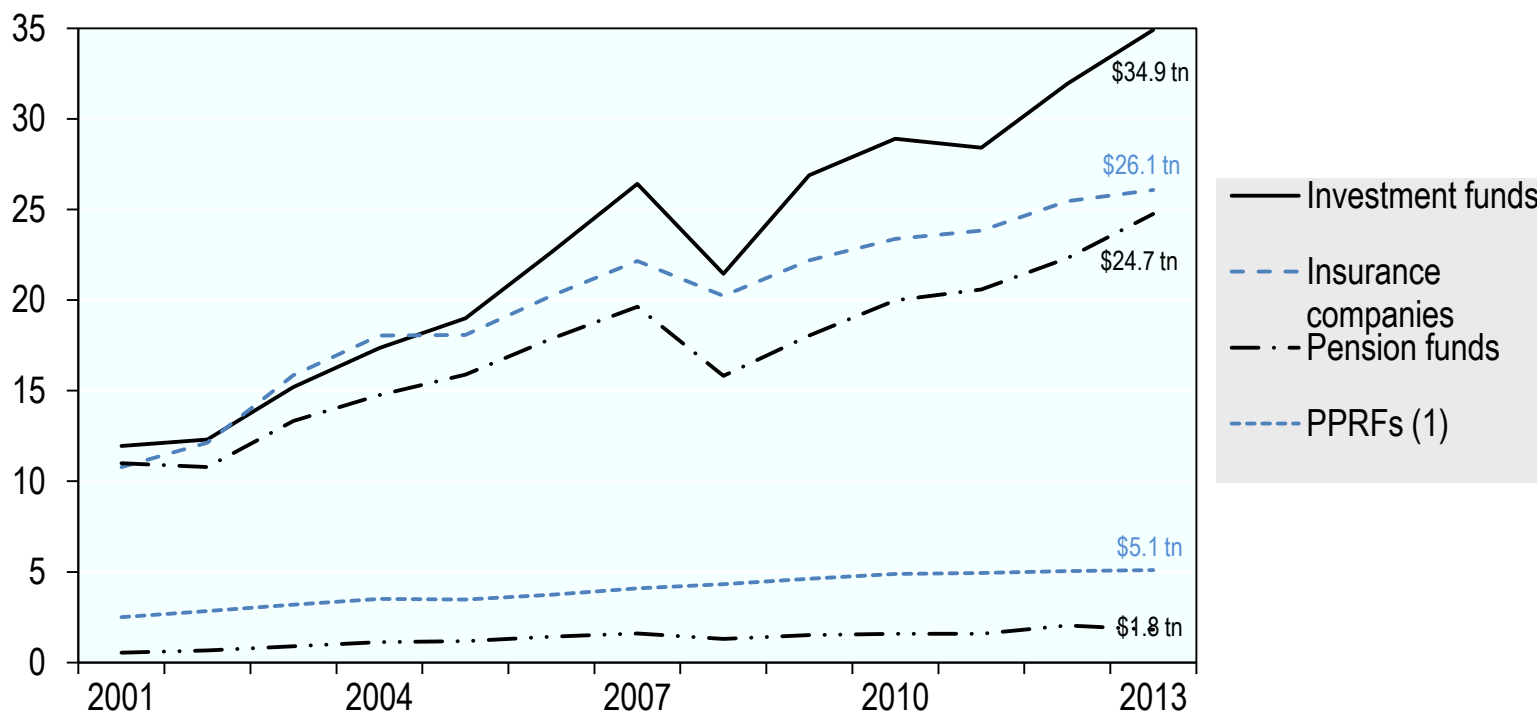
Agency problem

Management of companies may act for their own interest at the expense of shareholders (Adam Smith , 1776)


1. Imperfect information.
2. Conflict o interests between managers and shareholders.

Increasing importance of institutional investors in capital markets

Total Assets by type of Institutional investors, OECD (US \$ billions)



Source: OECD Global Pension Statistics, Global Insurance Statistics and Institutional Investors databases, and OECD staff estimates. (2014)



Share ownership & corporate governance

Are pension funds effective in improving corporate governance of firms in which they have ownership?

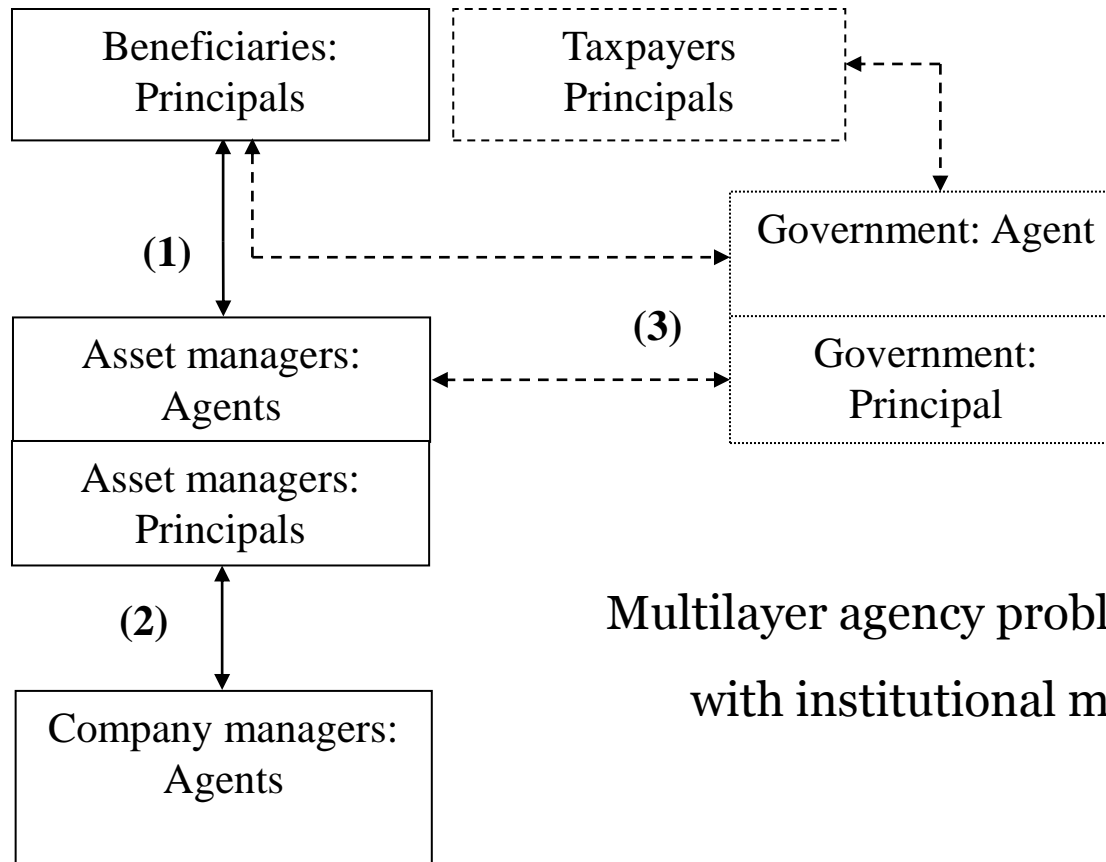
Can they alleviate agency problem between shareholders and managers?



