Internet Appendix

Implied Volatility Duration: A Measure for the Timing of Uncertainty Resolution

Additional Tables

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Table C.1: **Alternative investment strategies**

Panel A: *Maximum diff. IV_{365}: 0.01*

Min. diff. IV_{30}	low IV_{30}	high IV_{30}	difference	avg. number of stocks
0.05	11.66***	10.34**	1.33**	1641
	(2.86)	(2.35)	(2.24)	
0.10	11.60**	9.32*	2.28**	900
	(2.57)	(1.86)	(2.50)	
0.15	11.53**	7.85	3.68***	525
	(2.35)	(1.44)	(2.98)	
0.20	11.07**	6.83	4.24***	329
	(2.16)	(1.19)	(2.83)	
0.25	10.86**	5.70	5.17***	220
	(2.06)	(0.97)	(3.10)	
0.30	11.10**	4.96	6.15***	154
	(1.99)	(0.83)	(3.30)	
0.35	11.67**	4.03	7.65***	113
	(2.06)	(0.67)	(3.46)	

Panel B: *Maximum diff. IV_{365}: 0.001*

Min. diff. IV_{30}	low IV_{30}	high IV_{30}	difference	avg. number of stocks
0.05	11.84***	10.71**	1.13*	1273
	(2.94)	(2.48)	(1.95)	
0.10	11.41***	9.50**	1.91**	649
	(2.58)	(1.97)	(2.48)	
0.15	11.41**	8.44	2.97***	354
	(2.36)	(1.59)	(2.37)	
0.20	11.39**	7.74	3.65***	210
	(2.24)	(1.40)	(2.60)	
0.25	11.99**	6.44	5.55***	134
	(2.20)	(1.14)	(3.07)	
0.30	13.45**	6.46	6.99***	91
	(2.33)	(1.08)	(3.87)	
0.35	12.48**	6.90	5.58**	65
	(2.14)	(1.11)	(2.50)	

Table continues on next page

Continued: **Alternative investment strategies**

Panel C: *Maximum diff. IV_{365}: no restriction*

Min. diff. IV_{30}	low IV_{30}	high IV_{30}	difference	avg. number of stocks
0.05	12.47***	10.11*	2.36	2299
	(3.97)	(1.95)	(0.79)	
0.10	12.44***	9.93*	2.52	2164
	(4.02)	(1.84)	(0.75)	
0.15	12.44***	9.68*	2.75	1977
	(4.10)	(1.72)	(0.73)	
0.20	12.46***	9.35	3.10	1770
	(4.17)	(1.59)	(0.74)	
0.25	12.42***	9.07	3.34	1557
	(4.24)	(1.47)	(0.72)	
0.30	12.25***	8.70	3.55	1351
	(4.28)	(1.35)	(0.70)	
0.35	12.22***	8.25	3.97	1160
	(4.35)	(1.23)	(0.73)	

Panel D: *Different Brackets IV_{30}, Maximum diff. IV_{365}: 0.01*

Diff. IV_{30}	low IV_{30}	high IV_{30}	difference	avg. number of stocks
≤ 0.001	12.23***	12.32***	−0.09	1160
	(3.51)	(3.53)	(-0.84)	
0.001-0.05	11.78***	11.13***	0.64***	1957
	(3.00)	(2.78)	(2.69)	
0.05-0.15	11.60***	10.34**	1.26**	1553
	(2.82)	(2.35)	(2.36)	
0.15-0.25	11.41**	8.24	3.17***	481
	(2.31)	(1.51)	(2.92)	
> 0.25	10.86**	5.70	5.17***	220
	(2.06)	(0.97)	(3.10)	

The table shows summary return statistics of the investment strategy for different maximum differences between IV_{365} and minimum differences in IV_{30} for candidate stocks for pairs in the context of the trading strategy described in Section 3. Numbers in parentheses are t-statistics adjusted according to Newey and West (1987) with 12 lags. The results reported here refer to the median strategy (see Appendix A). ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively. The right column shows the average number of stocks that are assigned to pairs, rounded to the nearest integer. The average absolute number of stocks in our sample is 2331. Note that the numbers in the right column in Panel D need not add up to 2331 because while the sample of pairs is split up in disjoint sets, stocks can simultaneously be part of several pairs in disjoint sets of pairs. The sample formation period is 01/1996 to 12/2014.

