

Internet Appendix to "Do Individual Investors Have Asymmetric Information Based on Work Experience?"*

Trond M. Døskeland and Hans K. Hvide

This Internet Appendix includes additional material to the paper "Do Individual Investors Have Asymmetric Information Based on Work Experience?".

- Table IA.I: Summary Statistics for Transactions
- Table IA.II: Excess Weight and Industries
- Table IA.III: Excess Weight Given More Than One Stock
- Table IA.IV: Determinants of Preference for Expertise Stock Measured by w_i^{act}
- Table IA.V: Determinants of Preference for Expertise Stock (Tobit Regressions)
- Table IA.VI: Correlation Matrix
- Table IA.VII: Education, Control-firm Analysis
- Table IA.VIII: Local Trades, Control-firm Analysis

*Citation format: Trond M. Døskeland and Hans K. Hvide 2011, Internet Appendix to "Do Individual Investors Have Asymmetric Information Based on Work Experience?", *Journal of Finance* LXVI, 1011-1041, <http://www.afajof.org/supplements.asp>. Please note: Wiley-Blackwell is not responsible for the content or functionality of any supporting information supplied by the authors. Any queries (other than missing material) should be directed to the authors of the article.

Table IA.I
Summary Statistics for Transactions

The table reports summary statistics for the sample transactions. In Panel A we report the number of transactions for different calendar-time portfolios, while in Panel B we report the value of trades for the different calendar-time portfolios. The figures are reported in billion NOK.

Panel A: Number of Trades				
Year	Expertise Trade		Non-expertise Trade	
	Buy	Sell	Buy	Sell
1996	5,730	4,136	73,649	57,618
1997	9,160	8,299	95,931	95,679
1998	7,889	5,656	79,685	72,101
1999	12,480	10,887	113,887	120,026
2000	23,209	19,896	233,303	221,158
2001	24,397	20,547	263,951	218,965
2002	18,281	14,145	203,541	168,648
2003	18,240	18,466	201,971	191,292
2004	23,106	20,328	270,785	249,943
2005	32,986	26,462	351,747	326,605
Total	175,478	148,822	1,888,440	1,722,035

Panel B: Value of Trades, NOK billion				
Year	Expertise Trade		Non-expertise Trade	
	Buy	Sell	Buy	Sell
1996	.5	.6	8.3	8.5
1997	.8	1.1	14.1	15.3
1998	.8	.8	9.2	9.6
1999	1.4	1.4	17.4	15.8
2000	2.6	2.3	28.1	29.1
2001	2.4	2.5	31.5	31.5
2002	1.6	1.5	19.9	19.7
2003	1.5	1.4	23.8	23.2
2004	2.5	2.5	38.4	39.0
2005	5.5	5.5	81.3	82.3
Total	19.6	19.4	272.6	273.3

Table IA.II
Excess Weight and Industries

The table reports average estimates for the excess weight in expertise stocks sorted by industries for 1996 to 2005. The industries are listed with SIC codes in parentheses. The Companies column shows the average number of companies listed on the OSE within this sector. The benchmark $w^{mkt,1}$ represents the actual weight less the expertise sectors' share of total equity owned by individual investors ($w^{mkt,1}$), and the benchmark $w^{mkt,2}$ measures the actual weight less the expertise sectors' share of total outstanding equity. The next columns show the excess weight $w^{corr,1}$ for the different sectors. Own-company stock holdings by employees in listed and subsidiary companies and holdings in the previous employer for the last 10 years are excluded.