Active role in corporate governance: Advantages

- (1) managed by **professionals**, who can better utilize information than laymen investors;
- (2) **the cost of management** is lower, as they can exploit economies of scale;
- (3) they have an interest in ensuring better **protection of minority shareholder** rights, while their actions are constantly under public scrutiny.

Active role in corporate governance: Obstacles



Multilayer agency problem associated
with institutional monitoring:



Possible solution

Can **competition** between asset managers stimulate better management of the funds, also through **active corporate governance involvement**?

Are there evidences for stimulation of competition for that objective?

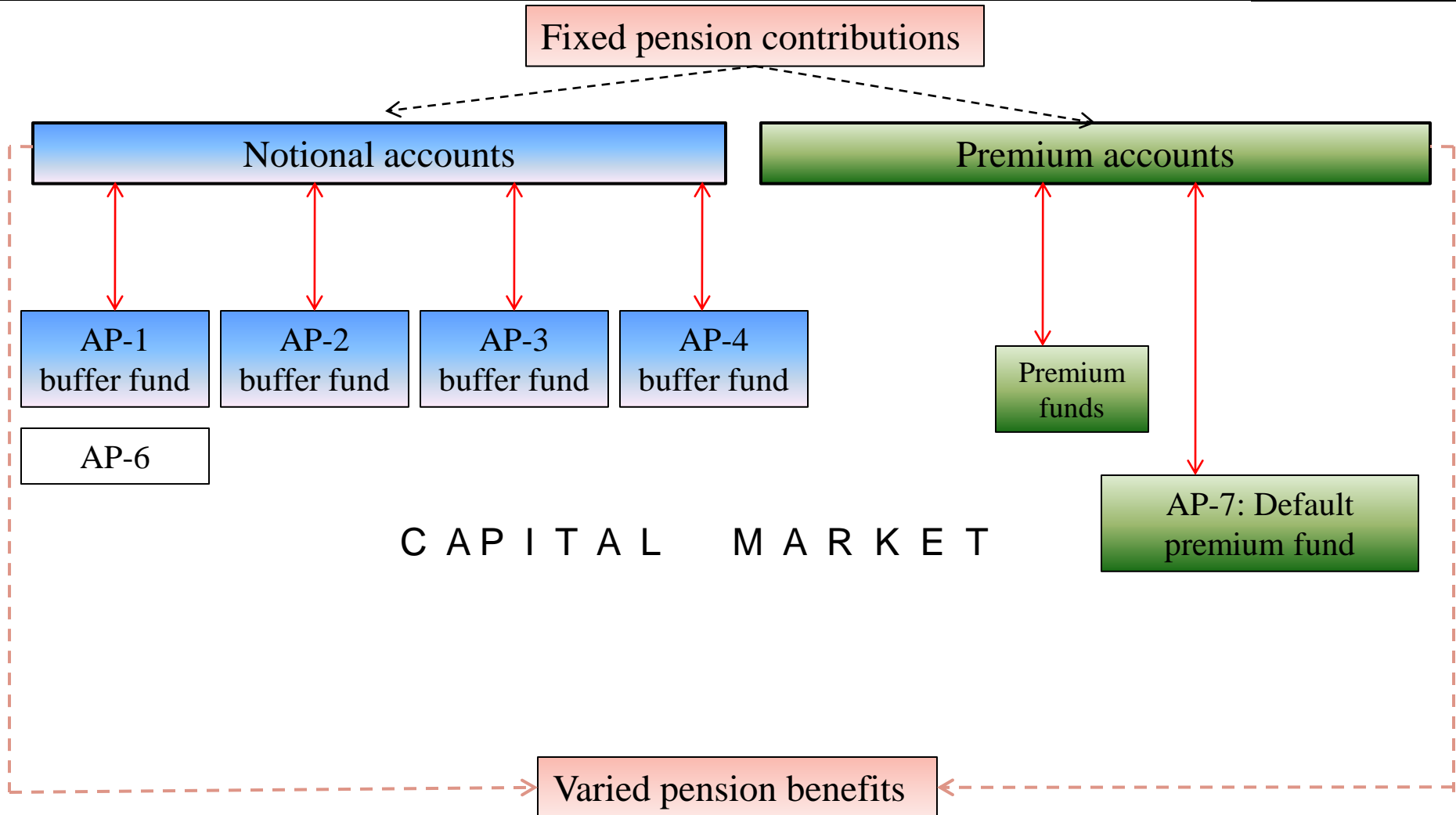


Swedish pension system

Sweden has provided us with a unique setting in the pension reform (Giannetti & Laeven, 2009; Severinson & Stewart, 2012).

- » Several pension funds (AP funds were created)
 - » the same starting point
 - » the same mandates
 - » pension funds to compete

Swedish pension system as background



Swedish pension system

Multiple AP fund arguments:

- **To enable competition** to achieve a downward pressure on costs and to improve results;
- To **reduce such market impact** that could impede efficient fund management and disturb the functioning of the market;
- To **diversify management risks**;
- To **reduce** the risk of possible **political influence** on the governance of Swedish enterprises.

* Malin Björkmo and Stefan Lundbergh, "Rotman International Journal of Pension Management", Vol 3 , 2010

Investment rules for AP Funds

AP1-AP4:

- » Invest not less **than 30% in debt instruments** with low credit and liquidity risk.
- » Each fund may hold **not more than 10% of voting rights** of each listed company.
- » Maximum 5 % of funds assets may be invested **unlisted companies**.
- » At least 10 % of a fund's assets are to be managed by **external management**.
- » maximum 40% of each fund assets may be exposed to currency risk.
- » Holdings of each buffer fund in Sweden listed companies should **not exceed 2% of Swedish stock market value**.

