

**Online Appendix A.**  
**Additional Figures and Tables**

Appendix Table 1. Predictability of participation in the follow-up wave.

	Dependent variable: Indicator variable for participation in the follow-up wave		
	(1)	(2)	
Treatment with 1 <sup>st</sup> moment	0.010 (0.022)	0.010 (0.022)	0.010 (0.022)
Treatment with 2 <sup>nd</sup> moment	0.004 (0.022)	0.004 (0.022)	0.004 (0.022)
Treatment with 1 <sup>st</sup> and 2 <sup>nd</sup> moments	0.016 (0.022)	0.016 (0.022)	0.016 (0.022)
Industry (omitted category: construction)			
Manufacturing		0.057 (0.036)	0.072 (0.038)
Prof. and financial services		0.050 (0.036)	0.050 (0.037)
Trade		0.040 (0.037)	0.028 (0.040)
Transport		0.135 (0.049)	0.139 (0.049)
Manager characteristics			
Male		0.031 (0.017)	0.031 (0.017)
Education (omitted category: less than high school)			
High school		-0.052 (0.076)	-0.046 (0.077)
Some college or assoc. degree		-0.062 (0.075)	-0.056 (0.075)
College		-0.045 (0.075)	-0.039 (0.075)
Graduate		-0.039 (0.075)	-0.033 (0.076)
Tenure at firm		-0.001 (0.001)	-0.001 (0.001)
Tenure at industry		-0.000 (0.001)	-0.000 (0.001)
Firm characteristics			
Log(firm age)		-0.004 (0.011)	-0.003 (0.011)
Log(employment)		-0.015 (0.012)	-0.017 (0.012)
Share of sales from NZ		-0.001 (0.001)	-0.001 (0.001)
Number of competitors		0.000 (0.001)	0.001 (0.001)
Pre-treatment priors			
Sales: mean			-0.003 (0.005)
Sales: uncertainty			0.004 (0.005)
Inflation: mean			-0.002 (0.007)
Inflation: uncertainty			0.015 (0.009)
GDP growth rate: mean			0.002 (0.008)
GDP growth rate: uncertainty			-0.005 (0.008)
Constant	0.481 (0.015)	0.617 (0.137)	0.607 (0.141)
Observations	4,145	4,145	4,145
R-squared	0.000	0.005	0.006
F-stat	0.201	1.084	1.019
p-value(F-stat)	0.896	0.361	0.436

Notes: The table reports results for the linear probability model where the dependent variable is equal to one if a firm participates in the follow-up wave. Robust standard errors are reported in parentheses. \*, \*\*, and \*\*\* denote statistical significance at 1, 5 and 10 percent levels.

Appendix Table 2. Predictors of treatment status.

	Dependent variable: Indicator variable for an assigned group			
	Control	Treatment with 1 <sup>st</sup> moment	Treatment with 2 <sup>nd</sup> moment	Treatment with 1 <sup>st</sup> and 2 <sup>nd</sup> moments
	(1)	(2)	(3)	(4)
Industry (omitted category: construction)				
Manufacturing	0.03 (0.03)	-0.00 (0.03)	-0.02 (0.03)	-0.00 (0.03)
Prof. and financial services	0.03 (0.03)	-0.02 (0.03)	-0.03 (0.03)	0.02 (0.03)
Trade	0.02 (0.03)	-0.01 (0.03)	-0.02 (0.03)	0.00 (0.03)
Transport	0.06 (0.04)	-0.02 (0.04)	-0.04 (0.04)	0.00 (0.04)
Manager characteristics				
male	-0.02 (0.01)	-0.02 (0.01)	0.01 (0.01)	0.02 (0.01)
Education (omitted category: less than high school)				
High school	0.06 (0.06)	-0.08 (0.07)	-0.02 (0.07)	0.04 (0.06)
Some college or assoc. degree	0.07 (0.06)	-0.08 (0.07)	-0.01 (0.06)	0.02 (0.06)
College	0.03 (0.06)	-0.06 (0.07)	-0.00 (0.06)	0.03 (0.06)
Graduate	0.03 (0.06)	-0.08 (0.07)	0.02 (0.07)	0.04 (0.06)
Tenure at firm	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)
Tenure at industry	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)
Firm characteristics				
Log(firm age)	0.01 (0.01)	-0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)
Log(employment)	-0.01 (0.01)	0.00 (0.01)	-0.00 (0.01)	0.01 (0.01)
Share of sales from NZ	-0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)
Number of competitors	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)
Observations	4,145	4,145	4,145	4,145
R-squared	0.00	0.00	0.00	0.00
F-stat	0.935	0.684	0.466	0.839
p-value(F-stat)	0.524	0.803	0.958	0.635

Notes: The table reports results for the linear probability model where the dependent variable is equal to one if a firm is assigned to a given treatment/control group. Robust standard errors are reported in parentheses. \*, \*\*, and \*\*\* denote statistical significance at 1, 5 and 10 percent levels.