Table C.2: **Returns on investment strategy based on pairs**

Month	Low IV_{30}	High IV_{30}	Investment strategy
1	0.79	0.35	0.44**
	(1.38)	(0.54)	(1.97)
2	0.99*	-0.11	1.10***
	(1.67)	(-0.16)	(4.12)
3	0.78	0.26	0.51*
	(1.33)	(0.40)	(1.88)
4	0.74	0.05	0.69***
	(1.24)	(0.07)	(2.84)
5	0.82	0.42	0.40
	(1.45)	(0.67)	(1.54)
6	0.80	0.23	0.57**
	(1.43)	(0.38)	(2.07)
7	0.87	0.52	0.36
	(1.52)	(0.83)	(1.48)
8	0.82	0.50	0.32
	(1.47)	(0.81)	(1.15)
9	0.83	0.73	0.10
	(1.48)	(1.15)	(0.42)
10	0.79	0.65	0.15
	(1.42)	(1.11)	(0.68)
11	0.93*	0.58	0.35
	(1.66)	(0.58)	(1.50)
12	0.96*	0.70	0.26
	(1.68)	(1.17)	(1.25)

The table shows the average returns on the trading strategy based on pairs for each of the months in which stocks are held. Pairs are formed such that the values for IV_{365} of the two stocks in a pair do not differ by more than one percentage point, while IV_{30} must differ by at least 25 percentage points. The positions are held over the subsequent 12 months. The results reported here refer to the median strategy (see Appendix A). Numbers in parentheses are t-statistics adjusted according to Newey and West (1987) with 12 lags. The strategy depends on the order of stocks in our sample (see Appendix A for details). We perform the strategy with 50,000 candidate permutations and report the median return with its respective t-statistic in this table. The sample formation period is 01/1996 to 12/2014.

Table C.3: **Distribution of strategy returns - 12 months**

Panel A: *Return on low IV_{30} portfolio*

	mean	2.5%	median	97.5%
mean	0.1091	0.0994	0.1091	0.1190
t-statistic	2.0427	1.8823	2.0422	2.2072
std	0.3172	0.3048	0.3170	0.3306

Panel B: *Return on high IV_{30} portfolio*

	mean	2.5%	median	97.5%
mean	0.0574	0.0550	0.0574	0.0598
t-statistic	0.9781	0.9409	0.9783	1.0152
std	0.3432	0.3402	0.3432	0.3462

Panel C: *Return on investment strategy*

	mean	2.5%	median	97.5%
mean	0.0517	0.0416	0.0517	0.0621
t-statistic	3.0018	2.3746	2.9875	3.7089
std	0.1436	0.1342	0.1434	0.1535

The table shows summary statistics for the returns on 50,000 repetitions for our investment strategy based on pairs (see Section 3), where for each repetition, stocks are ordered randomly. Then, pairs are formed according to the mechanism explained in Appendix A and held for twelve months. The columns show the cross-sectional mean, 2.5% quantile, median, and 97.5% quantile of the respective statistic across the 50,000 repetitions. In each repetition, t-statistics are adjusted according to Newey and West (1987) with 12 lags. The sample formation period is 01/1996 to 12/2014.

Table C.4: **Distribution of strategy returns - 1 month**

Panel A: *Return on low IV_{30} portfolio*

	mean	2.5%	median	97.5%
mean	0.0079	0.0064	0.0079	0.0095
t-stat	1.4205	1.1314	1.4191	1.7144
std	0.0854	0.0836	0.0854	0.0873

Panel B: *Return on high IV_{30} portfolio*

	mean	2.5%	median	97.5%
mean	0.0035	0.0028	0.0035	0.0041
t-stat	0.5594	0.4553	0.5597	0.6640
std	0.1002	0.0994	0.1002	0.1009

Panel C: *Return on investment strategy*

	mean	2.5%	median	97.5%
mean	0.0044	0.0027	0.0044	0.0061
t-stat	1.9984	1.2001	1.9899	2.8547
std	0.0416	0.0395	0.0416	0.0437

The table shows summary statistics for the returns on 50,000 repetitions for our investment strategy based on pairs (see Section 3), where for each repetition, stocks are ordered randomly. Then, pairs are formed according to the mechanism explained in Appendix A and held for one month. The columns show the cross-sectional mean, 2.5% quantile, median, and 97.5% quantile of the respective statistic across the 50,000 repetitions. In each repetition, t-statistics are adjusted according to Newey and West (1987) with 12 lags. The sample formation period is 01/1996 to 08/2015.