AP-7 is deemed to manage assets for the benefit of savers, and hold shares with no more than 5% of voting rights in single company

AP buffer funds

Swedish equity by mutual funds and AP funds as of 12/31/2012

Net assets	Number of funds	SEK million	
		Total	Average
EQUITY FUNDS	837	1,054,388	1,260
Equity funds based in Sweden	366	881,653	2,409
investing only in Sweden	123	290,282	2,360
investing in Sweden and abroad	23	180,647	7,854
investing abroad	220	410,724	1,867
Equity funds based abroad	471	172,735	367
investing only in Sweden	11	6,754	614
investing in Sweden and abroad	1	3	3
investing abroad	459	165,979	362
Fair Market Value			
	AP-1		26,590
	AP-2		27,080
	AP-3		26,844
	AP-4		40,921

Source: Swedish Investment Fund Association Statistics, Annual reports of Swedish AP 1-4

AP fund ownership

Pension funds	For the whole sample			If respective pension fund CF > 0		
	Number of observations	Mean	Std. Dev.	Number of observations	Mean	Std. Dev.
AP-1 CF rights	1666	0.31	1.42	291	1.78	3.00
AP-2 CF rights	1663	0.52	1.21	1079	0.80	1.43
AP-3 CF rights	1658	0.31	1.27	360	1.42	2.41
AP-4 CF rights	1648	0.69	1.63	534	2.12	2.28
AP-6 CF rights	1640	0.17	1.31	109	2.58	4.47
AP-7 CF rights	1639	0.13	0.85	298	0.70	1.89
CF rights of all public pension funds	1667	2.10	3.99	1195	2.94	4.45

Research question

Are institutional investors (pension funds) active in corporate governance within competitive environment?

- Is Swedish pension fund ownership related to:
 1. market valuation of firms (Paper-1);
 2. changes in quality of corporate governance (Paper-2);
 3. impact vs. exit for underperforming firms (Paper-3).

- Given the competitive framework, do AP funds have similarity in their portfolios, as well as timing of purchases and sales of domestic equity. (Paper-4)



Data

Papers 1-3:

- » Nonfinancial 193 companies, out of which 10 delisted, and 40 merged;
- » Period: 2001-2011, annual and quarterly data;
- » Listed in Stockholm stock exchange as of 2001;
- » SIS- Ägarservice AB, Thomson Reuters ownership data;



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Market valuation of firms and public pension fund ownership



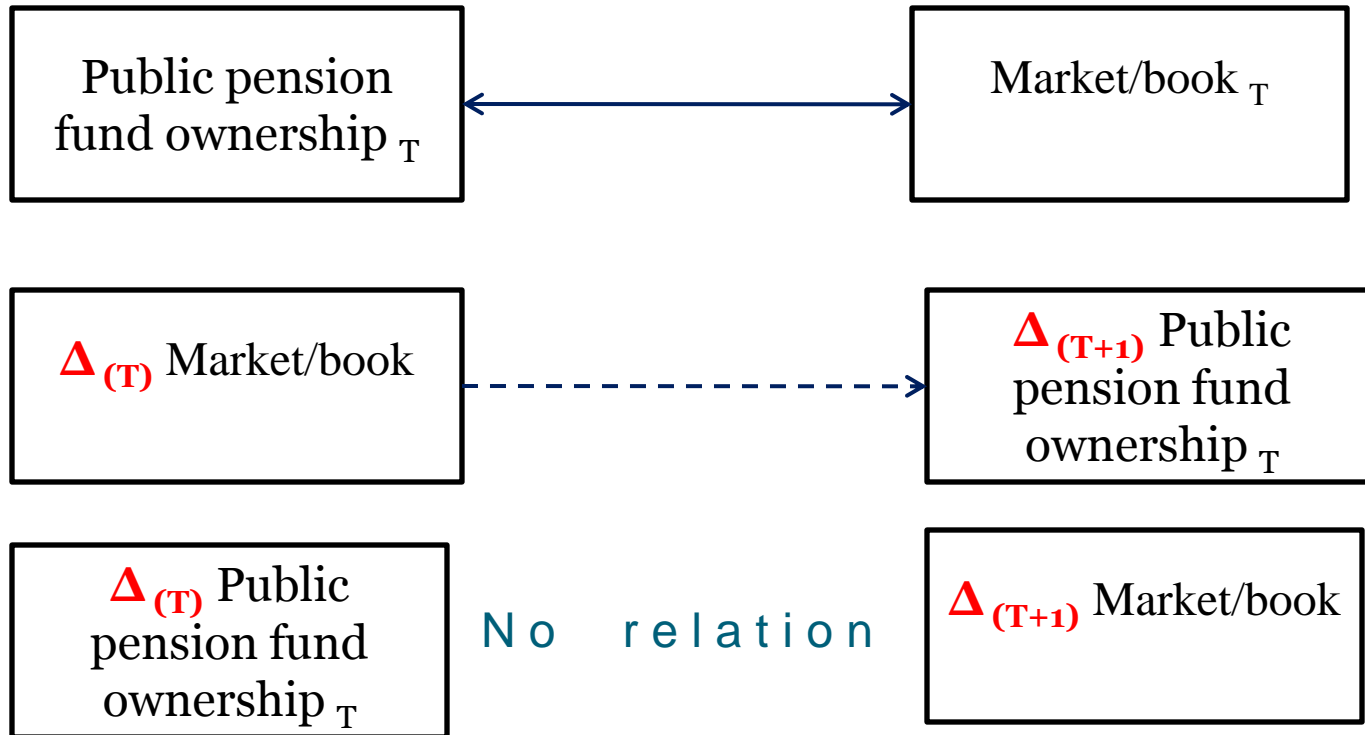
Paper-1: Market/Book - public pension fund ownership

Previous findings:

The role of institutional owners in governance of firms

- Evidence in the US and UK : Smith (1996), Wahal (1996); Parrino et. al (2003), Faccio & Lasfer (2001), Cornett et. al (2007); Bhattacharya & Graham (2007) is not conclusive;
- Pension funds - Iglesias-Paulu (2000),
Giannetti & Laeven (2009) (positive impact for Sweden);

Paper-1: Market/Book - public pension fund ownership





*Paper-1: Market/Book -
public pension fund ownership
Conclusion*

- » There is a positive relation between market valuation of firms and public pension fund ownership due to selection phenomena:

*Public pension funds investing heavily into firms
with high market to book*



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Corporate governance by Swedish public pension funds