Appendix Table 3. Treatment Effects on Expectations, include controls.

	GDP growth		Inflation		Sales growth	
	mean	variance	mean	variance	mean	variance
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Panel A. Revisions in beliefs immediately after treatments</b>						
T1 (mean treatment)	3.81 (0.06)	-0.25 (0.08)	0.85 (0.07)	-1.01 (0.05)	-0.20 (0.04)	0.40 (0.10)
T2 (uncertainty treatment)	1.41 (0.08)	0.53 (0.08)	1.37 (0.08)	-0.74 (0.06)	-0.15 (0.05)	0.43 (0.14)
T3 (mean and uncertainty treatment)	3.72 (0.06)	-0.07 (0.10)	1.34 (0.08)	-0.78 (0.04)	-0.11 (0.04)	0.42 (0.08)
Prior mean	1.07 (0.01)		1.10 (0.01)		0.91 (0.01)	
Prior mean × T1	-1.04 (0.02)		-0.45 (0.01)		-0.06 (0.02)	
Prior mean × T2	-0.62 (0.03)		-0.51 (0.02)		-0.07 (0.02)	
Prior mean × T3	-1.01 (0.02)		-0.52 (0.02)		-0.08 (0.02)	
Prior variance		2.61 (0.05)		1.60 (0.05)		1.54 (0.06)
Prior variance × T1		-2.34 (0.07)		-0.18 (0.02)		-0.67 (0.08)
Prior variance × T2		-2.18 (0.07)		-0.18 (0.02)		-0.64 (0.10)
Prior variance × T3		-2.06 (0.09)		-0.22 (0.01)		-0.70 (0.07)
Observations	4,137	4,137	4,145	4,145	4,145	4,145
R-squared	0.75	0.75	0.79	0.69	0.91	0.70
<b>Panel B. Revisions in beliefs in the follow-up wave</b>						
T1 (mean treatment)	1.93 (0.10)	0.25 (0.12)	2.39 (0.17)	0.26 (0.12)	-0.41 (0.07)	0.08 (0.18)
T2 (uncertainty treatment)	1.06 (0.11)	0.72 (0.14)	2.40 (0.14)	0.77 (0.12)	-0.17 (0.08)	-0.08 (0.22)
T3 (mean and uncertainty treatment)	2.10 (0.09)	1.04 (0.14)	2.49 (0.14)	0.34 (0.10)	-0.17 (0.07)	0.33 (0.16)
Prior mean	1.06 (0.02)		1.11 (0.02)		0.88 (0.02)	
Prior mean × T1	-0.54 (0.03)		-0.54 (0.04)		0.04 (0.03)	
Prior mean × T2	-0.36 (0.04)		-0.57 (0.03)		-0.01 (0.03)	
Prior mean × T3	-0.62 (0.03)		-0.62 (0.03)		0.01 (0.03)	
Prior variance		2.42 (0.07)		1.95 (0.07)		1.83 (0.11)
Prior variance × T1		-1.71 (0.10)		-0.18 (0.03)		-0.18 (0.15)
Prior variance × T2		-1.47 (0.11)		-0.20 (0.03)		-0.44 (0.16)
Prior variance × T3		-1.97 (0.10)		-0.20 (0.03)		-0.67 (0.12)
Observations	2,025	2,025	2,025	2,025	2,025	2,025
R-squared	0.72	0.72	0.62	0.49	0.90	0.82

Notes: see notes for Table 2. The controls are listed in Appendix Table 2.

Appendix Table 4. Effects of Uncertainty on Firm Decisions relative to Plans, include controls.

	Change relative to plan						
	Price	Employment	Capital stock	Wages	Advert. budget	R&D budget	Profit margin
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Posterior mean	-0.064 (0.017)	-0.149 (0.102)	-0.034 (0.015)	-0.010 (0.009)	0.041 (0.023)	0.016 (0.008)	-0.060 (0.016)
Posterior uncertainty	-0.106 (0.006)	-0.610 (0.042)	-0.074 (0.007)	0.004 (0.003)	0.107 (0.009)	-0.001 (0.003)	0.009 (0.004)
Observations	2,020	2,020	2,020	2,020	2,020	2,020	2,020
1 <sup>st</sup> stage F stat: post. mean	439.9	439.9	439.9	453.4	453.4	439.9	453.4
1 <sup>st</sup> stage F stat: post. var	453.4	453.4	453.4	439.9	439.9	453.4	439.9

Notes: see notes for Table 3. The controls are listed in Appendix Table 2.

Appendix Table 5. Effects of Uncertainty on Introduction of New Products, New Technologies and New Facilities, include controls

	New product	New technology	New facility
	(1)	(2)	(3)
Posterior mean	-0.241 (0.678)	-2.174 (0.754)	-4.595 (0.789)
Posterior uncertainty (var)	-0.090 (0.127)	-2.473 (0.249)	-2.111 (0.245)
Plan	0.474 (0.031)	0.542 (0.028)	0.532 (0.028)
Observations	2,020	2,020	2,020
1 <sup>st</sup> stage F stat: post. mean	454.4	454.4	454.4
1 <sup>st</sup> stage F stat: post. var	438.5	438.5	438.5

Notes: see notes for Table 4. The controls are listed in Appendix Table 2.