Table C.5: **Strategy returns - different IV maturities**

Panel A: *Maturity IV long end: 365 days*

Maturity IV short end	returns low IV	returns high IV	investment strategy	Avg number of stocks
30 days	10.86**	5.70	5.17***	220
	(2.06)	(0.97)	(3.10)	
60 days	11.91**	4.93	6.98***	144
	(2.17)	(0.79)	(3.68)	
90 days	12.42*	6.95	5.47	70
	(2.03)	(1.03)	(1.63)	

Panel B: *Maturity IV long end: 270 days*

Maturity IV short end	returns low IV	returns high IV	investment strategy	Avg number of stocks
30 days	11.32**	5.34	5.98***	206
	(2.13)	(0.93)	(3.31)	
60 days	12.69**	4.60	8.09***	130
	(2.28)	(0.77)	(4.28)	
90 days	13.52**	6.60	6.92*	57
	(2.08)	(1.02)	(1.82)	

Panel C: *Maturity IV long end: 180 days*

Maturity IV short end	returns low IV	returns high IV	investment strategy	Avg number of stocks
30 days	11.75**	5.69	6.06***	185
	(2.09)	(1.01)	(3.25)	
60 days	12.34**	4.84	7.51***	109
	(1.96)	(0.85)	(2.95)	
90 days	17.76**	10.45	7.31	40
	(2.21)	(1.58)	(1.51)	

The table shows average returns for our investment strategy based on pairs (see Section 3), when implied volatility (IV) is taken from long- and short-term options with varying maturities. The results reported here refer to the median strategy (see Appendix A). The minimum difference in short-end IVs is 0.25. Numbers in parentheses are t- statistics adjusted according to Newey and West (1987) with 12 lags. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively. The right column shows the average number of stocks rounded to the nearest integer that are assigned to pairs. The average absolute number of stocks in our sample is 2331. The sample formation period is 01/1996 to 12/2014.

Table C.6: **Strategy returns - Non-overlapping strategy**

formation freq. / inv. horizon (months)	returns low IV	returns high IV	returns investment strategy	avg. number of stocks
1	0.0073	0.0031	0.0042*	230
	(1.38)	(0.51)	(1.94)	
2	0.0175*	0.0033	0.0143***	230
	(1.71)	(0.27)	(2.97)	
3	0.0235*	0.0031	0.0204***	232
	(1.93)	(0.22)	(2.88)	
6	0.0356*	0.0018	0.0339**	214
	(1.82)	(0.07)	(2.25)	

The table shows average returns for our investment strategy based on pairs (see Section 3), when portfolios are not overlapping. With investment horizon of one month, this coincides with the usual strategy with one-month holding period. The results reported here refer to the median strategy (see Appendix A). Numbers in parentheses are t- statistics adjusted according to Newey and West (1987) with 12 lags. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively. The sample periods are 01/1996 to 08/2015 (to 06/2015 for 6 month horizon). The first formation period is always January 1996, the second is February 1996 (1 month freq.) (March 1996 (2 month freq.), April (3 month freq.) 1996, July 1996 (6 month freq.), and so on.) The order of stocks is from the median strategy (see Appendix A). The right column shows the average number of stocks rounded to the nearest integer that are assigned to pairs. The average absolute number of stocks in this longer sample is 2354 (2348 for the sample from 01/1996 to 06/2015).

