

How Past Performance Framing Impacts Investors' Belief Updating

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Netspar International Pension Workshop
January 28, 2016
Leiden



09:45 Alice onderst in groene AEX

telegraaf.nl

Stemming Damrak

09:45 Alice onderst in groene AEX

TOON: Handel | Koopadviezen (Laatste update: 10:45)

	AEX	AMX	AScX	Lokaal	Oranje Index													
Fonds						Laatst	+/-	%	Tijd	Open	Laag	Hoog	Vorig	Omzet st.				
AEX						469.14	+2.08	+0.45%	10:45	466.640	466.630	469.220	467.060	0				
Beurzen																		
Aalberts Industries						31.425	+0.09	+0.27%	10:43	31.220	31.220	31.505	31.340	22.391				
Aegon						5.759	+0.00	+0.07%	10:45	5.733	5.725	5.771	5.755	726.527				
Amsterdam																		
Ahold Koninklijke						20.265	+0.13	+0.65%	10:45	20.080	20.080	20.295	20.135	476.016				
Londen																		
Alko Nobel						65.780	+0.41	+0.63%	10:45	65.300	65.270	65.940	65.370	59.741				
Brussel																		
Alice						12.925	-0.69	-5.07%	10:45	13.650	12.755	13.650	13.615	1.709.089				
Parijs																		
ArcelorMittal						4.17	-0.04	-0.83%	10:45	4.203	4.117	4.225	4.205	6.237.149				
Frankfurt																		
ASML Holding						88.4	+0.63	+0.72%	10:45	87.880	87.630	88.530	87.770	146.048				
New York																		
Boskalis Westminster Koninklijke						41.825	+0.33	+0.80%	10:45	41.520	41.370	41.855	41.495	45.586				
Rest Europa																		
Indices																		
Delta Lloyd						6.249	-0.08	-1.28%	10:44	6.292	6.171	6.325	6.330	1.346.418				
DSM Koninklijke						46.99	+0.31	+0.66%	10:45	46.645	46.595	47.035	46.660	92.098				
Beleggingsproducten																		
Gemalto						60.000	+0.20	+0.33%	10:45	59.850	59.760	60.090	59.800	50.850				
Goldman Sachs Turbo's																		
Heineken						84.74	+0.02	+0.02%	10:45	84.490	84.410	84.960	84.720	115.904				
ING Sprinters						12.810	-0.04	-0.31%	10:45	12.845	12.765	12.920	12.850	3.592.707				
ING Sprints																		
BNP Paribas Turbo's						3.566	+0.02	+0.45%	10:45	3.550	3.542	3.579	3.550	1.330.094				
NN Groep						32.450	+0.34	+1.04%	10:44	32.195	32.190	32.450	32.115	125.055				



Stemming Damrak

09:45
Altice onderuit in groene AEX

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Beurzen

Amsterdam

Londen

Brussel

Parijs

Frankfurt

New York

Rest Europa

Indices

Beleggingsproducten

Goldman Sachs Turbo's

ING Sprinters

BNP Paribas Turbo's

Why belief updating matters...

- Beliefs: **R**eturn **E**xpectations & **R**isk **P**erceptions
- Drive investment decisions (HPP 2013)

active trading   investment performance 
(Barber & Odean 2000)

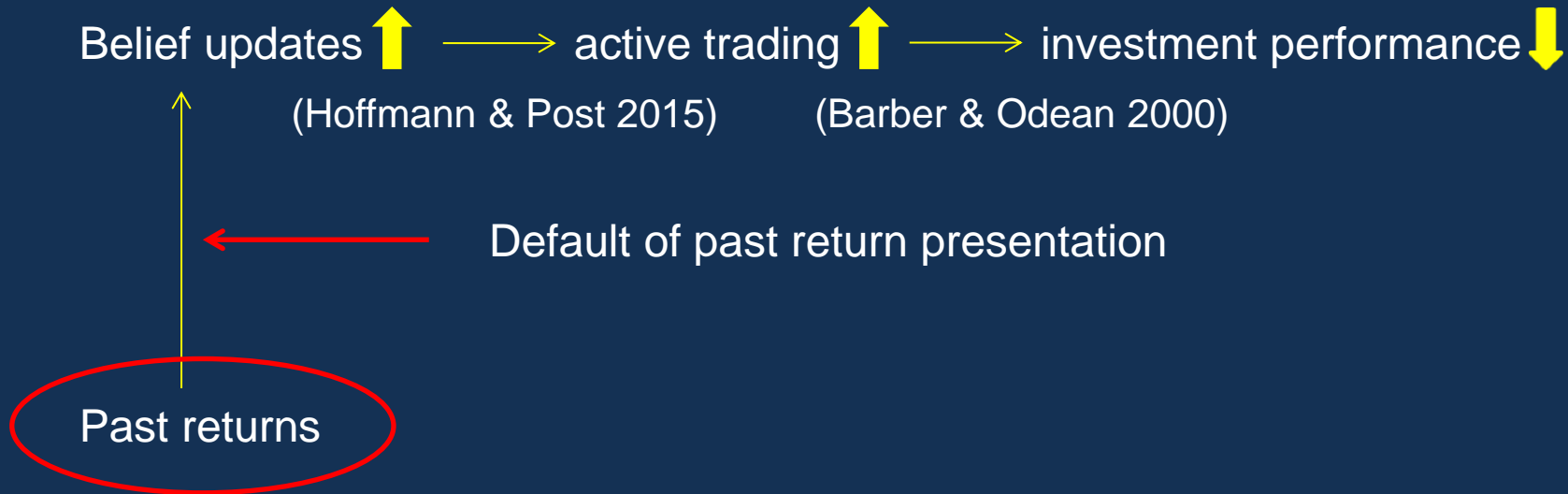
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Default option