Appendix Table 6. Effects of Uncertainty on Additional Firm Decisions relative to Initial Levels, include controls

	Change relative to initial level				
	Employment	Sales	Macro forecast	Value of information	
				Info from customers, suppliers, peers, etc.	Dollars allocated to info. About own industry
	(1)	(2)		(3)	
Posterior mean	-0.067 (0.125)	3.596 (0.637)	-1.035 (3.309)	-1.501 (1.325)	0.378 (0.366)
Posterior uncertainty (var)	-0.605 (0.042)	-0.840 (0.197)	4.025 (0.894)	4.261 (0.415)	-0.382 (0.106)
Observations	2,020	1,182	2,020	2,020	2,020
1 <sup>st</sup> stage F stat: post. mean	439.9	209.3	453.4	439.9	439.9
1 <sup>st</sup> stage F stat: post. var	453.4	233.4	439.9	453.4	453.4

Notes: see notes for Table 5. The controls are listed in Appendix Table 2.

Appendix Table 7. Effects of Uncertainty on Firm Decisions relative to Plans, OLS.

	Change relative to plan						
	Price	Employment	Capital stock	Wages	Advert. budget	R&D budget	Profit margin
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Posterior mean	-0.024 (0.029)	0.077 (0.180)	0.029 (0.025)	-0.027 (0.024)	0.109 (0.059)	-0.069 (0.041)	0.070 (0.055)
Posterior uncertainty	0.004 (0.007)	-0.009 (0.034)	0.003 (0.002)	0.002 (0.008)	0.019 (0.012)	-0.017 (0.011)	0.026 (0.016)
Observations	508	508	508	508	508	508	508
R-squared	0.013	0.003	0.008	0.006	0.010	0.021	0.010

Notes: see notes for Table 3. Regressions are estimated with OLS on the control group.

Appendix Table 8. Heterogeneous Effects of Uncertainty on other outcomes

Decomposition	Effect on Capital	N. of obs.	Effect on Wages	N. of obs.
<i>By industry:</i>				
Manufacturing	-0.09 (0.01)	689	0.00 (0.00)	685
Services	-0.07 (0.01)	1231	0.00 (0.00)	1223
<i>By firm size:</i>				
# of workers<10	-0.10 (0.01)	519	-0.00 (0.00)	517
# of workers>=10 & workers<30	-0.08 (0.01)	890	-0.00 (0.00)	882
# of workers>=30	-0.05 (0.01)	611	0.01 (0.00)	607
<i>By competition:</i>				
Number of competitors = 0	-0.08 (0.01)	408	0.01 (0.01)	402
Number of competitors >0 & <5	-0.07 (0.01)	670	0.00 (0.00)	669
Number of competitors >=5	-0.08 (0.01)	942	-0.00 (0.00)	935
<i>By utilization:</i>				
Utilization <0.8	-0.06 (0.02)	238	-0.00 (0.01)	235
Utilization >=0.8 & <=1	-0.08 (0.02)	646	0.01 (0.00)	642
Utilization >1	-0.08 (0.02)	165	0.00 (0.00)	162
<i>By total valuation of macroeconomic information:</i>				
Value of macro forecasts <\$335	-0.08 (0.01)	671	0.00 (0.00)	668
Value of macro forecasts >=\$335 & <\$594	-0.08 (0.01)	674	-0.00 (0.00)	672
Value of macro forecasts >=\$594	-0.07 (0.01)	675	0.01 (0.00)	666
<i>By COVID19 exposure</i>				
Industries more exposed to Covid	-0.088 (0.011)	1085	0.005 (0.003)	1085
Industries less exposed to Covid	-0.060 (0.008)	935	0.004 (0.004)	935
<i>By membership in professional associations:</i>				
Prof. assoc. member: many	-0.07 (0.01)	817	0.00 (0.00)	813
Prof. assoc. member: one	-0.08 (0.01)	970	0.00 (0.00)	966
Prof. assoc. member: none	-0.08 (0.02)	233	0.01 (0.00)	227