Two-digit SIC code	Market			Bias	
	Companies	$w^{mkt,1}$	$w^{mkt,2}$	$w^{corr,1}$	N
Fishing, fish farming, incl. services (5)	2.7	.018	.004	.167	3,490
Oil and gas extraction, incl. serv. (11)	25.0	.124	.221	.138	42,886
Mining of metal ores (13)	1.6	.004	.001	.022	330
Food products and beverages (15)	7.6	.062	.040	.212	22,423
Textile products (17)	1.0	.001	.000	.051	755
Wood and wood products (20)	3.5	.013	.015	.208	6,679
Pulp, paper and paper products (21)	3.0	.011	.014	.091	4,905
Publishing, printing, reproduction (22)	6.3	.043	.044	.099	15,787
Chemicals and chemical products (24)	5.6	.082	.166	.342	21,326
Rubber and plastic products (25)	1.0	.004	.001	.013	810
Other non-metallic mineral prod. (26)	1.7	.005	.007	.006	5,028
Basic metals (27)	4.4	.050	.108	.005	10,963
Fabricated metal products (28)	1.3	.004	.001	.021	8,799
Machinery and equipment (29)	9.5	.040	.018	.058	15,998
Office machinery and computers (30)	1.5	.004	.001	.076	859
Electrical machinery and apparatus (31)	3.9	.010	.004	.021	5,652
Radio, TV, communication equip (32)	8.3	.032	.014	.160	4,301
Instruments, watches and clocks (33)	6.3	.012	.006	.020	5,459
Motor vehicles, trailers, semi-tr.(34)	1.6	.001	.001	.010	1,707
Other transport equipment (35)	3.9	.021	.021	.224	25,130
Furniture, manufacturing (36)	3.1	.013	.003	.020	4,980
Electricity, gas and water supply (40)	3.1	.006	.007	.032	12,793
Water supply (41)	1.0	.001	.000	-.001	296
Construction (45)	2.8	.018	.003	-.003	55,871
Motor vehicle services (50)	1.0	.000	.000	-.000	1,243
Wholesale trade, commision trade (51)	14.9	.035	.012	.025	68,385
Retail trade, repair personal goods (52)	5.1	.017	.006	.009	44,314
Hotels and restaurants (55)	1.3	.010	.001	-.009	13,666
Land transport, pipeline transport (60)	2.5	.010	.003	.013	16,025
Water transport (61)	39.6	.077	.095	.172	19,292
Air transport (62)	2.3	.003	.007	.065	8,326
Post and telecommunications (64)	5.2	.028	.046	.118	17,828
Real estate activities (70)	6.5	.007	.008	.007	16,455
Renting of machinery and equip. (71)	1.0	.004	.002	.017	832
Computers and related activities (72)	19.5	.062	.019	.223	33,387
Research and development (73)	3.4	.013	.005	.017	10,392
Other business activities (74)	9.0	.020	.007	.007	96,519
Cultural and sporting activities (92)	2.1	.003	.001	.005	12,703
Total				0.074	636,594

The table above reports the means of actual weights, market weights, and deviations from market weights across industries, and shows that industry outliers do not drive our finding of an expertise bias. While our first measure of excess weight, w_i^{act} , is positively correlated with w_i^{mkt} , the second measure of bias, w_i^{corr} , is quite consistent across industries. Sector 74 (other business activities) picks up all the non-identifiable companies. The excess weight in this sector is almost equal to zero, which suggests that there is no systematic bias in our results.

Table IA.III
Excess Weight Given More Than One Stock

The table reports summary statistics for different measures of excess weight in expertise stocks at year-end for the period 1996 to 2005. An investor has to hold more than one stock. A stock is defined as an expertise stock for an individual if it has the same SIC code as the employer of that individual at year-end. Panels A and B include three different measures of expertise bias. w^{act} is defined as the average weight in expertise stocks across investors. $w^{corr,1}$ is equal to w^{act} less the average market weight of the industry, calculated as individual holdings in that industry relative to total individual holdings across all industries. $w^{corr,2}$ is equal to w^{act} less the average market weight of the industry, calculated as the market capitalization of that industry relative to the market capitalization of the OSE. The sample consists of individual-years in which the individual has at least NOK 5000 in stock holdings and works in an industry with at least one listed company. We split the individuals into two groups: individuals that work in a private (non-listed) company and individuals that work in a public (listed) company. Individuals in subsidiaries of public companies are included in that group. Panel A includes holdings of previous- and current-company stocks, while in Panel B current- and previous-(10-year) employer and subsidiary stocks are excluded.