- Easy to implement

Your portfolio edit Log out

Select Portfolio: Your portfolio Select Create New

Portfolio News Shares Funds Heatmap Research Allocation Statement Set alert

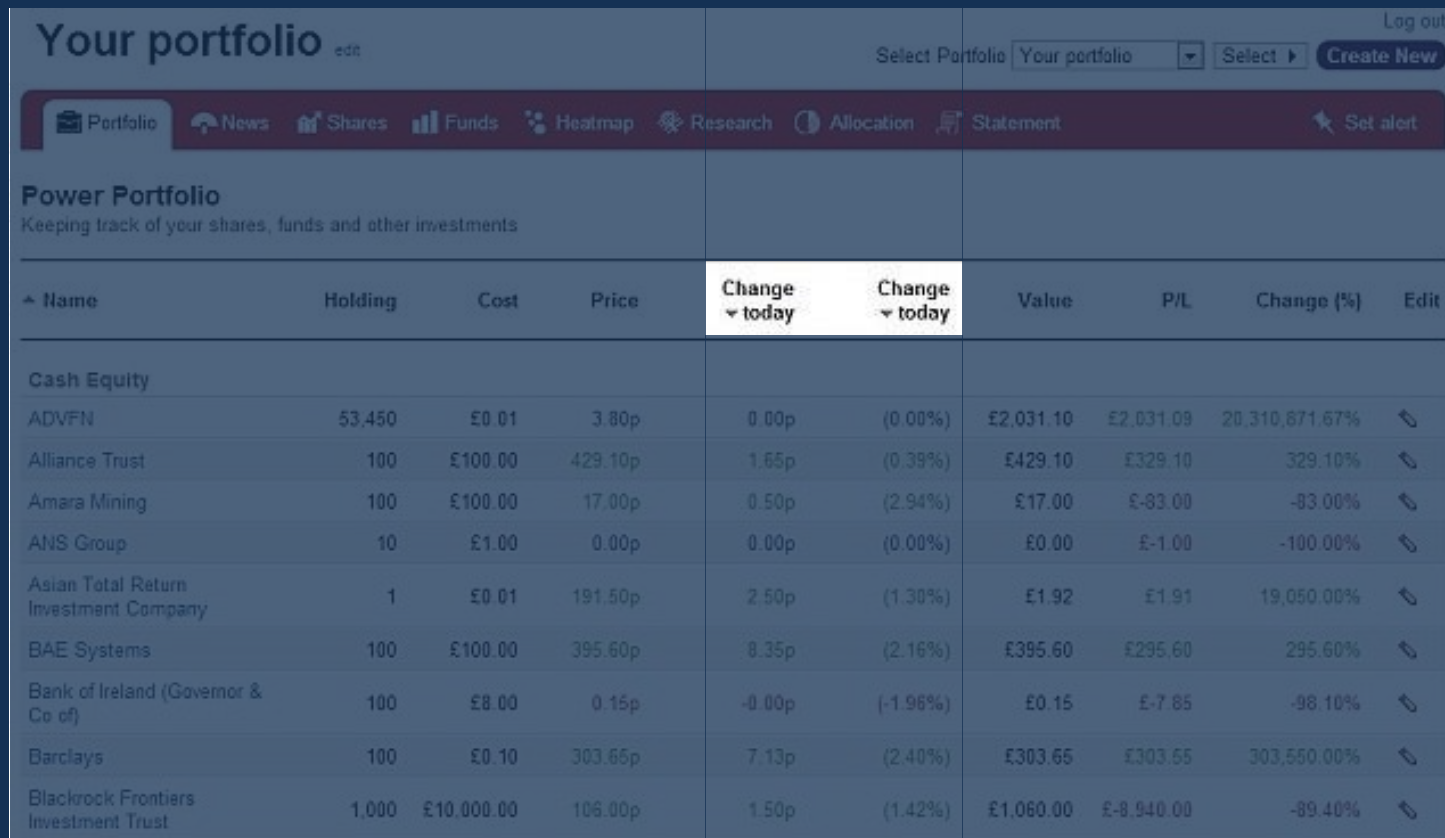
Power Portfolio

Keeping track of your shares, funds and other investments

Name	Holding	Cost	Price	Change today	Change today	Value	P/L	Change (%)	Edit
Cash Equity									
ADVFN	53,450	£0.01	3.80p	0.00p	(0.00%)	£2,031.10	£2,031.09	20,310,671.67%	
Alliance Trust	100	£100.00	429.10p	1.65p	(0.39%)	£429.10	£329.10	329.10%	
Amara Mining	100	£100.00	17.00p	0.50p	(2.94%)	£17.00	£-83.00	-83.00%	
ANS Group	10	£1.00	0.00p	0.00p	(0.00%)	£0.00	£-1.00	-100.00%	
Asian Total Return Investment Company	1	£0.01	191.50p	2.50p	(1.30%)	£1.92	£1.91	19,050.00%	
BAE Systems	100	£100.00	395.60p	8.35p	(2.16%)	£395.60	£295.60	295.60%	
Bank of Ireland (Governor & Co of)	100	£8.00	0.15p	-0.00p	(-1.96%)	£0.15	£-7.85	-98.10%	
Barclays	100	£0.10	303.65p	7.13p	(2.40%)	£303.65	£303.65	303,550.00%	
Blackrock Frontiers Investment Trust	1,000	£10,000.00	106.00p	1.50p	(1.42%)	£1,060.00	£-8,940.00	-89.40%	

Default option

- Easy to implement



The screenshot displays a web interface for managing a portfolio. At the top, it says "Your portfolio" with an "edit" link. To the right, there's a "Select Portfolio" dropdown menu currently set to "Your portfolio", a "Select" button, and a "Create New" button. Below this is a navigation bar with icons for Portfolio, News, Shares, Funds, Heatmap, Research, Allocation, and Statement, along with a "Set alert" button. The main content area is titled "Power Portfolio" with the subtitle "Keeping track of your shares, funds and other investments". Below this is a table with the following columns: Name, Holding, Cost, Price, Change today, Change today, Value, P/L, Change (%), and Edit. The table lists several investments, including Cash Equity, ADVFN, Alliance Trust, Amara Mining, ANS Group, Asian Total Return Investment Company, BAE Systems, Bank of Ireland (Governor & Co of), Barclays, and Blackrock Frontiers Investment Trust.