Table C.7: **Investment strategy returns split up by type of pairs**

	low IV_{30}	High IV_{30}	strategy	Avg. no of stocks
downward/downward	8.78	7.47	1.31	39
	(1.51)	(1.41)	(0.47)	
downward/flat	13.72**	7.00	6.72**	29
	(2.09)	(1.07)	(2.20)	
downward/upward	10.59**	5.96	4.63**	150
	(2.13)	(1.01)	(2.57)	
flat/upward	9.68	2.83	6.85	2
	(1.04)	(0.35)	(1.48)	
upward/upward	2.38	0.70	1.68	<1
	(0.28)	(0.09)	(0.70)	

The table shows summary return statistics of the baseline investment strategy split up according to the shapes of the IV term structures within the pairs. For example, *downward/flat* means that the implied volatility term structure of the High IV_{30} stock is downward sloping, while that of the Low IV_{30} stock is flat. "Flat" means that the absolute distance between the 1-month and 1-year IVs is at most 0.01. Long-end IVs within a pair still differ by at most 0.01. The results reported here refer to the median strategy (see Appendix A). Numbers in parentheses are t-statistics adjusted according to Newey and West (1987) with 12 lags. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively. The right column shows the average number of stocks that are assigned to pairs. The average absolute number of stocks rounded to the nearest integer in our sample is 2331. The numbers in the fifth column add up to the total number of stocks in the baseline setting. The sample formation period is 01/1996 to 12/2014.

Table C.8: **Returns on investment strategy, value-weighted using size of smaller stock**

Low IV_{30}	High IV_{30}	Investment strategy
12.09**	7.94	4.15**
(2.57)	(1.44)	(2.37)

The table shows the average returns on the trading strategy based on pairs where the weighting between the pairs is value-weighted using the market capitalization of the stock in the pairs with the lower market capitalization. Pairs are formed such that the values for IV_{365} of the two stocks in a pair do not differ by more than one percentage point, while IV_{30} must differ by at least 25 percentage points. The positions are held over the subsequent 12 months. Numbers in parentheses are Newey and West (1987) t-statistics with 12 lags. The results reported here refer to the median strategy (see Appendix A).

Table C.9: **Top IV quintile: Fama French Industry Classification**

Panel *A*: Equally-weighted industry share

	early	2	3	4	late	sample
Consumer Non-durables	0.0213	0.0217	0.0200	0.0197	0.0211	0.0449
Consumer Durables	0.0163	0.0166	0.0156	0.0153	0.0154	0.0227
Manufacturing	0.0568	0.0653	0.0636	0.0599	0.0576	0.1168
Energy	0.0391	0.0465	0.0472	0.0430	0.0355	0.0495
High Technology	0.3447	0.3782	0.3880	0.3715	0.3536	0.2111
Telecom	0.0471	0.0392	0.0379	0.0397	0.0404	0.0345
Shops	0.0650	0.0690	0.0669	0.0712	0.0584	0.1046
Health	0.1929	0.1660	0.1663	0.1744	0.2188	0.1036
Utilities	0.0048	0.0029	0.0033	0.0029	0.0034	0.0311
Other	0.2120	0.1946	0.1913	0.2023	0.1958	0.2813

Panel *B*: Value-weighted industry share

	early	2	3	4	late	sample
Consumer Non-durables	0.0182	0.012	0.0118	0.0130	0.0138	0.0589
Consumer Durables	0.0135	0.0206	0.0146	0.0122	0.0196	0.0299
Manufacturing	0.0417	0.0667	0.0594	0.0548	0.0450	0.1162
Energy	0.0415	0.0521	0.0560	0.0465	0.0367	0.0844
High Technology	0.3871	0.3945	0.4124	0.3934	0.3468	0.1584
Telecom	0.0732	0.0547	0.0554	0.0556	0.0766	0.0497
Shops	0.0412	0.0477	0.0469	0.0488	0.0437	0.0852
Health	0.1299	0.1210	0.1132	0.1296	0.1671	0.1106
Utilities	0.0070	0.0049	0.0043	0.0030	0.0064	0.0355
Other	0.2466	0.2258	0.2258	0.2430	0.2443	0.2713

This table shows the share of stocks that are in the respective Fama-French 10 industry classification in each of the five IVD-sorted portfolios in the top IV_{365} quintile. Panel *A* shows the equally weighted share. Panel *B* shows the weights of each industry in terms of market capitalization. The column "sample" shows the sample average. The industry classification is from Kenneth French's website.