Paper-2: Public pension funds and quality of corporate governance

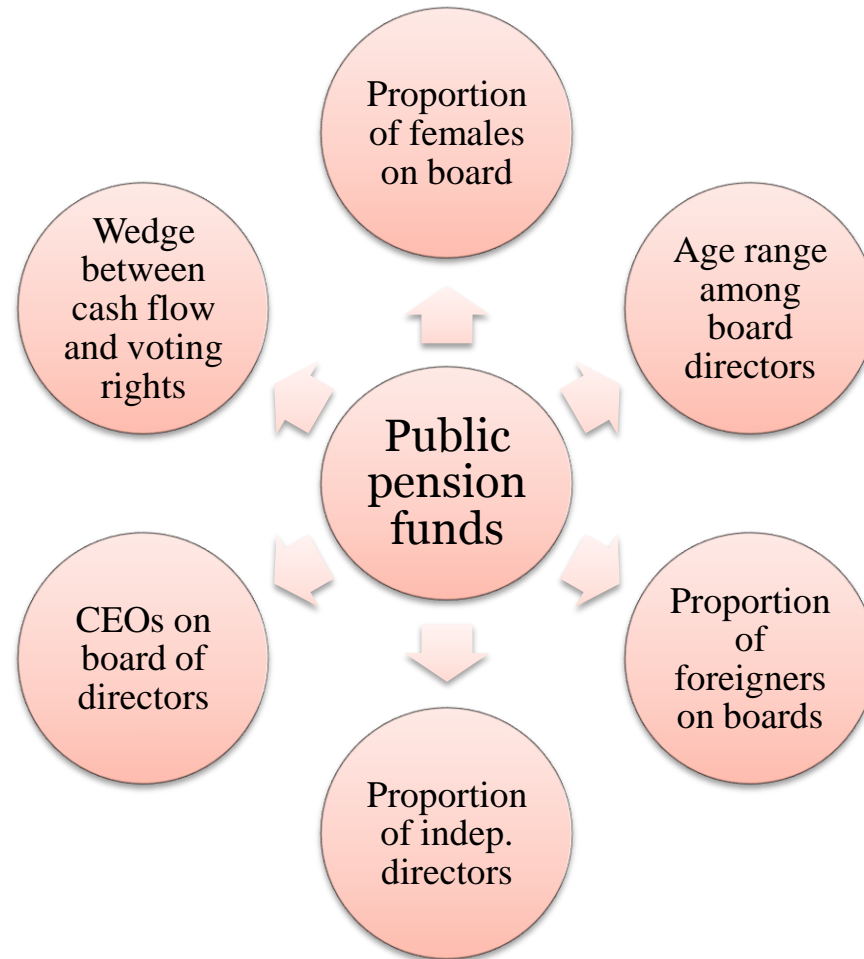
AP fund own view of their CG impact


*"...In view of this, an important component of Första AP-fonden's management model is to be **an active owner**...*

*"...**safeguard the best interests of shareholders** and individual companies; take into account the unique circumstances and needs of each individual company; exercise the rights and obligations of its ownership role in a responsible and sustainable manner; ...". (AP-4, 2013)*

*"The Second AP Fund emphasizes the importance of **increasing the percentage of women** on the boards of quoted companies..... achieving a better **balance in the way boards are composed in terms of gender, age, background, experience and competence**". (AP-2, 2010)*

Paper-2: Public pension funds and quality of corporate governance





Paper-2: Public pension funds and quality of corporate governance Empirical results



Public pension funds are not likely to

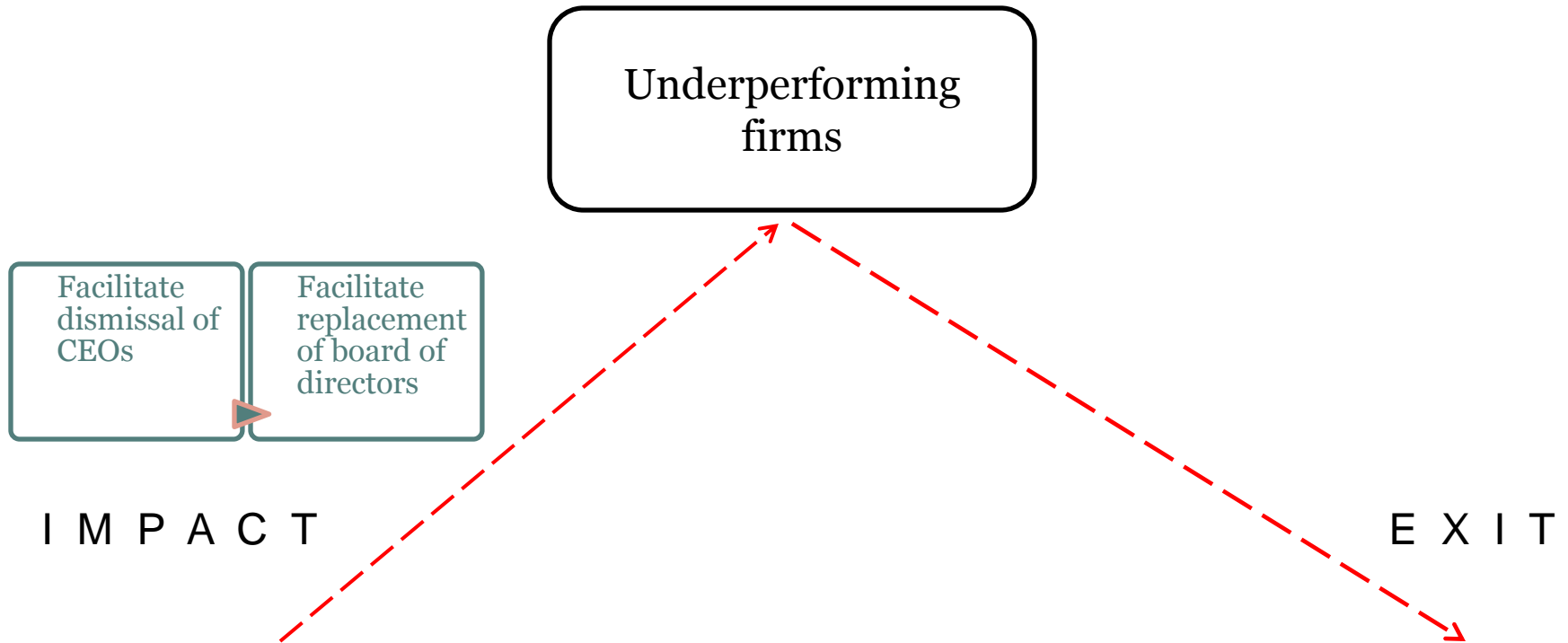
- intensify diversification of company boards;
- promote independent directors;
- render non-reelection of active CEO to board of directors;
- decrease the wedge between cash flow and voting rights practiced by firms;



