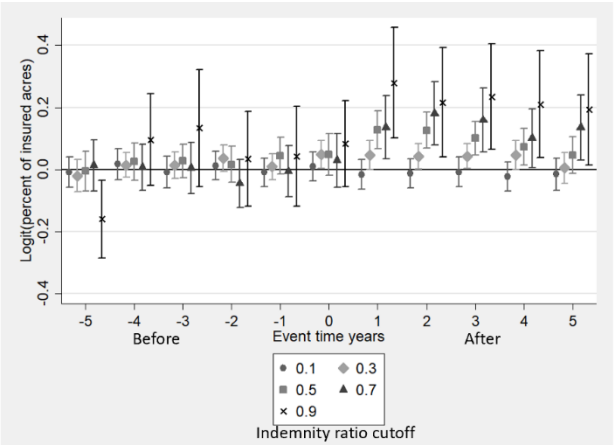
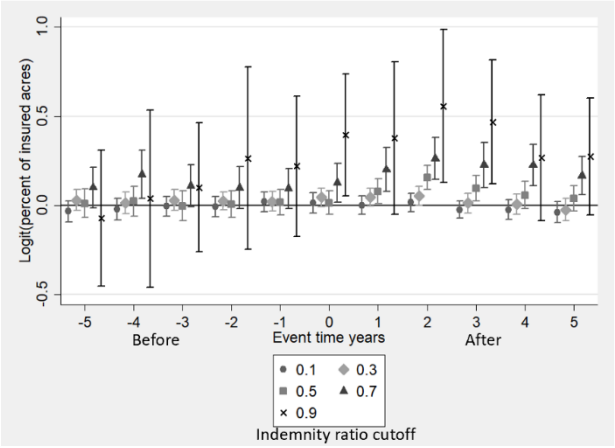
Supplemental Material for

Recency Effects and Participation at the Extensive and Intensive Margins in U.S. Federal Crop Insurance Programs

Figures and Tables



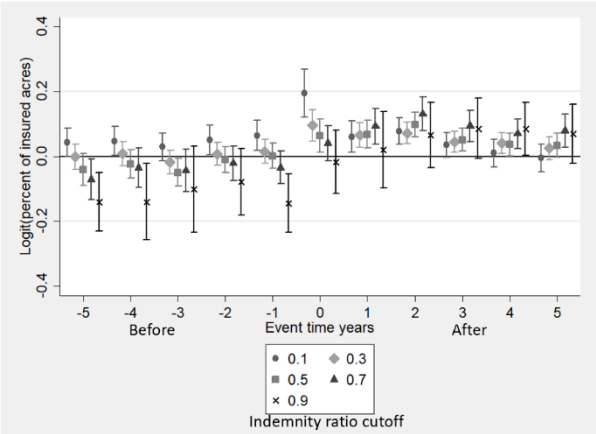
(1a) Corn



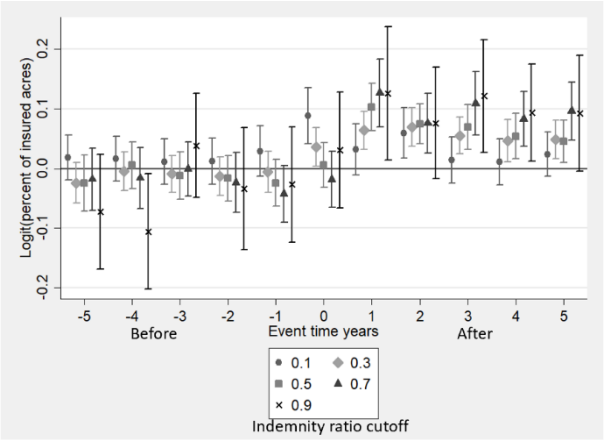
(1b) Soybeans

Figure 1 How the logit transformation of extensive margin participation, as measured by percent of insured acres, responds to a large disaster event. Data are available for 12 State Region and 2001-2017 period. The states are Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, North Dakota, Nebraska, Ohio, South Dakota and Wisconsin

Note: Figure 1 shows the logit transformation of extensive margin participation estimates from the nonparametric estimation. The figures plot event study coefficients from the estimation of Equation (21) using the 2001-2017 panel's full samples including both buy-up and CAT contracts for corn and soybeans respectively. Here we assert that a large loss event occurs in one county when the county's indemnity ratio is greater than a specific cutoff point such as 0.1, 0.3, 0.5, 0.7, 0.9. The value of a cutoff point can denote the magnitude of a large loss. The different cutoff points are denoted by different symbols. Event times are plotted on the x-axis. Year 0 is a large loss year while years -1,..., -5 are the years before that large loss, and years 1,..., 5 are the years after the loss. The bands represent the 95 percent confidence intervals. The corresponding event coefficient estimates can be found in Table 1 and Table 5.