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Prior work...

- Longer evaluation horizon beneficial for investors:
 - Beshears et al. 2014
 - Looney & Hardin 2009
 - Gneezy & Potters 1997
 - Benartzi & Thaler 1995
- **But:**
 - Impose restrictions
 - Vary available information
 - Limit decision-making freedom

...and our setup

- Realistic
- Easy to implement
- No restriction in information provision
- Only default changes
- Nudge

Experiment(s)

- Lab and MTurk

	1. BeeLab	2. MTurk
– # of subjects:	339	613
– female:	42%	46%
– Mean age:	22	35
– Mean completion time:	7 min.	6 min.

- Stock portfolio

- 6 evaluation rounds

- 3 default information horizons:

– Daily	(114)	(102) & (104)
– Monthly	(113)	(98) & (104)
– Yearly	(112)	(100) & (105)

portfolio performance

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- Lab and MTurk

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- female:
- Mean age:
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1. BeeLab

339
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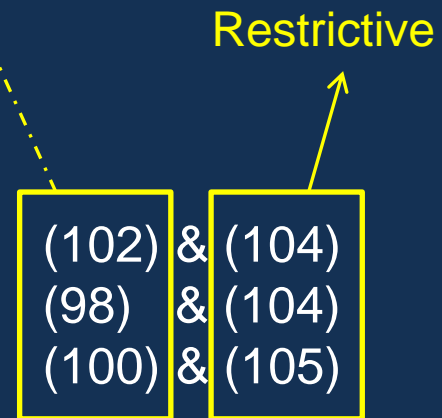
2. MTurk

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- Stock portfolio
- 6 evaluation rounds
- 3 default information horizons:

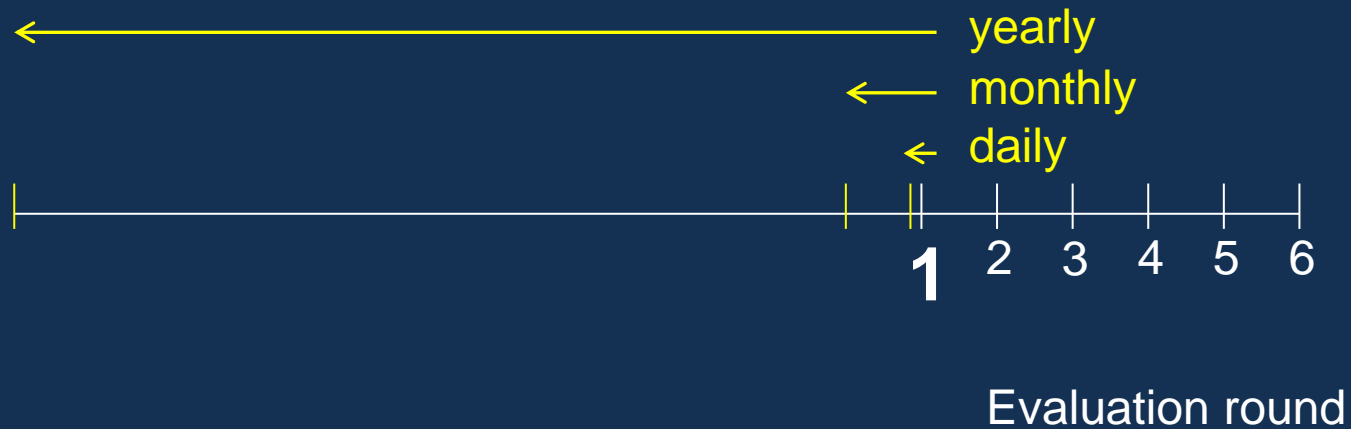
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portfolio performance