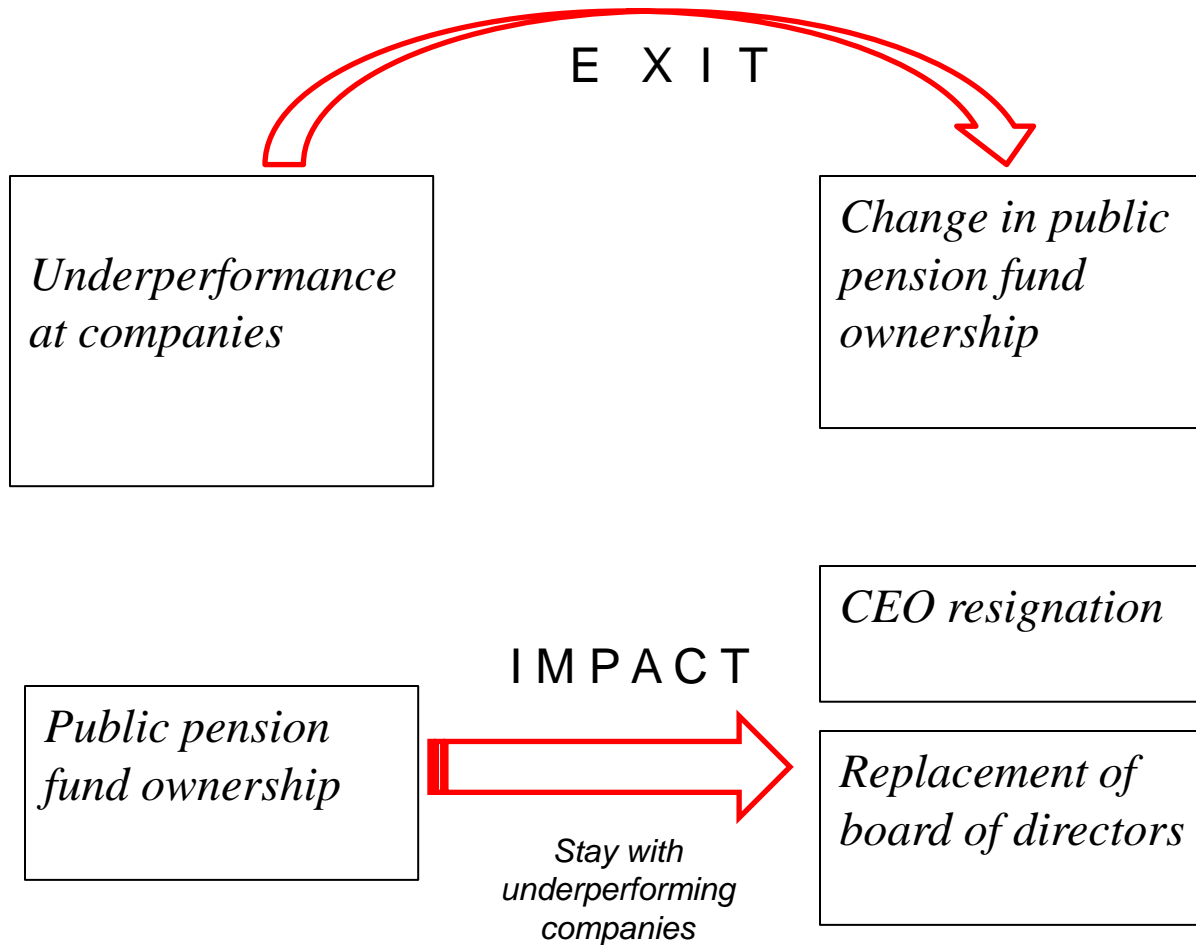
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Public pension funds as shareholders and firm performance

*Paper-3:
Public pension funds at underperforming firms*



Paper-3:
Public pension funds at underperforming firms
Hypotheses test



Paper-3: Results

- » Swedish public pension funds decrease ownership at firms that underperform during last 1 to 3 consecutive past quarters;
- » There is no significant positive relationship between public pension fund ownership and CEO resignation as well as board replacement rate if public pension funds stay with underperforming firms;



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**COMPETITION AS A DRIVING FORCE AMONG INSTITUTIONAL
INVESTORS. THE CASE OF SWEDISH PENSION FUNDS.**



Paper-4: Research questions

Is competition working as desired?

Given the competitive framework, is there evidence for convergence in portfolios among AP funds, and **following each other** into the same securities?

Paper 4: Hypotheses

Hypothesis – 1:


AP funds have different **portfolio compositions**.

Hypothesis – 2:

AP funds do not **mimic ownership changes** of each other in companies.

Hypothesis – 3:

There is no specific pattern in their ownership changes during the last quarter (no “**window dressing**”).



Paper-4: Data

- » Swedish equity portfolio of AP funds;
- » Equity ownership data from SIS- Ägarservice AB, financial reports of AP funds;
- » Period: 2001-2012, quarterly data;
- » Both financial and non-financial firms;