Table C.10: **Variable Construction**

Variable	Construction	Source
ME	Market Equity. Product of market price and number of outstanding shares	CRSP
BM	Book-to-Market ratio. Ratio of book value of equity divided by market value fo equity	CRSP-Compustat merged
OP	Operating profitability. Computed as in Fama and French (2015)	CRSP-Compustat merged
INV	Growth of total Assets: $\frac{AT_t - AT_{t-1}}{AT_{t-1}}$	CRSP-Compustat merged
ILLIQ	Amihud style illiquidity measure in the sense of Brennan et al. (2013): Illiq= $\frac{\lvert r_t \rvert}{Vol_t}$ where r_t is the monthly return in month t and Vol_t is the trading volume in month t	CRSP
CFD	Cash flow duration. Dechow et al. (2004) cash flow duration measure with parameters as in Weber (2018). Computed according to Equ. (6) in Dechow et al. (2004).	CRSP-Compustat merged
IVol	Idiosyncratic volatility estimated from residuals from a Fama and French (1992) three factor regression of daily returns	CRSP, Kenneth French's website
VRP_{30}	Ex-ante: Variance risk premium of the portfolio formation month $\mathbb{V}\text{ar}(r_{t,30}) - \text{IV}^2_{t,30}$	CRSP, Optionmetrics
VRP_{30}	Realized: variance risk premium of the post formation month $\mathbb{V}\text{ar}(r_{t+1,30}) - \text{IV}^2_{t,30}$	CRSP, Optionmetrics
SIR_{IO}	Ratio of short interest over institutional ownership as in Drechsler and Drechsler (2016)	Compustat supplemental short interest file, Thomson Reuters 13F file

The table contains information about the construction of the variables in Table 9.

Table C.11: **Idiosyncratic volatility**

	low IVD (early)	2	3	4	high IVD (late)
low IV	0.0138	0.0118	0.0115	0.0114	0.0108
2	0.0171	0.0159	0.0156	0.0152	0.0148
3	0.0219	0.0207	0.0202	0.0198	0.0192
4	0.0285	0.0269	0.0264	0.0258	0.0248
high IV	0.0408	0.0385	0.0372	0.0373	0.0342

The table shows idiosyncratic volatility relative to the Fama and French (1992) three factor model, computed as the daily standard deviation of the residuals, for 25 portfolios sorted on IVD and IV_{365}. The sample formation period is 01/1996 to 08/2015.

Table C.12: **Fama-MacBeth regressions with variance risk premia**

	MKT	ln(ME)	ln(BM)	OP	Inv	VRP_{30}	VRP_{365}	$IV^2 \times IVD$	R^2
CAPM	0.48					-1.32	-0.82^{**}	0.04^{**}	2.23%
	(1.36)					(-0.95)	(-2.54)	(2.36)	
FF3	0.48	0.08	0.09			-1.74	-0.91^{***}	0.06^{***}	4.19%
	(1.39)	(1.42)	(0.59)			(-1.30)	(-3.22)	(3.01)	
FF5	0.50	0.06	0.07	0.13^{**}	-0.23^{***}	-2.28^{*}	-0.91^{***}	0.06^{***}	4.62%
	(1.47)	(0.97)	(0.47)	(2.40)	(-4.25)	(-1.70)	(-3.31)	(2.63)	

The table shows the coefficients from a second stage Fama-MacBeth-regression of single stock returns on market excess return (MKT), log market capitalization (ME), log book-to-market equity ratio (BM), operating profitability (OP) and asset growth (Inv), the variance risk premia over 30 and 365 days, VRP_{30} and VRP_{365}, (measured as the difference between realized and implied variance), and $IVD \times IV^2_{365}$. R^2 is the time-series average of the cross-sectional second-stage regressions. Numbers in parentheses are t-statistics adjusted according to Newey and West (1987) with four lags. Characteristics are demeaned. All factors are computed from the sample using the Compustat-CRSP merged database. For the first stage regressions, the MKT-betas assigned to each stock are the average value-weighted betas for the respective 5x5 size-and-book-to-market portfolio. FF3 and FF5 denote the model specification from Fama and French (1992) and Fama and French (2015), respectively. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively. The sample formation period is 01/1996 to 08/2015.