Experiment

- How it works



Experiment

- How it works

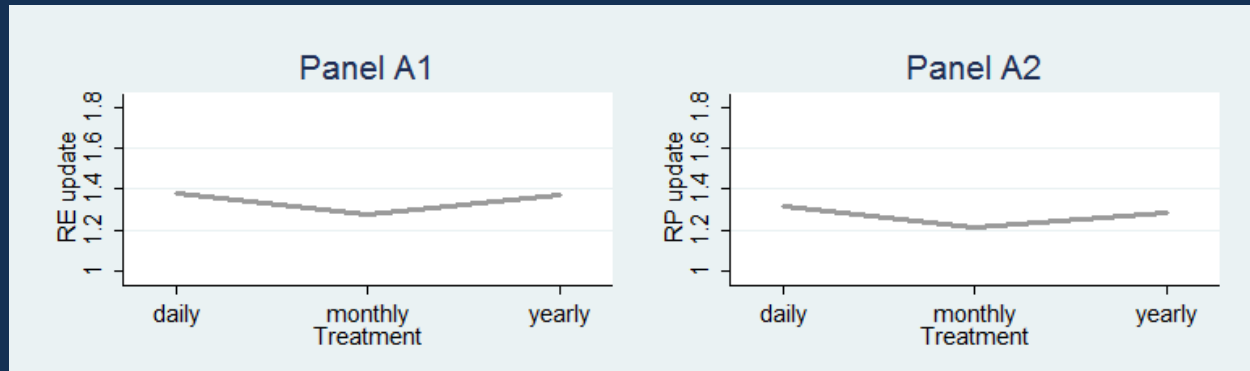


Experiment

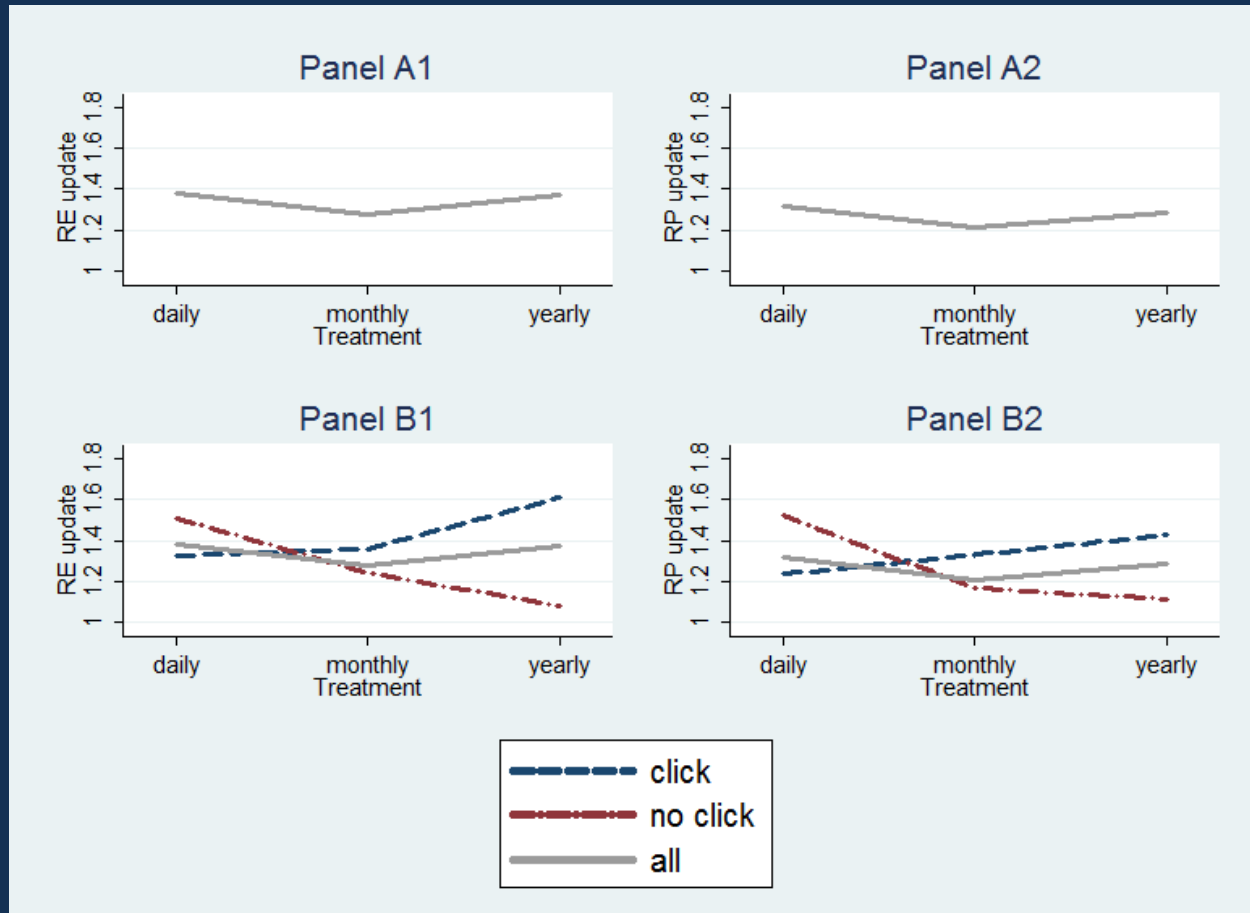
- How it works