Benchmark		Two-digit SIC				
		Mean	Std. Dev.	Median	5%	95%
Panel A: Not corrected for own-company stock						
All						
w^{act}		.195	.341	0	0	.996
$w^{corr,1}$	$w^{mkt,1}$	.152	.314	-.003	-.074	.891
$w^{corr,2}$	$w^{mkt,2}$	.156	.325	-.011	-.067	.911
Number of unique ind. = 111,589		Observations N = 417,205				
Private						
w^{act}		.092	.238	0	0	.780
$w^{corr,1}$	$w^{mkt,1}$	.066	.224	-.049	-.072	.689
$w^{corr,2}$	$w^{mkt,2}$	.061	.228	-.016	-.068	.715
Number of unique ind. = 90,071		Observations N = 313,964				
Public						
w^{act}		.507	.410	.563	0	1
$w^{corr,1}$	$w^{mkt,1}$	.416	.392	.440	-.085	.973
$w^{corr,2}$	$w^{mkt,2}$	.446	.398	.490	-.055	.964
Number of unique ind. = 33,726		Observations N = 103,241				
Panel B: Corrected for previous- and current-employer stock						
All						
w^{act}		.100	.257	0	0	.904
$w^{corr,1}$	$w^{mkt,1}$	.058	.248	-.006	-.173	.763
$w^{corr,2}$	$w^{mkt,2}$	.062	.248	-.016	-.099	.822
Number of unique ind. = 108,961		Observations N = 388,576				
Private						
w^{act}		.082	.225	0	0	.706
$w^{corr,1}$	$w^{mkt,1}$	.055	.212	-.005	-.074	.627
$w^{corr,2}$	$w^{mkt,2}$	.051	.215	-.016	-.069	.644
Number of unique ind. = 88,401		Observations N = 295,666				
Public						
w^{act}		.160	.334	0	0	1
$w^{corr,1}$	$w^{mkt,1}$	.066	.336	-.012	-.277	.910
$w^{corr,2}$	$w^{mkt,2}$	.098	.329	-.025	-.125	.917
Number of unique ind. = 32,306		Observations N = 92,910				

Table IA.IV
Determinants of Preference for Expertise Stock Measured by w_i^{act}

The table reports the results of pooled cross-sectional regressions of excess weight in expertise stocks, as measured by w_i^{act} . Industry experience is defined as the percentage of the last seven years that the individual has worked in the industry. General work experience is defined as number of years since the individual completed their education. The part time dummy is equal to one if the individual works less than 30 hours per week, and zero otherwise. Unemployed is a dummy equal to one if the individual has been unemployed one or more months during the last year, and zero otherwise. Listed is a dummy equal to one if the individual works in a listed company or a subsidiary of a listed company, and zero otherwise. Portfolio diversification is the logarithm of the number of stocks held by the investor at the end of the year. Number of stocks in industry is the number of listed companies in the industry. The local bias measure is defined as the fraction invested in companies headquartered within 100 km of the individual less the fraction of the market within the same radius. The period covered is 1996 to 2005. Huber-White robust standard errors allow for clustering of errors by individuals. t -statistics are reported in parentheses.