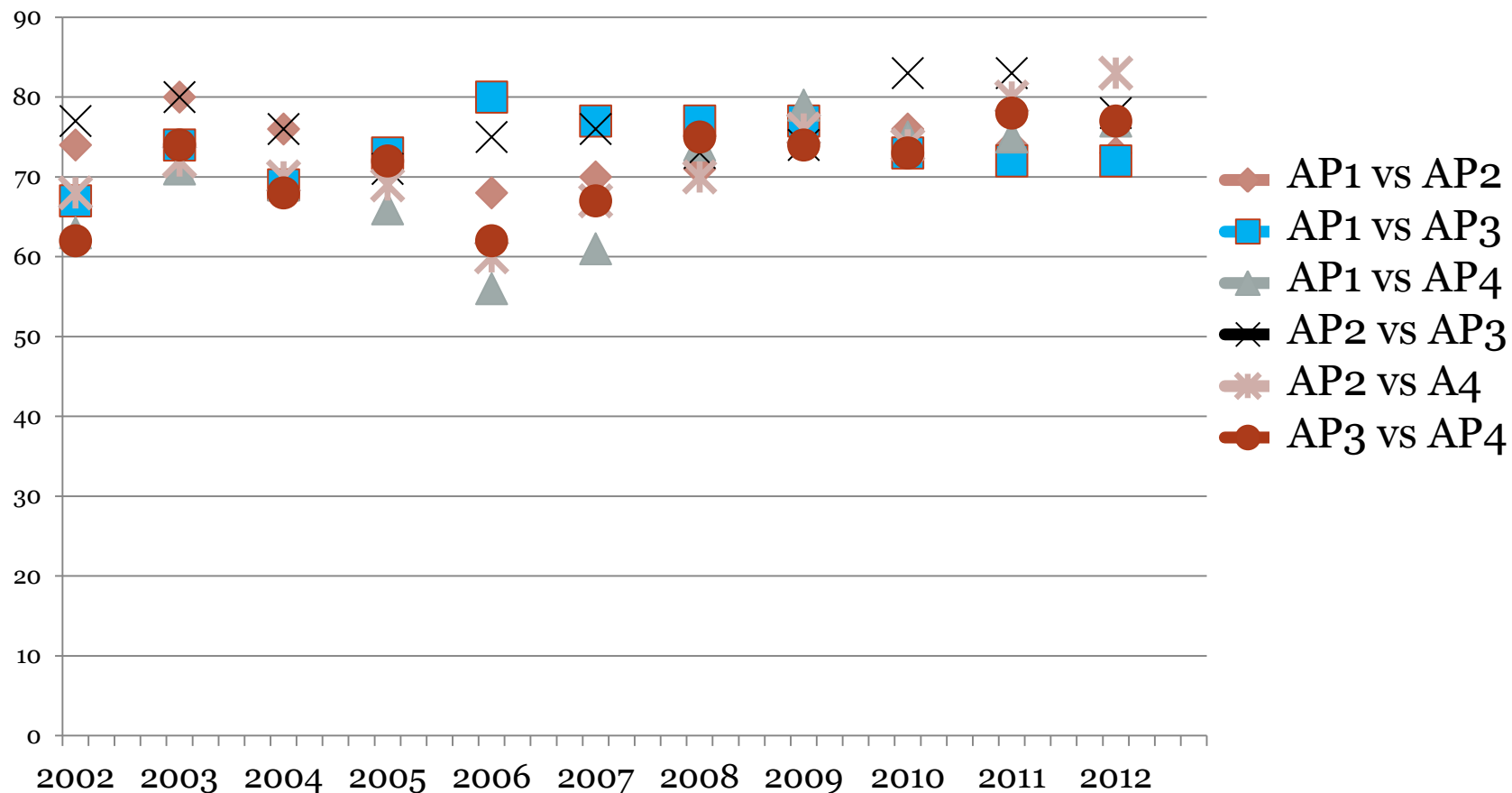
Paper-4: Portfolio similarity

$$\text{Active share} = \frac{1}{2} \sum_{i=1}^N |w_{\text{fund},i} - w_{\text{benchmark},i}|$$

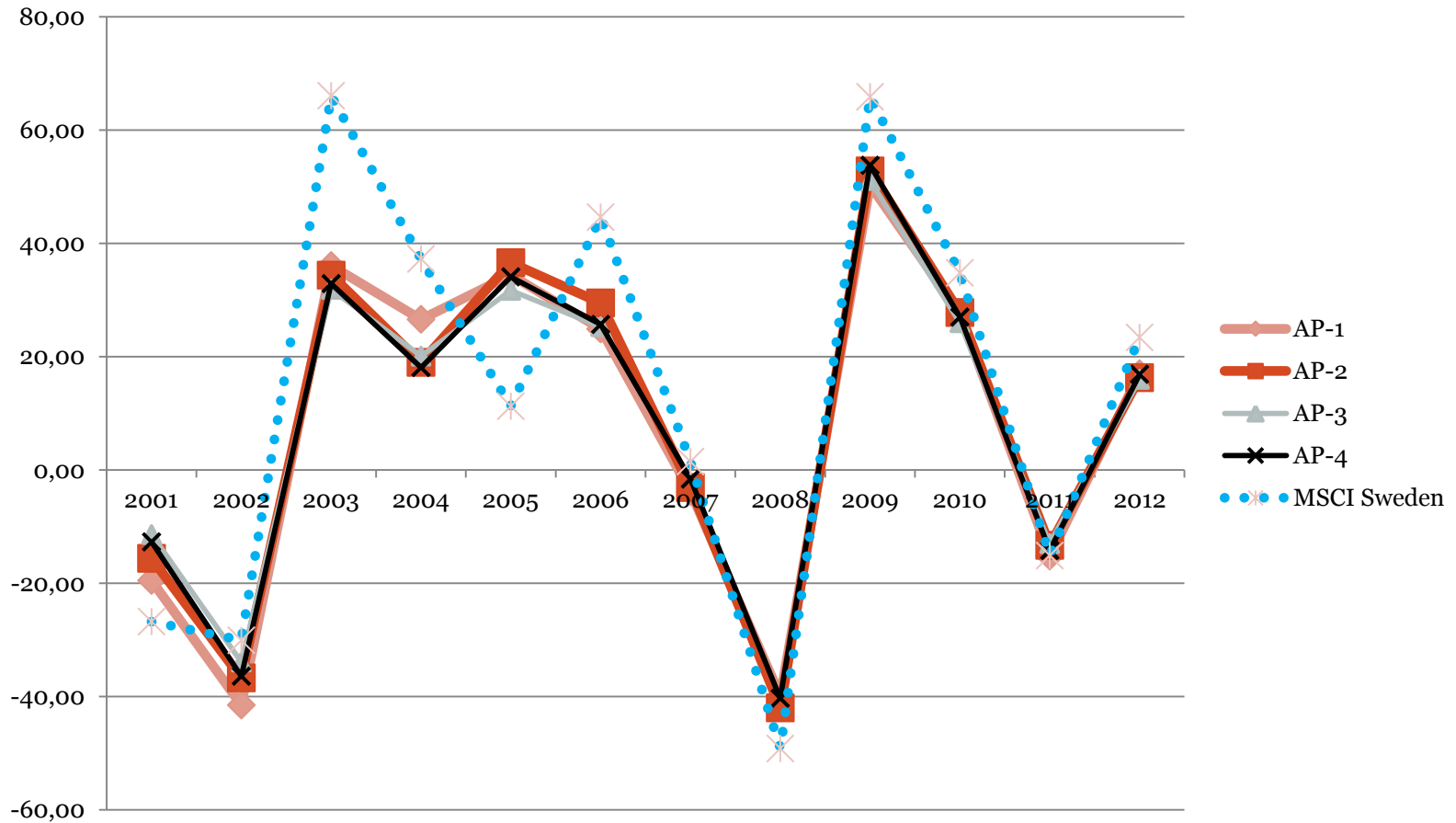
$$\text{Portfolio Overlap} = 100 - \text{Active Share}$$


Cremers M., and Petajisto A., 2009, "How Active is Your Fund Manager? A New Measure that Predicts Performance", [The Review of Financial Studies, Vol. 22, Issue 9, pp. 3329-3365, 2009](#)

Paper-4: Portfolio similarity




Return on Swedish Equity portfolios (before expenses) of AP 1-4 funds





Paper-4: Results

There is some similarity between Swedish Equity portfolios of AP funds. Higher similarity after Financial Crisis




Paper-4: Co-movements

Co-movements in AP fund purchases , and sales of shares?

Paper-4: Co-movements

Tobit	(1)	(2)	(3)	(4)
	Purchase -AP1_{T+1}	Purchase -AP2_{T+1}	Purchase -AP3_{T+1}	Purchase -AP4_{T+1}
Purchase -AP1 _T		0.416*** (0.077)	0.584*** (0.138)	0.461*** (0.129)
Purchase -AP2 _T	0.216*** (0.067)		0.206*** (0.075)	0.152** (0.076)
Purchase -AP3 _T	0.169*** (0.056)	0.063* (0.038)		0.089* (0.053)
Purchase -AP4 _T	0.108** (0.054)	0.092** (0.040)	0.120** (0.061)	
Illiquidity _T	-0.014 (0.022)	0.001 (0.008)	-0.010 (0.014)	0.001 (0.009)
<i>N</i>	5783	5783	5783	5783
pseudo <i>R</i> ²	0.016	0.007	0.009	0.004




Paper-4: Result-2

- » **AP buffer funds mimic changes in ownership of each other. Some evidence of AP-1 being a leader.**



Paper-4: Window dressing?