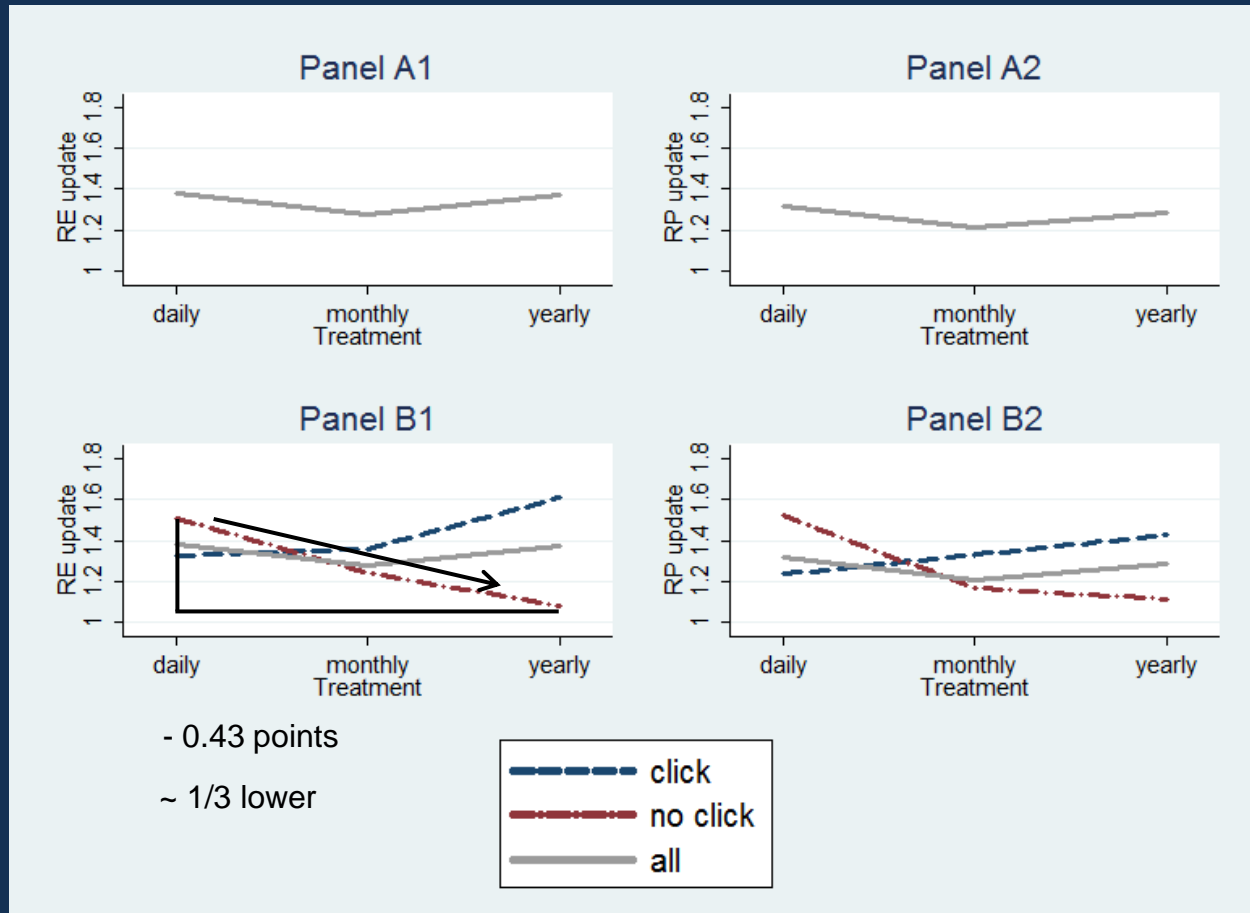
Lab: Belief updating across treatments



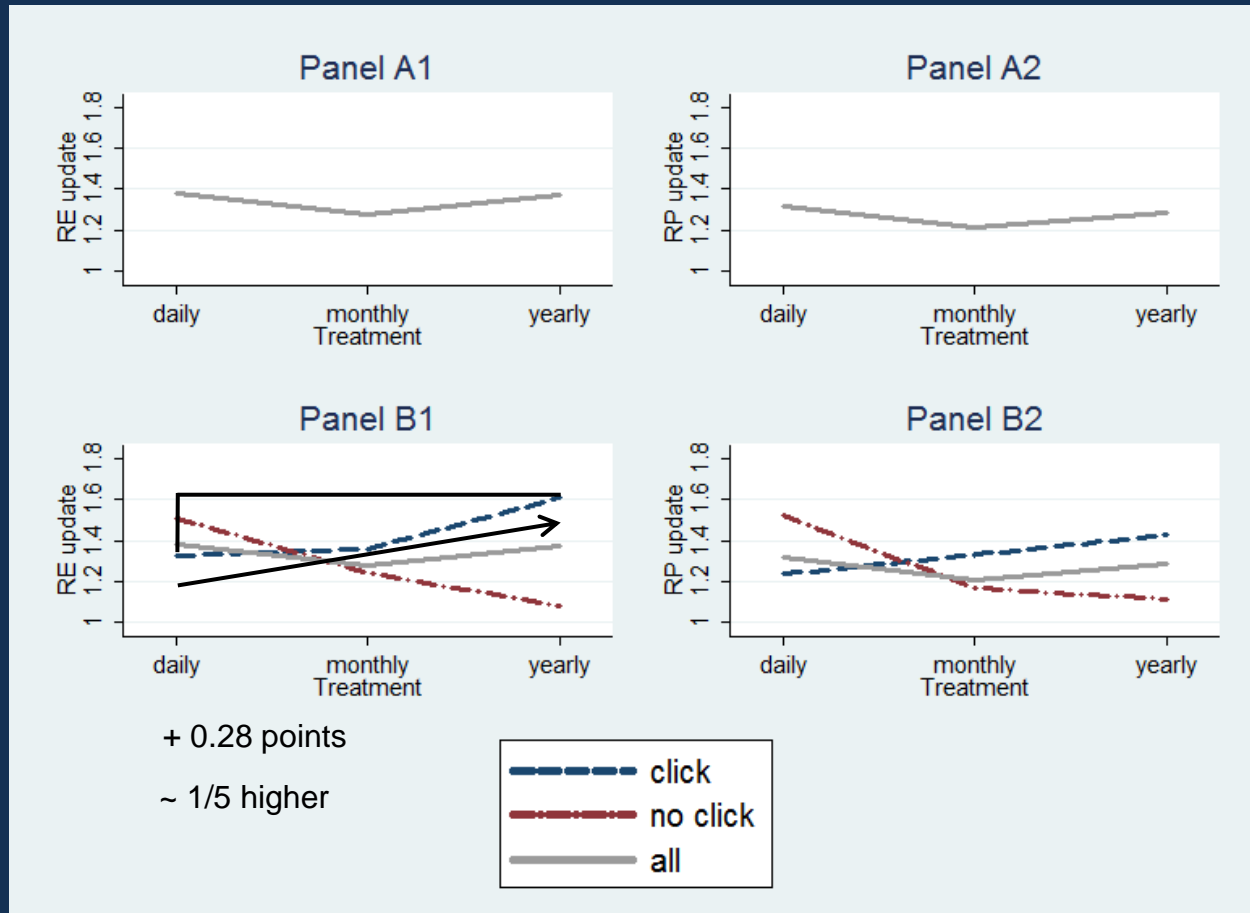
Lab: Belief updating and opting out