Table C.13: **Fama-MacBeth regressions with idiosyncratic volatility and the Stambaugh et al. (2015) mispricing measure**

MKT	$\ln(ME)$	$\ln(BM)$	OP	Inv	f(MISP)	IVol	f(MISP)×IVol	IV^2×IVD	R_2
0.62**	−0.02	0.13	0.13**	−0.18***	−0.02***	−11.51*		0.09***	5.45%
(1.94)	(-0.48)	(-0.86)	(2.19)	(-3.10)	(-3.74)	(-1.67)		(3.18)	
0.51	−0.01	0.04	0.13**	−0.21***		−21.43***		0.05***	5.03%
(1.51)	(-0.22)	(-0.30)	(2.42)	(-4.12)		(-2.73)		(2.84)	
0.61**	0.05	0.11	0.18**	−0.28***			−1.08***	0.10***	4.12%
(1.95)	(0.93)	(0.69)	(2.49)	(-4.60)			(-5.58)	(3.02)	
0.67**	-0.00	0.13	0.13**	-0.15***	−0.02***	−6.20	−1.10***	0.09***	5.64%
(2.09)	(-0.05)	(0.92)	(2.13)	(-2.74)	(-4.04)	(-0.91)	(-5.15)	(3.15)	

The table shows the coefficients from a second stage Fama-MacBeth-regression of single stock returns on market excess return (MKT), log market capitalization (ME), log book-to-market equity ratio (BM), operating profitability (OP) and asset growth (Inv), IVD×IV$^2_{365}$ and Stambaugh et al.'s (demeaned) mispricing characteristic MISP interacted with idiosyncratic volatility. The MISP data are taken from Yu Yuan's website. Numbers in parentheses are t-statistics adjusted according to Newey and West (1987) with four lags. R^2 is the time-series average of the cross-sectional second-stage regressions. Characteristics are demeaned. For the first stage regression of MKT-betas, the betas assigned to each stock are the average value-weighted betas for the respective 5x5 size-and-value portfolio. ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively.

Table C.14: **Fama-MacBeth regressions with idiosyncratic variance and the Stambaugh et al. (2015) mispricing measure**

MKT	ln(ME)	ln(BM)	OP	Inv	f(MISP)	IVar	f(MISP)×IVar	IV^2×IVD	R^2
0.63*	−0.01	0.14	0.13**	−0.18***	−0.02***	−130.21**		0.09***	5.11%
(1.93)	(-0.11)	(0.94)	(2.17)	(-3.20)	(-3.60)	(-2.10)		(3.08)	
0.51	0.03	0.08	0.13**	−0.23***		−210.87***		0.05***	4.48%
(1.45)	(0.51)	(0.52)	(2.36)	(-4.29)		(-3.79)		(2.80)	
0.59*	0.05	0.12	0.18**	-0.29***			−8.82***	0.10***	4.14%
(1.89)	(0.84)	(0.71)	(2.51)	(-4.67)			(-3.70)	(2.95)	
0.68**	0.01	0.15	0.13**	-0.17***	−0.03***	−51.26	−11.57***	0.09***	5.32%
(2.09)	(0.26)	(1.00)	(2.16)	(-2.93)	(-3.93)	(-0.75)	(-3.47)	(3.04)	

The table shows the coefficients from a second stage Fama-MacBeth-regression of single stock returns on market excess return (MKT), log market capitalization (ME), log book-to-market equity ratio (BM), operating profitability (OP) and asset growth (Inv), IVD×IV$^2_{365}$ and Stambaugh et al.'s (demeaned) mispricing characteristic MISP interacted with idiosyncratic variance. The MISP data are taken from Yu Yuan's website. Numbers in parentheses are t-statistics adjusted according to Newey and West (1987) with four lags. R^2 is the time-series average of the cross-sectional second-stage regressions. Characteristics are demeaned. For the first stage regression of MKT-betas, the betas assigned to each stock are the average value-weighted betas for the respective 5x5 size-and-value portfolio. ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively.

Table C.15: **IV/IVD sorted portfolio returns, undervalued stocks**

	early	2	3	4	late	LME
low IV_{365}	0.75***	0.82***	0.61**	0.79***	0.66***	−0.09
	(3.48)	(2.87)	(2.51)	(2.60)	(2.78)	(-0.39)
2	1.09***	1.20***	0.92***	0.68**	0.92***	−0.18
	(3.32)	(2.78)	(2.76)	(2.16)	(2.73)	(-0.67)
3	1.29***	1.63***	1.34***	1.11***	1.17***	−0.12
	(2.76)	(3.53)	(3.12)	(2.71)	(2.83)	(-0.26)
4	2.00***	1.25**	1.15**	0.95**	0.66	−1.34***
	(3.00)	(2.38)	(2.43)	(2.18)	(1.18)	(-2.88)
high IV_{365}	0.91	1.29**	1.12	1.24*	2.25***	1.34**
	(1.37)	(2.41)	(1.61)	(1.95)	(2.96)	(1.97)
HML IV	0.16	0.48	0.51	0.46	1.59**	
	(0.25)	(0.83)	(0.71)	(0.69)	(2.31)	