Co-movements are due to their **selling** stocks with **low return**, and **buying** the ones with **high return at intensified rate during the last quarter** - "window dressing"?



Paper-4: Result 3

Window dressing is not likely to explain co-movements

Paper-4: Findings

- Portfolio overlap of 60-85% between Swedish equity portfolios of AP funds (with Active Share measure proposed by Petajisto, 2013; and Cremers & Petajisto, 2009).
- Higher portfolio similarity is observed especially, after Financial Crisis.
- There are co-movements of AP funds within their domestic equity portfolios
- Co-movements are not supported by "window dressing" hypothesis, but in line with leader follower behavior suggested by Fong et.al (2011).



Summary

- » No empirical evidence for public pension funds improving corporate governance quality in firms.
- » Public pension funds exit underperforming companies rather than impact their corporate governance.
- » There is a similarity in domestic equity portfolios and timing of share trades by AP funds



Conclusions

- » Swedish AP funds did not improve corporate governance of firms:

Likely explanation: Ownership **restriction** applied to AP funds preclude them to be active in corporate governance.

- » No evidence that competition has failed:

Likely explanation for similarities between AP fund portfolios:
Limited market for individual shares and **strict investment rules** that apply to public pension funds.



Conclusion

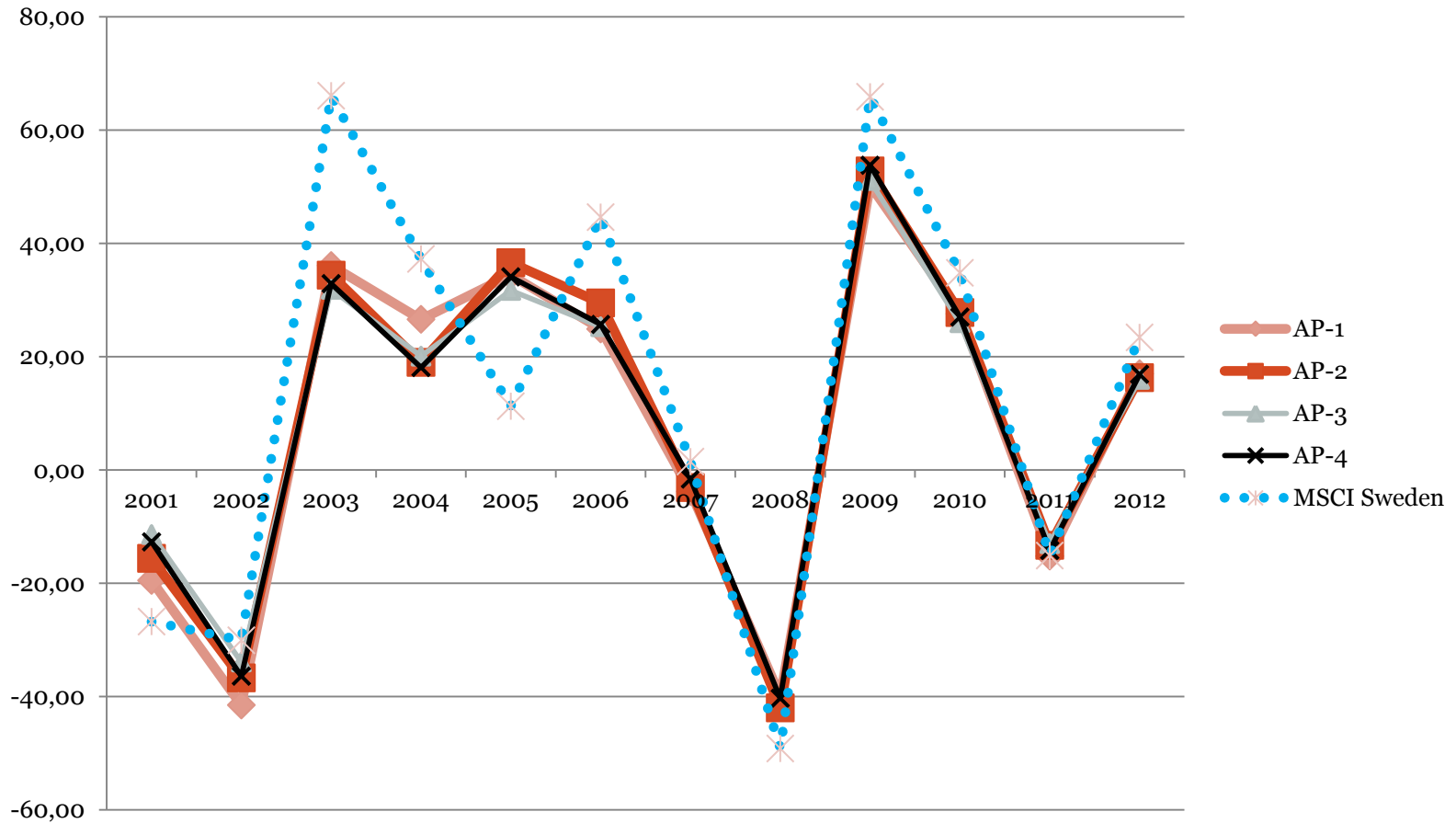
- » Difficult to match detailed regulation and corporate governance involvement by pension funds
- » Accept “voting with the feet” by pension funds.