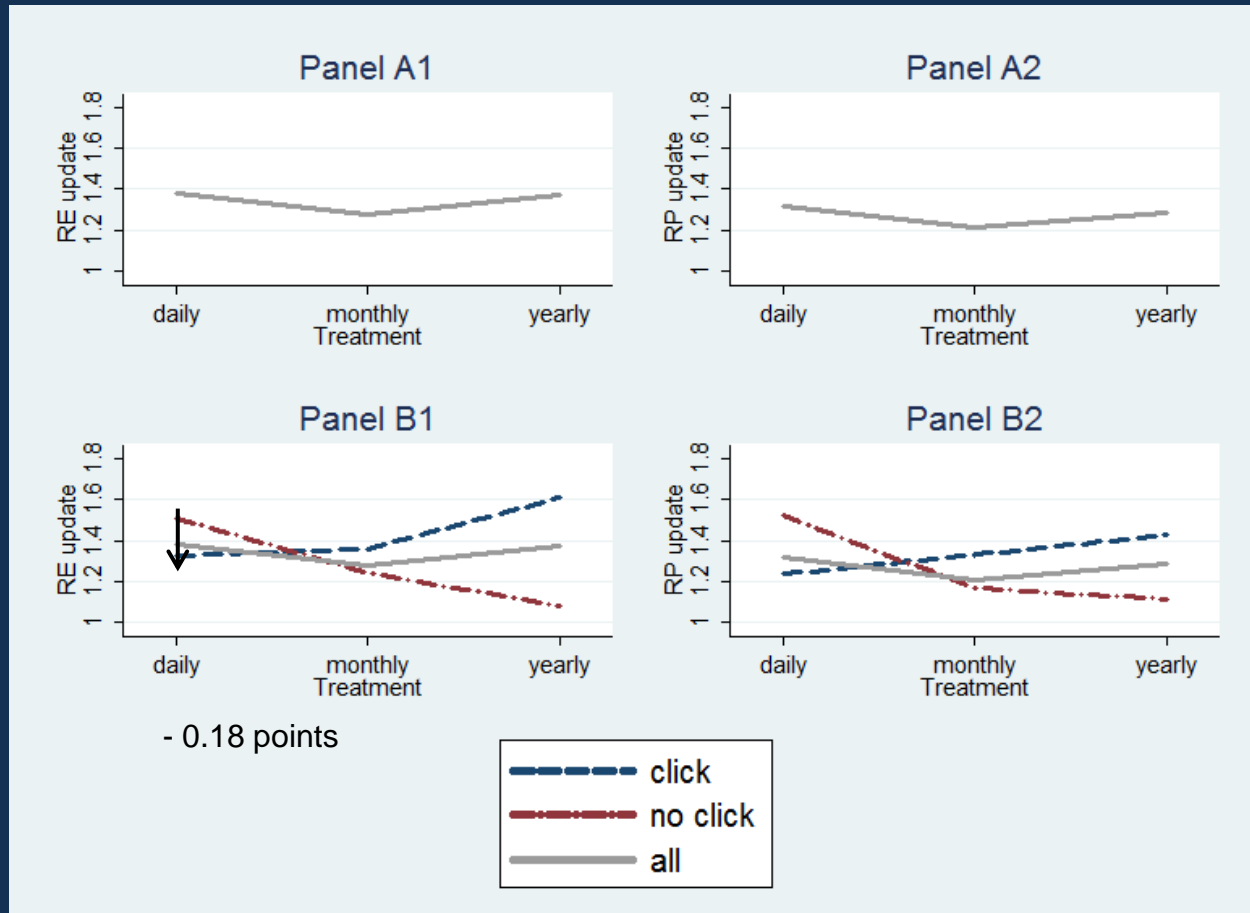
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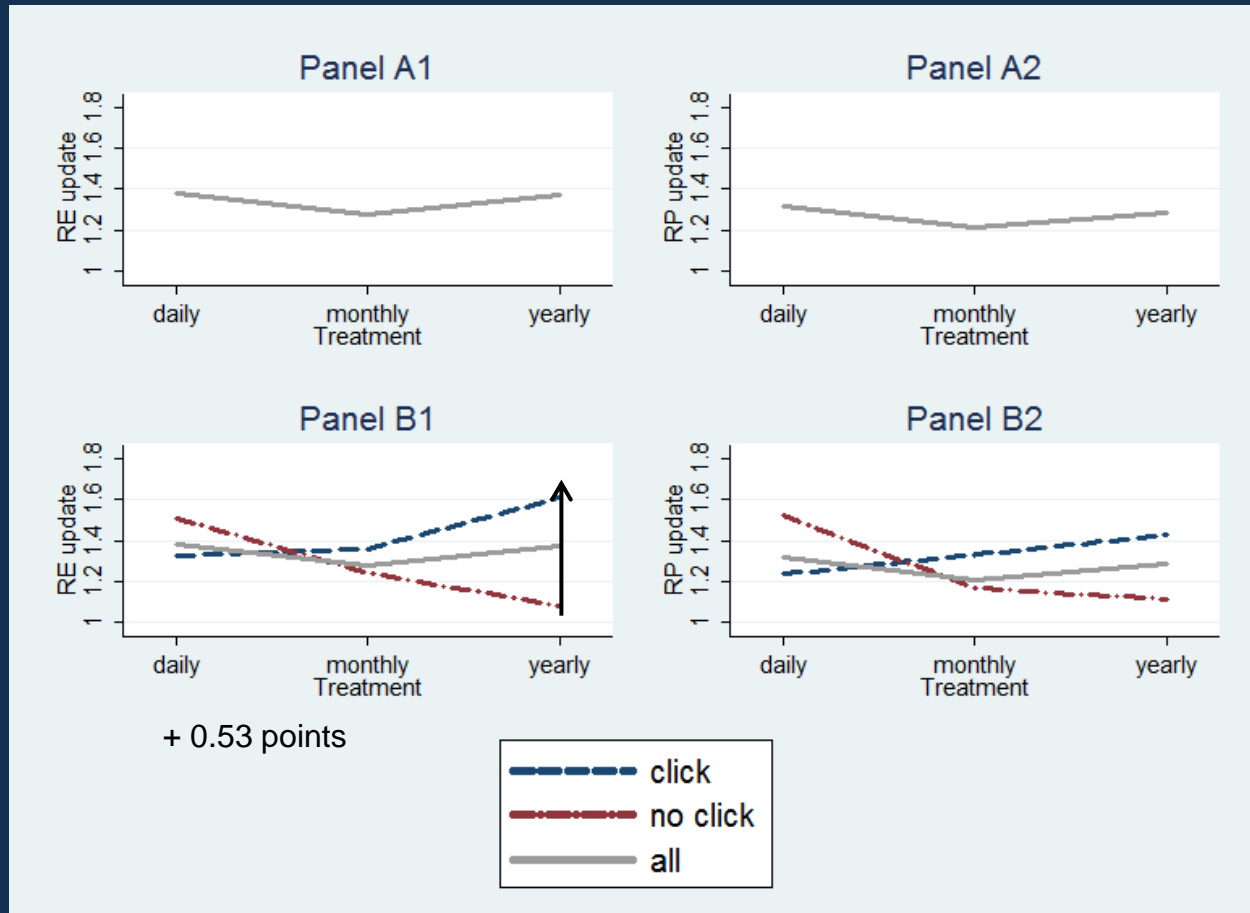
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