One month average returns on value-weighted portfolios sorted on IV and Implied Volatility Duration (IVD) that are undervalued according to Stambaugh et al.'s mispricing characteristic (values below 20%). Stambaugh et al. (2015) show that (roughly) for the 20 % of stocks that are most undervalued, the sign of the effect of idiosyncratic volatility is positive. Numbers in parentheses are t-statistics adjusted according to Newey and West (1987) with one lag. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively. The sample formation period is 01/1996 to 08/2015.

Table C.16: **Fama-MacBeth regressions with E**

MKT	$\ln(ME)$	$\ln(BM)$	OP	Inv	E	IV^2×IVD	R^2
0.39					-1.31^{*}	0.04^{**}	2.28%
(1.14)					(-1.84)	(2.57)	
0.38^{*}	0.06	-0.12			-1.55^{***}	0.06^{***}	3.45%
(1.06)	(1.07)	(-0.91)			(-2.98)	(3.57)	
0.42	0.03	-0.10	0.13^{**}	-0.24^{***}	-1.35^{**}	0.06^{***}	3.98%
(1.23)	(0.63)	(-0.79)	(2.26)	(-4.27)	(-2.57)	(3.20)	

The table shows the coefficients from a second stage Fama-MacBeth-regression of single stock returns on market excess return (MKT), log market capitalization (ME), log book-to-market equity ratio (BM), operating profitability (OP) and asset growth (Inv), Drechsler and Drechsler's Rf-expensive (E) factor and IVD×IV$^2_{365}$. Numbers in parentheses are t-statistics adjusted according to Newey and West (1987) with four lags. R^2 is the time-series average of the cross-sectional second-stage regressions. Characteristics are demeaned. E is computed as in Drechsler and Drechsler (2016) from the stocks in our sample as the portfolio return of the portfolio that is long the risk-free rate and short the highest decile Short interest over institutional ownership ratio (SIR_{IO}) portfolio. For the first stage regression of MKT-betas, the betas assigned to each stock are the average value-weighted betas for the respective 5x5 size-and-value portfolio. ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively. The sample formation period is 01/1996 to 08/2015.

Table C.17: **Fama-MacBeth regressions with CME**

MKT	ln(ME)	ln(BM)	OP	Inv	CME	IV^2×IVD	R^2
0.70**					1.16*	0.05***	1.87%
(1.98)					(1.66)	(2.65)	
0.68	0.03	0.10			0.76	0.06***	3.38%
(1.61)	(0.43)	(0.64)			(1.36)	(3.60)	
0.65	0.01	0.08	0.14**	−0.25***	0.51	0.06***	3.91%
(1.57)	(0.19)	(0.53)	(2.37)	(-4.41)	(0.93)	(3.19)	

The table shows the coefficients from a second stage Fama-MacBeth-regression of single stock returns on market excess return (MKT), log market capitalization (ME), log book-to-market equity ratio (BM), operating profitability (OP) and asset growth (Inv), a version of Drechsler and Drechsler's cheap-minus-expensive (CME) factor and IVD×IV$^2_{365}$ as stock characteristics. Numbers in parentheses are t-statistics adjusted according to Newey and West (1987) with four lags. R^2 is the time-series average of the cross-sectional second-stage regressions. Characteristics are demeaned. CME is computed analogously to the factor CME in Drechsler and Drechsler (2016) from the stocks in our sample as the equally-weighted portfolio return of the portfolio that is long the lowest decile portfolio of stocks sorted by the ratio of short interest over institutional ownership (SIR_{IO}) and short the highest decile portfolio. For the first stage regression of MKT-betas, the betas assigned to each stock are the average value-weighted betas for the respective 5x5 size-and-value portfolio. ***, **, and * indicate significance at the 1%, 5%, and 10%, respectively. The sample formation period is 01/1996 to 08/2015.

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