	Excess weight in expertise stocks, as measured by w_i^{act}			
	(1)	(2)	(3)	(4)
Industry experience	.0124 (7.9)	.0210 (12.3)	.0200 (11.8)	.0126 (8.0)
General work experience		-.0004 (-5.3)	-.0004 (-6.0)	
Length of education		-.0009 (-4.4)	-.0007 (-3.4)	
Part-time dummy		-.0111 (-7.2)	-.0098 (-6.3)	
Unemployed dummy		-.0127 (-6.2)	-.0121 (-5.9)	
ln (Income)		.0187 (20.8)	.0195 (21.6)	
ln (Gross wealth)		-.0162 (-29.1)	-.0123 (-20.1)	
Female		.0161 (9.1)	.0129 (7.4)	
Listed company		-.0046 (-2.4)	.0008 (.5)	
ln (Value stock portfolio)			.0011 (2.0)	
Portfolio diversification			-.0263 (-29.1)	
Number of stocks in industry			.0080 (34.7)	
Local bias				-.0099 (-5.9)
Intercept	.1978 (20.3)	.2064 (21.2)	.2013 (20.8)	.2005 (20.5)
Year and industry dummies	Yes	Yes	Yes	Yes
N	636,594	627,477	627,477	634,606
N (clusters)	171,500	169,669	169,669	171,018
R ²	.167	.172	.179	.168

Table IA.V

Determinants of Preference for Expertise Stock (Tobit Regressions)

The table reports the results of pooled cross-sectional Tobit regressions of excess weight in expertise stocks, as measured by w_i^{corr} . Industry experience is defined as the percentage of the last seven years that the individual has worked in the industry. General work experience is defined as number of years since the individual completed their education. The part time dummy is equal to one if the individual works less than 30 hours per week, and zero otherwise. Unemployed is a dummy equal to one if the individual has been unemployed one or more months during the last year, and zero otherwise. Listed is a dummy equal to one if the individual works in a listed company or a subsidiary of a listed company, and zero otherwise. Portfolio diversification is the logarithm of the number of stocks held by the investor at the end of the year. Number of stocks in industry is the number of listed companies in the industry. The local bias measure is defined as the fraction invested in companies headquartered within 100 km of the individual less the fraction of the market within the same radius. The period covered is 1996 to 2005. t -statistics are reported in parentheses.

	Excess weight in expertise stocks, as measured by w_i^{corr}			
	(1)	(2)	(3)	(4)
Industry experience	.0125 (11.9)	.0210 (12.3)	.0202 (17.9)	.0127 (8.0)
General work experience		-.0003 (-9.2)	-.0004 (-10.3)	
Length of education		-.0009 (-8.0)	-.0007 (-6.2)	
Part-time dummy		-.0110 (-9.2)	-.0097 (-8.1)	
Unemployed dummy		-.0121 (-6.3)	-.0115 (-5.9)	
ln (Income)		.0187 (28.5)	.0195 (29.7)	
ln (Gross wealth)		-.0162 (-48.2)	-.0123 (-33.0)	
Female		.0158 (17.1)	.0127 (13.7)	
Listed company		-.0071 (-7.3)	-.0018 (-1.8)	
ln (Value stock portfolio)			.0009 (2.9)	
Portfolio diversification			-.0260 (-45.9)	
Number of stocks in industry			.0061 (40.5)	
Local bias				-.0097 (-10.6)
Intercept	.1758 (38.0)	.1846 (39.7)	.1810 (39.1)	.1783 (38.2)
Year and industry dummies	Yes	Yes	Yes	Yes
N	636,594	627,477	627,477	634,606
R ²	.438	.463	.487	.440

Table IA.VI
Correlation Matrix

The table shows the correlation matrix of the independent variables in Table V in the paper.