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Decomposition	Effect on advertising budget	N. of obs.	Effect on R&D budget	N. of obs.
<i>By industry:</i>				
Manufacturing	0.11 (0.01)	689	0.01 (0.01)	684
Services	0.11 (0.01)	1230	-0.00 (0.00)	1231
<i>By firm size:</i>				
# of workers<10	0.15 (0.03)	519	0.02 (0.01)	517
# of workers>=10 & workers<30	0.11 (0.01)	890	-0.00 (0.00)	888
# of workers>=30	0.09 (0.01)	610	-0.00 (0.00)	610
<i>By competition:</i>				
Number of competitors = 0	0.12 (0.02)	408	0.00 (0.00)	407
Number of competitors >0 & <5	0.10 (0.01)	670	0.00 (0.00)	666
Number of competitors >=5	0.11 (0.01)	941	0.00 (0.00)	942
<i>By utilization:</i>				
Utilization <0.8	0.12 (0.03)	238	-0.01 (0.01)	238
Utilization >=0.8 & <=1	0.11 (0.02)	646	0.00 (0.01)	644
Utilization >1	0.12 (0.03)	165	0.00 (0.01)	165
<i>By total valuation of macroeconomic information:</i>				
Value of macro forecasts <\$335	0.11 (0.02)	671	0.01 (0.01)	668
Value of macro forecasts >=\$335 & <\$594	0.12 (0.02)	674	0.00 (0.00)	672
Value of macro forecasts >=\$594	0.10 (0.02)	674	-0.00 (0.00)	675
<i>By COVID19 exposure</i>				
Industries more exposed to Covid	0.111 (0.014)	1085	-0.004 (0.004)	1085
Industries less exposed to Covid	0.108 (0.012)	935	0.002 (0.004)	935
<i>By membership in professional associations:</i>				
Prof. assoc. member: many	0.12 (0.02)	817	0.00 (0.00)	815
Prof. assoc. member: one	0.10 (0.01)	969	-0.00 (0.00)	968
Prof. assoc. member: none	0.10 (0.02)	233	0.01 (0.01)	232

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Decomposition	Effect on profit margin	N. of obs.
<i>By industry:</i>		
Manufacturing	0.00 (0.00)	687
Services	0.02 (0.01)	1228
<i>By firm size:</i>		
# of workers < 10	0.01 (0.01)	519
# of workers ≥ 10 & workers < 30	0.01 (0.01)	886
# of workers ≥ 30	0.01 (0.01)	609
<i>By competition:</i>		
Number of competitors = 0	0.02 (0.01)	407
Number of competitors > 0 & < 5	-0.00 (0.01)	668
Number of competitors ≥ 5	0.02 (0.01)	939
<i>By utilization:</i>		
Utilization < 0.8	0.02 (0.02)	237
Utilization ≥ 0.8 & ≤ 1	0.01 (0.01)	645
Utilization > 1	0.01 (0.01)	165
<i>By total valuation of macroeconomic information:</i>		
Value of macro forecasts < \$335	0.00 (0.01)	669
Value of macro forecasts ≥ \$335 & < \$594	0.01 (0.01)	672
Value of macro forecasts ≥ \$594	0.02 (0.01)	673
<i>By COVID19 exposure</i>		
Industries more exposed to Covid	-0.002 (0.006)	1085
Industries less exposed to Covid	0.022 (0.007)	935
<i>By membership in professional associations:</i>		
Prof. assoc. member: many	0.01 (0.01)	815
Prof. assoc. member: one	0.01 (0.01)	967
Prof. assoc. member: none	0.02 (0.01)	232

Notes: see notes for Table 8.

Appendix Table 9. Distribution of qualitative responses about uncertainty in macroeconomic outlook before and after treatment.

Posterior uncertainty	Rows measure posterior uncertainty immediately after the treatment					Rows measure posterior uncertainty six months after the treatment				
	Prior uncertainty					Prior uncertainty				
	not uncertain at all	not particularly uncertain	somewhat uncertain	quite uncertain	extremely uncertain	not uncertain at all	not particularly uncertain	somewhat uncertain	quite uncertain	extremely uncertain
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<b>Panel A. Control group</b>										
not uncertain at all	100	4	0	0	0	43	4	0	0	0
not particularly uncertain	0	96	1	0	0	57	75	2	0	0
somewhat uncertain	0	0	98	2	0	0	21	61	9	2
quite uncertain	0	0	1	97	3	0	0	33	57	24
extremely uncertain	0	0	0	2	97	0	0	4	34	74
Total	100	100	100	100	100	100	100	100	100	100
<b>Panel B. Treatment 1 (treatment with the first moment)</b>										
not uncertain at all	95	3	0	0	0	18	3	0	0	0
not particularly uncertain	5	97	18	2	15	73	47	1	0	3
somewhat uncertain	0	0	77	81	49	9	50	80	34	22
quite uncertain	0	0	4	16	29	0	0	19	63	47
extremely uncertain	0	0	1	0	7	0	0	0	2	28
Total	100	100	100	100	100	100	100	100	100	100
<b>Panel C. Treatment 2 (treatment with the second moment)</b>										
not uncertain at all	100	11	0	0	0	83	0	0	0	0
not particularly uncertain	0	89	3	0	4	17	82	1	0	1
somewhat uncertain	0	0	92	17	28	0	18	42	16	14
quite uncertain	0	0	5	82	39	0	0	57	68	36
extremely uncertain	0	0	0	1	30	0	0	0	16	49
Total	100	100	100	100	100	100	100	100	100	100
<b>Panel D. Treatment 3 (treatment with the first and second moment)</b>										
not uncertain at all	77	5	0	0	0	80	0	0	0	0
not particularly uncertain	8	93	5	2	6	0	56	2	0	2
somewhat uncertain	15	2	90	25	41	20	44	52	21	17
quite uncertain	0	0	5	69	39	0	0	45	65	36
extremely uncertain	0	0	0	4	15	0	0	1	14	44
Total	100	100	100	100	100	100	100	100	100	100

Notes: the table reports the joint distribution of posterior and prior uncertainty (by treatment status) about macroeconomic outlook measured with qualitative questions.