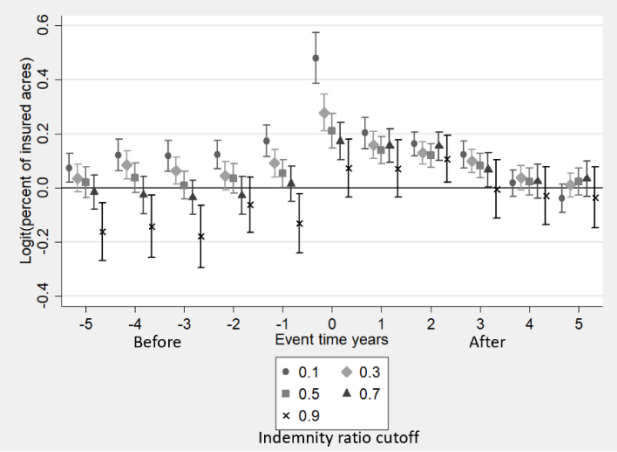


(2a) Corn

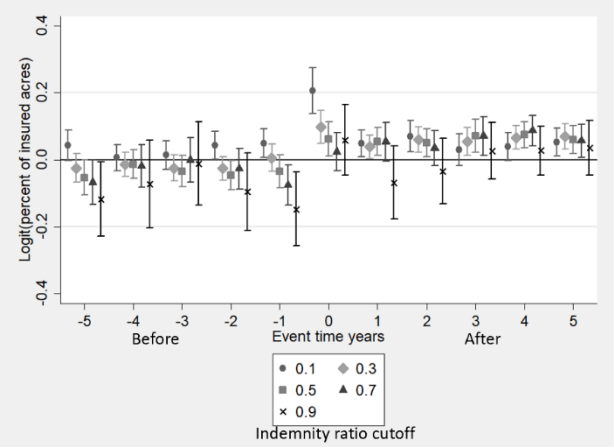


(2b) Soybeans

Figure 2 How the logit transformation of participation at coverage levels of at least 65%, as measured by percent of insured acres at coverage levels of 65% or greater than 65%, responds to a large disaster event. Data are for 12 State Region and 2001-2017 period. The corresponding event coefficient estimates can be found in Table 3 and Table 7