	N=627,477	Ind.exp.	Gen. exp.	Educ.	Part	Unem.	Inc.	Wea.	Wo	List.	Sto.	Div.	N.ofS.
Industry experience	1.00												
General work experience	.327		1.00										
Length of education	-.053		-.193	1.00									
Part-time dummy	-.108		-.022	-.101	1.00								
Unemployed	-.109		-.046	-.044	.035	1.00							
ln (Income)	.155		.151	.240	-.388	-.110	1.00						
ln (Gross Wealth)	.196		.351	.108	-.102	-.074	.400	1.00					
Female	-.028		.011	-.085	.248	.010	-.273	-.207	1.00				
Listed company	.031		-.026	.056	-.104	-.034	.155	-.037	-.042	1.00			
ln (Value stock portfolio)	.067		.139	.087	-.026	-.029	.210	.484	-.091	.095	1.00		
ln (Portfolio Diversification)	.038		.056	.097	-.049	-.021	.163	.280	-.131	.120	.547	1.00	
Numbers of stocks in industry	-.012		-.023	.096	-.118	-.030	.216	.045	-.062	.132	.049	.058	1.00

Table IA.VII
Returns, Control-firm Analysis

Average excess (returns minus the risk-free interest rate) returns in basis points are calculated for the five, 10, 21, 42, and 84 trading days following purchases and sales in the data set's trades file. Only trades performed by investors with more than 16 years of education are investigated. The fictitious benchmark consists of fictitious non-expertise trades from the same size/market-to-book category. Using a bootstrapped empirical distribution for the difference in returns following buys and following sells, the null hypothesis of zero difference in returns can be rejected with the given p -values. ***,**,* denotes significance at the 1%, 5%, and 10% level, two-sided test.

	Average Returns (b.p)				
	1 week	2 weeks	4 weeks	2 months	4 months
Panel A: Expertise Buys					
Expertise Buy	33.7	58.5	118.1	88.4	64.1
Fictitious (non-expertise)	41.6	71.8	150.6	186.2	319.1
Difference Buy- Fictitious	-7.9	-13.3**	-32.5***	-97.8***	-255.0***
p	.11	.04	.00	.00	.00
Panel B: Expertise Buys - Expertise Sells					
Difference	-15.2**	-29.6***	-48.1***	-67.1***	-100.8***
p	.03	.00	.00	.00	.00
Panel C: Expertise Buys - Non-expertise Buys					
Difference	-.8	-1.9	3.4	-30.8**	-76.3***
p	.86	.76	.72	.03	.00
Panel D: (Expertise Buys - Expertise Sells)- (Non-expertise Buys - Non-expertise Sells)					
Difference	-10.5	-17.0	-24.6	-45.6*	-58.9*
p	.17	.10	.11	.06	.06

Table IA.VIII
Summary Statistics for Transactions

Average excess (returns minus the risk-free interest rate) returns in basis points are calculated for the five, 10, 21, 42, and 84 trading days following purchases and sales in the data set's trades file. Only trades in a company that is headquartered within 100 kilometers of the residence of the investor are investigated. The fictitious benchmark consists of fictitious non-expertise trades from the same size/market-to-book category. Using a bootstrapped empirical distribution for the difference in returns following buys and following sells, the null hypothesis of zero difference in returns can be rejected with the given p -values. ***,**,* denotes significance at the 1%, 5%, and 10% level, two-sided test.

	Average Returns (b.p)				
	1 week	2 weeks	4 weeks	2 months	4 months
Panel A: Expertise Buys					
Expertise Buy	-12.7	-30.5	-53.9	-219.2	-503.0
Fictitious (non-expertise)	31.1	54.0	103.5	118.5	190.8
Difference Buy- Fictitious	-43.8***	-84.5***	-157.4***	-337.7***	-693.8***
p	.00	.00	.00	.00	.00
Panel B: Expertise Buys - Expertise Sells					
Difference	-12.9***	-29.0***	-48.2***	-79.0***	-138.0***
p	.00	.00	.00	.00	.00
Panel C: Expertise Buys - Non-expertise Buys					
Difference	-.4	.6	-1.7	-33.8***	-87.5***
p	.90	.89	.80	.00	.00
Panel D: (Expertise Buys - Expertise Sells) - (Non-expertise Buys - Non-expertise Sells)					
Difference	-3.6	-9.9	-12.5*	-22.3	-32.2
p	.43	.13	.18	.08	.11