	Rows measure posterior uncertainty immediately after the treatment						Rows measure posterior uncertainty six months after the treatment					
	Prior uncertainty						Prior uncertainty					
	not uncertain at all	not particularly uncertain	somewhat uncertain	quite uncertain	extremely uncertain	Total	not uncertain at all	not particularly uncertain	somewhat uncertain	quite uncertain	extremely uncertain	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
<b>Panel A. Control group</b>												
not uncertain at all	19	2	0	0	0	21	3	1	0	0	0	4
not particularly uncertain	0	52	2	0	0	54	4	21	2	0	0	27
somewhat uncertain	0	0	213	3	0	216	0	6	63	8	6	83
quite uncertain	0	0	3	182	18	203	0	0	34	53	66	153
extremely uncertain	0	0	0	3	559	562	0	0	4	32	205	241
Total	19	54	218	188	577	1,056	7	28	103	93	277	508
<b>Panel B. Treatment 1 (treatment with the first moment)</b>												
not uncertain at all	19	2	0	0	1	22	2	1	0	0	0	3
not particularly uncertain	1	64	36	4	83	188	8	17	1	0	8	34
somewhat uncertain	0	0	150	143	277	570	1	18	78	30	59	186
quite uncertain	0	0	8	29	164	201	0	0	18	55	129	202
extremely uncertain	0	0	1	0	41	42	0	0	0	2	76	78
Total	20	66	195	176	566	1,023	11	36	97	87	272	503
<b>Panel C. Treatment 2 (treatment with the second moment)</b>												
not uncertain at all	13	5	0	0	2	20	5	0	0	0	0	5
not particularly uncertain	0	42	7	0	22	71	1	18	1	0	4	24
somewhat uncertain	0	0	187	34	164	385	0	4	39	13	43	99
quite uncertain	0	0	10	161	229	400	0	0	53	55	112	220
extremely uncertain	0	0	0	1	176	177	0	0	0	13	150	163
Total	13	47	204	196	593	1,053	6	22	93	81	309	511
<b>Panel D. Treatment 3 (treatment with the first and second moment)</b>												
not uncertain at all	10	3	0	0	1	14	4	0	0	0	0	4
not particularly uncertain	1	57	9	3	31	101	0	15	2	0	6	23
somewhat uncertain	2	1	173	49	223	448	1	12	50	23	46	132
quite uncertain	0	0	10	136	215	361	0	0	43	72	96	211
extremely uncertain	0	0	0	8	80	88	0	0	1	16	116	133
Total	13	61	192	196	550	1,012	5	27	96	111	264	503

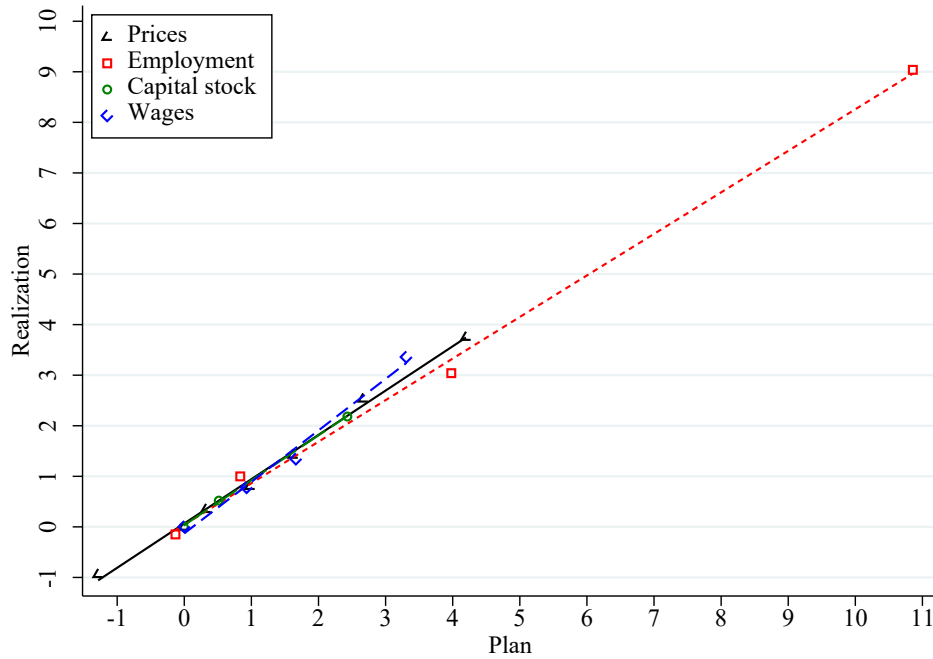
Notes: the table reports the joint distribution of posterior and prior uncertainty (by treatment status) about macroeconomic outlook measured with qualitative questions.