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Thank you

Return on Swedish Equity portfolios (before expenses) of AP 1-4 funds



Portfolio similarity

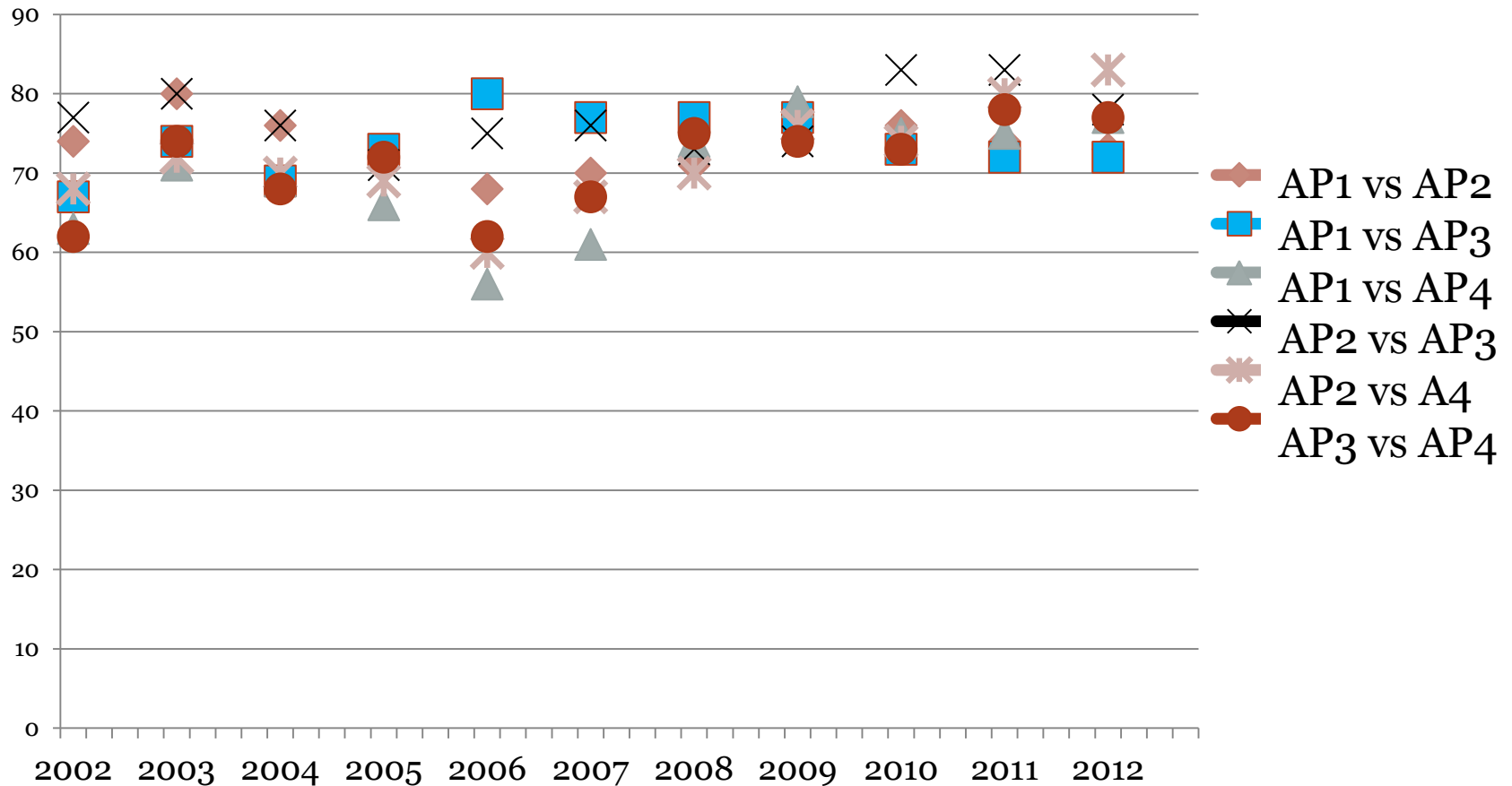
Hypothesis – 1: AP funds have different portfolio compositions?

$$\text{Active share} = \frac{1}{2} \sum_{i=1}^N |w_{\text{fund},i} - w_{\text{benchmark},i}|$$

Portfolio Overlap = 100 - Active Share

Cremers M., and Petajisto A., 2009, "How Active is Your Fund Manager? A New Measure that Predicts Performance", [The Review of Financial Studies, Vol. 22, Issue 9, pp. 3329-3365, 2009](#)

Portfolio similarity





Results-1

There is some similarity between Swedish Equity portfolios of AP funds. Higher similarity after Financial Crisis



Co-movements

Co-movements in AP fund purchases , and sales of shares?

Co-movements

Tobit	(1)	(2)	(3)	(4)
	Purchase -AP1 _{T+1}	Purchase -AP2 _{T+1}	Purchase -AP3 _{T+1}	Purchase -AP4 _{T+1}
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Purchase -AP2 _T	0.216*** (0.067)		0.206*** (0.075)	0.152** (0.076)
Purchase -AP3 _T	0.169*** (0.056)	0.063* (0.038)		0.089* (0.053)
Purchase -AP4 _T	0.108** (0.054)	0.092** (0.040)	0.120** (0.061)	
Illiquidity _T	-0.014 (0.022)	0.001 (0.008)	-0.010 (0.014)	0.001 (0.009)
<i>N</i>	5783	5783	5783	5783
pseudo <i>R</i> ²	0.016	0.007	0.009	0.004

Co-movements


Tobit	(1)	(2)	(3)	(4)
	Sales -AP1 _{T+1}	Sales -AP2 _{T+1}	Sales -AP3 _{T+1}	Sales -AP4 _{T+1}
Sales -AP1 _T		0.652*** (0.100)	0.788*** (0.146)	1.042*** (0.197)
Sales -AP2 _T	0.218*** (0.055)		0.254*** (0.078)	0.281*** (0.081)
Sales -AP3 _T	0.343*** (0.084)	0.337*** (0.085)		0.449*** (0.107)
Sales -AP3 _T	0.162*** (0.056)	0.203*** (0.065)	0.286*** (0.088)	
Illiquidity _T	-0.046 (0.042)	-0.013 (0.009)	-0.011 (0.011)	-0.009 (0.008)
N	8649	8649	8649	8649
pseudo R ²	0.034	0.021	0.025	0.026

pseudo R²



Result-2

- » **AP buffer funds mimic changes in ownership of each other. Some evidence of AP-1 being a leader.**



Window dressing?

Co-movements are due to their **selling** stocks with **low return**, and **buying** the ones with **high return at intensified rate during the last quarter** - "window dressing"?

Window dressing?

Tobit	(1)	(2)	(3)	(4)
	Purchase -AP1 _T	Purchase -AP2 _T	Purchase -AP3 _T	Purchase -AP4 _T
High_return_dum	0.015 (0.048)	0.076* (0.041)	-0.000 (0.048)	-0.087* (0.052)
High_return*Quarter4	0.045 (0.079)	0.053 (0.059)	0.148** (0.074)	-0.041 (0.091)
Quarter4	-0.085** (0.041)	0.110*** (0.029)	0.228*** (0.037)	0.242*** (0.052)
Illiquidity _{T-1}	-0.012 (0.022)	-0.001 (0.009)	-0.008 (0.013)	-0.003 (0.010)
<i>N</i>	5838	5838	5838	5838
pseudo <i>R</i> ²	0.002	0.006	0.012	0.006

Window dressing?

	(1)	(2)	(3)	(4)
	Sales -AP1 _T	Sales -AP2 _T	Sales -AP3 _T	Sales -AP4 _T
model				
Low_return	-0.050 (0.046)	0.010 (0.040)	-0.036 (0.047)	-0.028 (0.056)
Low_return*Quarter4	-0.115 (0.080)	0.014 (0.091)	0.116 (0.083)	-0.266** (0.114)
Quarter4	0.087*** (0.027)	-0.155*** (0.034)	-0.258*** (0.033)	-0.013 (0.033)
Illiquidity _T	-0.059 (0.052)	-0.013 (0.010)	-0.012 (0.012)	-0.011 (0.010)
<i>N</i>	8449	8449	8449	8449
pseudo <i>R</i> ²	0.010	0.006	0.012	0.003



Result-3:

Window dressing is not likely to explain co-movements