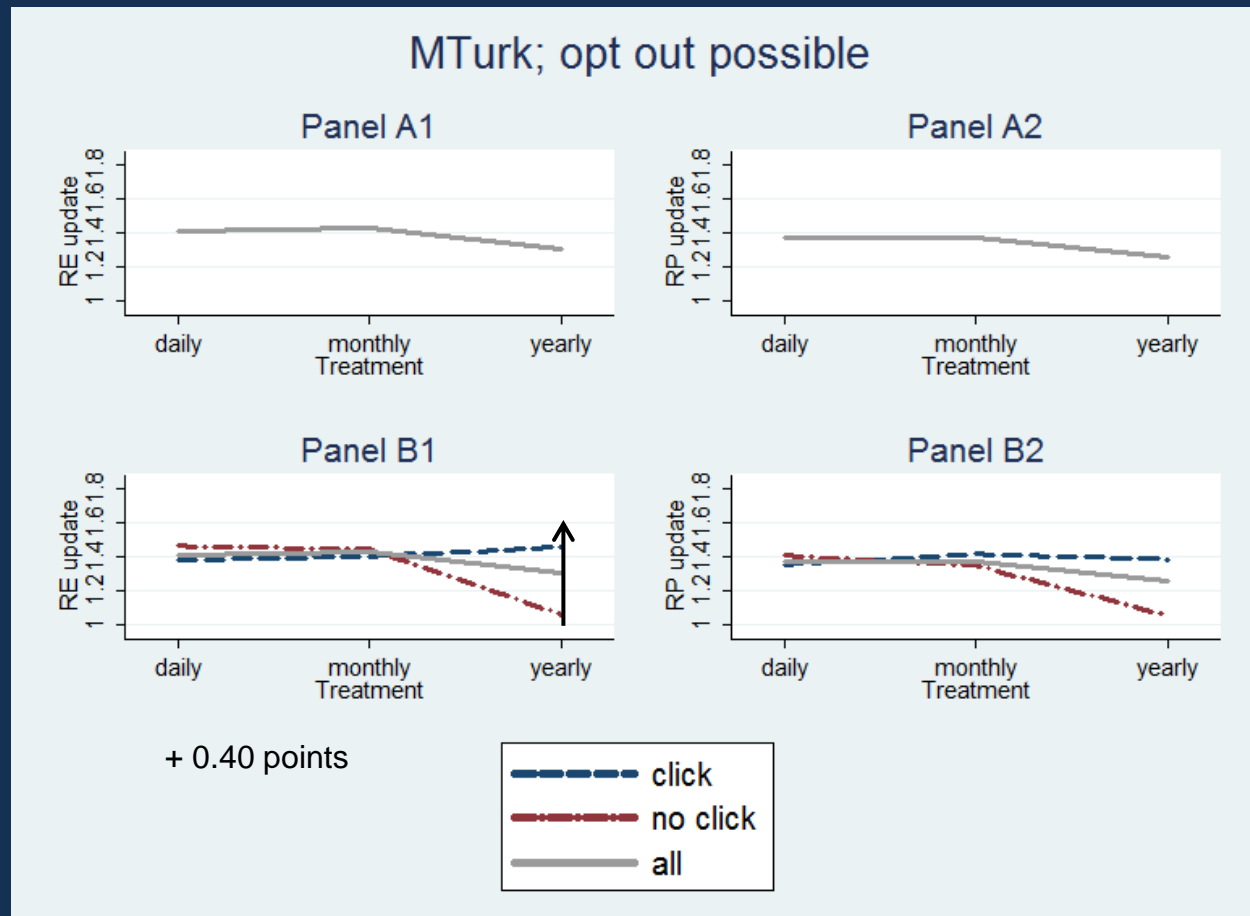
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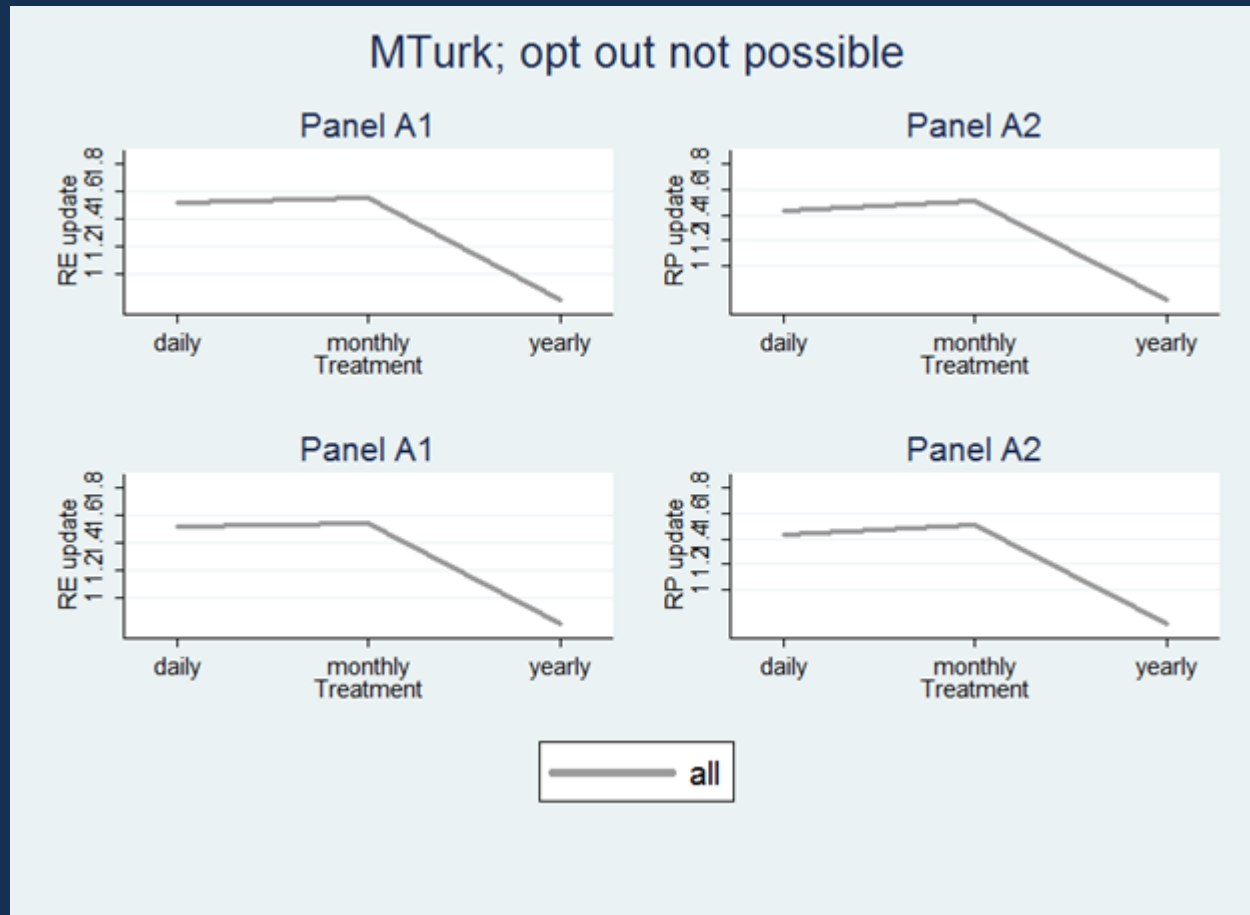
Who opts out?