Appendix Table 10. P-values adjusted for multiple hypothesis testing.

	Uncertainty			Mean		
	Model	Resample	Romano-	Model	Resample	Romano-
	p-value	p-value	Wolf p-value	p-value	p-value	Wolf p-value
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Change relative to plan</b>						
Price	0.0000	0.0010	0.0010	0.0010	0.0020	0.0150
Employment	0.0000	0.0010	0.0010	0.4632	0.4625	0.9131
Capital stock	0.0000	0.0010	0.0010	0.1150	0.1219	0.6973
Wages	0.1874	0.1828	0.7732	0.3569	0.3776	0.8771
Advert. budget	0.0000	0.0010	0.0010	0.1198	0.1329	0.6973
R&D budget	0.9591	0.9720	0.9940	0.0458	0.0509	0.4206
Profit margin	0.0468	0.0549	0.4206	0.0002	0.0010	0.0040
<b>Extensive margin</b>						
New product	0.4887	0.5065	0.9690	0.7057	0.7043	0.9820
New technology	0.0000	0.0010	0.0010	0.0237	0.0290	0.2977
New facility	0.0000	0.0010	0.0010	0.0000	0.0010	0.0010
<b>Change relative to initial levels</b>						
Employment	0.0000	0.0010	0.0010	0.9170	0.9061	0.9940
Sales	0.0000	0.0010	0.0010	0.0000	0.0010	0.0010
<b>Value of information</b>						
Macro forecast	0.0000	0.0010	0.0010	0.4762	0.4785	0.9131
Info from customers, suppliers, peers, etc.	0.0000	0.0010	0.0010	0.2334	0.2178	0.7852
Dollars allocated to info. about own industry	0.0003	0.0010	0.0060	0.1791	0.1558	0.7732

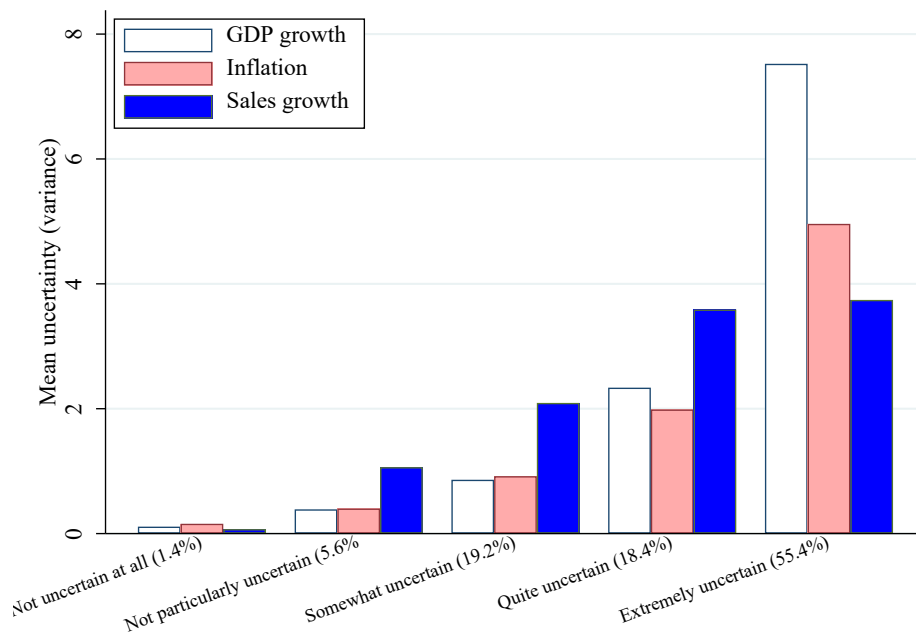
Notes: column (1) and (4) report conventional p-values for coefficients reported in Tables 3-5. The other columns report p-values adjusted for multiple hypothesis testing as in Romano and Wolf (2016).

Appendix Figure 1. Ex-Ante Plans vs. Ex-Post Decisions for Control Group



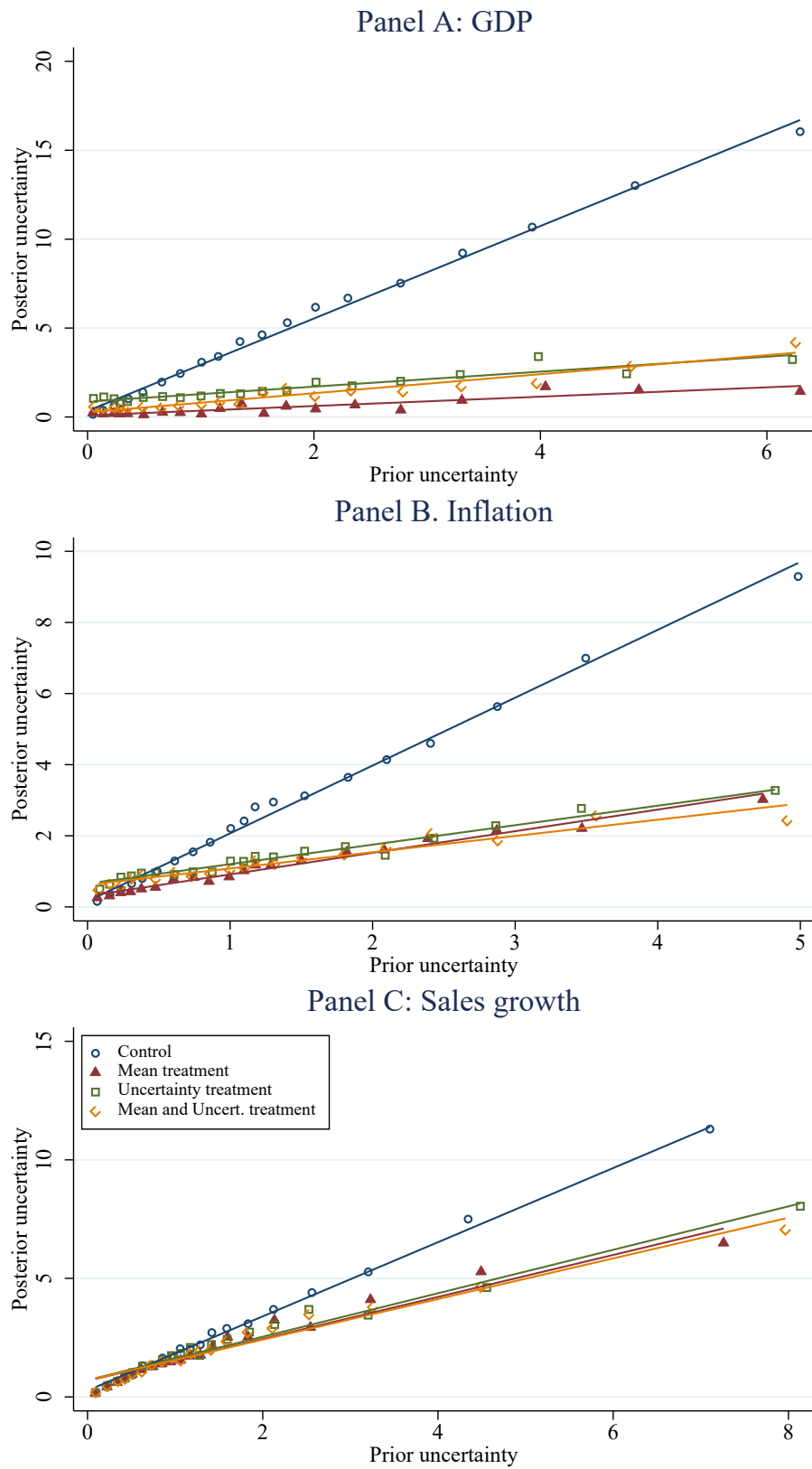
Notes: the figure presents binscatter plots of planned changes vs. realized changes for various actions. The data cover only the control group. All variables are measured in percent.

Appendix Figure 2. Qualitative vs Quantitative Uncertainty, follow-up wave



Notes: the figure replicates Figure 2 for the control group in the follow-up wave.

Appendix Figure 3. Effects of Information Treatments on Uncertainty (measured with variance) in Expectations



Notes: the figure reports binscatters for posterior and prior uncertainty by treatment group. Uncertainty is measured with the variance implied by the reported subjective probability distribution.

# Online Appendix B: Survey Frame and Response Rate

**Appendix Table B.1: Number of Firms by Sector and Size in NZ, 2020**

	Number of Firms			
	6-19 Workers	20-49 Workers	50+ Workers	> 6 Workers
Manufacturing	3663	1239	771	5673
Rental, Hiring and Real Estate	921	171	78	1170
Professional, Technical, Scientific Services & Administrative Support Services	5085	1371	846	7302
Financial and Insurance Services	480	81	111	672
Construction	6867	1197	408	8472
Wholesale Trade	2328	705	396	3429
Retail Trade	3945	735	618	5298
Accommodation and Food Services	5874	1362	375	7611
Transport, Postal, Warehousing & Information Media	1512	423	339	2274
Total	30675	7284	3942	41901