	average click
Age	-0.01 (0.01)
Gender	-0.05 (0.04)
Risk aversion	-0.02* (0.01)
Financial literacy	0.03** (0.01)
Treatment: daily	0.44*** (0.04)
Treatment: yearly	0.28*** (0.04)
Constant	0.49*** (0.16)
Observations	339
adjusted R ²	0.24

MTurk: Belief updating and opting out



MTurk: Belief updating; **NO** opting out



Summary

- Default on average does not impact magnitude of belief updating
 - Split based on opting out:
 - Longer horizon reduces belief updating if staying in default
 - Shorter horizon reduces belief updating when opting out
 - Longer information horizon not beneficial if:
 - immediate access to alternative information horizons
 - Opting out is easy
- ➔ Default horizon to be tailored to investors

Table 3: Belief updating across treatments

	all	click	no click	difference	t-stat	p-value
Panel A1: mean absolute changes in return expectations						
daily	1.38	1.33	1.51	-0.18	-2.63	0.01***
monthly	1.27	1.36	1.24	0.12	1.88	0.06*
yearly	1.38	1.61	1.08	0.53	9.22	0.00***
Panel A2: average within subject standard deviation of return expectations						
daily	1.21	1.16	1.32	-0.16	-3.07	0.00***
monthly	1.18	1.26	1.15	0.11	2.22	0.03**
yearly	1.24	1.40	1.05	0.35	7.42	0.00***
Panel B1: mean absolute changes in risk perceptions						
daily	1.32	1.24	1.52	-0.29	-4.14	0.00***
monthly	1.21	1.33	1.17	0.16	2.60	0.01***
yearly	1.29	1.43	1.11	0.31	5.20	0.00***
Panel B2: average within subject standard deviation of risk perceptions						
daily	1.21	1.16	1.31	-0.15	-2.68	0.01***
monthly	1.12	1.23	1.08	0.14	2.86	0.00***
yearly	1.25	1.36	1.10	0.26	5.18	0.00***