Source: Statistics New Zealand

**Appendix Table B.2: Percentage of Firms by Sector and Size in NZ, 2020**

	Percentage of Firms			
	6-19 Workers (%)	20-49 Workers (%)	50+ Workers (%)	> 6 Workers (%)
Manufacturing	64.57	21.84	13.59	100
Rental, Hiring and Real Estate	78.72	14.62	6.67	100
Professional, Technical, Scientific Services & Administrative Support Services	69.64	18.78	11.59	100
Financial and Insurance Services	71.43	12.05	16.52	100
Construction	81.06	14.13	4.82	100
Wholesale Trade	67.89	20.56	11.55	100
Retail Trade	74.46	13.87	11.66	100
Accommodation and Food Services	77.18	17.90	4.93	100
Transport, Postal, Warehousing & Information Media	66.49	18.60	14.91	100

Source: Statistics New Zealand

**Appendix Table B.3: Survey Framework of Main Wave, Number of Firms According to Employment Size Group**

	6-19 Workers			20-49 Workers			50+ Workers			Total		
	Stats NZ Records	Firms Approached	Response	Stats NZ Records	Firms Approached	Response	Stats NZ Records	Firms Approached	Response	Stats NZ Records	Firms Approached	Response
Manufacturing	3663	3663	643	1239	1239	432	771	771	321	5673	5673	1396
Rental, Hiring and Real Estate	921	921	75	171	171	21	78	78	17	1170	1170	113
Professional, Technical, Scientific Services & Administrative Support Services	5085	5085	436	1371	1371	405	846	846	64	7302	7302	905
Financial and Insurance Services	480	480	274	81	81	47	111	111	21	672	672	342
Construction	6867	595	83	1197	1197	120	408	408	27	8472	2200	230
Wholesale Trade	2328	1099	95	705	705	67	396	396	28	3429	2200	190
Retail Trade	3945	847	290	735	735	122	618	618	23	5298	2200	435
Accommodation and Food Services	5874	463	197	1362	1362	139	375	375	10	7611	2200	346
Transport, Postal, Warehousing & Information	1512	1438	53	423	423	91	339	339	44	2274	2200	188
Media	1512	1438	53	423	423	91	339	339	44	2274	2200	188
Total	30675	14591	2146	7284	7284	1444	3942	3942	555	41901	25817	4145

**Appendix Table B.4: Survey Framework of Main Wave, Percentage of Firms According to Employment Size Group**

	6-19 Workers			20-49 Workers			50+ Workers			Total		
	Stats NZ Records (%)	Firms Approached (%)	Response (%)	Stats NZ Records (%)	Firms Approached (%)	Response (%)	Stats NZ Records (%)	Firms Approached (%)	Response (%)	Stats NZ Records (%)	Firms Approached (%)	Response (%)
Manufacturing	65	65	46	22	22	31	14	14	23	100	100	25
Rental, Hiring and Real Estate	79	79	66	15	15	19	7	7	15	100	100	10
Professional, Technical, Scientific Services & Administrative Support Services	70	70	48	19	19	45	12	12	7	100	100	12
Financial and Insurance Services	71	71	80	12	12	14	17	17	6	100	100	51
Construction	81	27	36	14	54	52	5	19	12	100	26	10
Wholesale Trade	68	50	50	21	32	35	12	18	15	100	64	9
Retail Trade	74	39	67	14	33	28	12	28	5	100	42	20
Accommodation and Food Services	77	21	57	18	62	40	5	17	3	100	29	16
Transport, Postal, Warehousing & Information	66	65	28	19	19	48	15	15	23	100	97	9
Media	66	65	28	19	19	48	15	15	23	100	97	9

**Appendix Table B.5: Survey Framework of Follow-up Wave, Number of Firms**



	6-19 Workers		20-49 Workers		50+ Workers		Totals	
	Firms Approached	Response	Firms Approached	Response	Firms Approached	Response	Firms Approached	Response
Manufacturing	643	329	432	195	321	166	1396	690
Rental, Hiring and Real Estate	75	36	21	9	17	10	113	55
Professional, Technical, Scientific Services & Administrative Support Services	436	190	405	212	64	33	905	435
Financial and Insurance Services	274	138	47	26	21	10	342	174
Construction	83	41	120	51	27	9	230	101
Wholesale Trade	95	41	67	32	28	11	190	84
Retail Trade	290	139	122	49	23	13	435	201
Accommodation and Food Services	197	106	139	64	10	8	346	178
Transport, Postal, Warehousing & Information Media	53	28	91	55	44	24	188	107
Total	2146	1048	1444	693	555	284	4145	2025

**Appendix Table B.6: Survey Framework of Follow-up Wave, Response Rates**

	6-19 Workers	20-49 Workers	100+ Workers	Total
	Response Rates	Response Rates	Response Rates	Response Rates
Manufacturing	51	45	52	49
Rental, Hiring and Real Estate	48	43	59	49
Professional, Technical, Scientific Services & Administrative Support Services	44	52	52	48
Financial and Insurance Services	50	55	48	51
Construction	49	43	33	44
Wholesale Trade	43	48	39	44
Retail Trade	48	40	57	46
Accommodation and Food Services	54	46	80	51
Transport, Postal, Warehousing & Information Media	53	60	55	57
Total	49	48	51	49