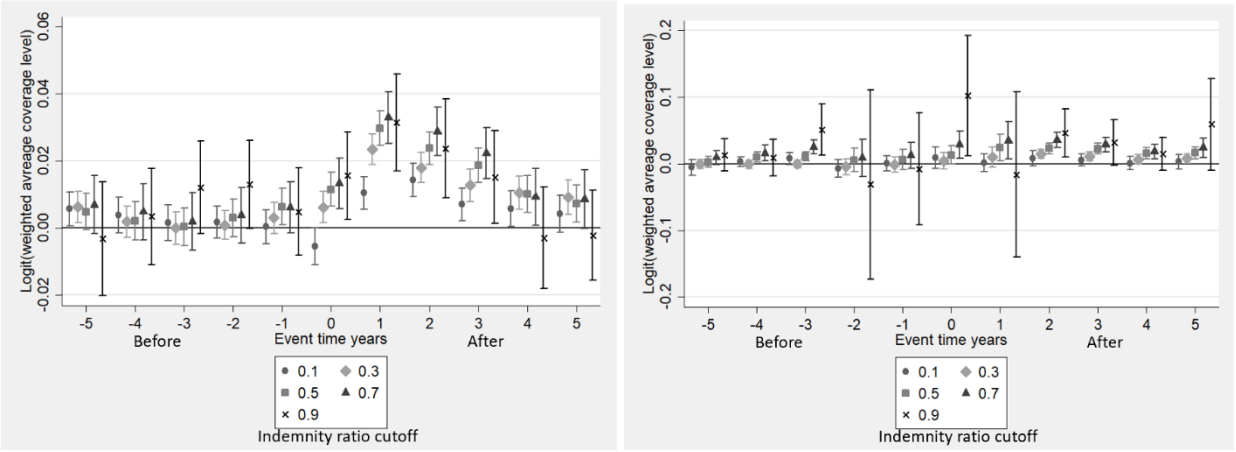


(3a) Corn



(3b) Soybeans

Figure 3 How the logit transformation of participation at coverage levels of at least 75%, as measured by percent of insured acres at coverage levels of 75% or greater than 75%, responds to a large disaster event. Data are for 12 State Region and 2001-2017 period. The corresponding event coefficient estimates can be found in Table 4 and Table 8



(4a) Corn (4b) Soybeans

Figure 4 How the logit transformation of buy-up contract participation, as measured by acreage weighted average coverage level for participating acres in buy-up contracts, responds to a large disaster event. Data are for 12 State Region and 2001-2017 period. The corresponding event coefficient estimates can be found in Table 11 and Table 13

Table 1 How the logit transformation of extensive margin participation, as measured by percent of insured acres with all samples including buy-up and CAT contracts, responds to a large disaster event for corn, equation (21)

	The cutoff points of indemnity ratio				
	0.1	0.3	0.5	0.7	0.9
VARIABLES	Dependent variable: Logit of insured acres percentage				
5 years before event	-0.009	-0.020	-0.005	0.014	-0.160**
	(0.025)	(0.027)	(0.032)	(0.042)	(0.064)
4 years before event	0.017	0.015	0.025	0.007	0.096
	(0.025)	(0.020)	(0.031)	(0.038)	(0.075)
3 years before event	-0.008	0.015	0.027	0.005	0.134
	(0.026)	(0.022)	(0.028)	(0.042)	(0.096)
2 years before event	0.012	0.036*	0.017	-0.044	0.034
	(0.023)	(0.022)	(0.029)	(0.039)	(0.078)
1 year before event	-0.009	0.009	0.044	-0.006	0.043
	(0.023)	(0.021)	(0.030)	(0.042)	(0.082)
Event year	0.011	0.049**	0.049	0.030	0.083
	(0.024)	(0.023)	(0.034)	(0.044)	(0.070)
1 year after event	-0.016	0.046*	0.128***	0.136***	0.279***
	(0.024)	(0.024)	(0.031)	(0.052)	(0.091)
2 years after event	-0.013	0.042**	0.127***	0.181***	0.216**
	(0.024)	(0.021)	(0.030)	(0.052)	(0.089)
3 years after event	-0.008	0.043**	0.101***	0.159***	0.235***
	(0.024)	(0.020)	(0.028)	(0.052)	(0.087)
4 years after event	-0.023	0.046*	0.073**	0.101**	0.210**
	(0.024)	(0.024)	(0.030)	(0.048)	(0.087)
5 years after event	-0.015	0.005	0.046	0.135**	0.193**
	(0.027)	(0.026)	(0.030)	(0.054)	(0.091)
State-by-year FE	Yes	Yes	Yes	Yes	Yes
CRD FE	Yes	Yes	Yes	Yes	Yes
Constant	1.120***	1.088***	1.098***	1.135***	1.130***
	(0.080)	(0.039)	(0.033)	(0.029)	(0.026)
Observations	14,961	14,961	14,961	14,961	14,961
R-squared	0.218	0.219	0.222	0.223	0.222
Number of counties	973	973	973	973	973

Note: Each column contains event coefficient estimates from a distinct regression of Equation (21) with different indemnity ratio cutoff points such as 0.1, 0.3, 0.5, 0.7, 0.9. Each estimation includes state-by-year and crop reporting district (CRD) fixed effects using the 2001-2017 panel's full samples for corn. Standard errors are at the significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table 2 How the logit transformation of CAT contract participation, as measured by percent of insured acres in CAT contracts, responds to a large disaster event for corn, equation (21)

	The cutoff points of indemnity ratio				
	0.1	0.3	0.5	0.7	0.9
VARIABLES	Dependent variable: Logit of percent of insured acres				
5 years before event	0.007	0.066*	0.089*	0.106	0.052
	(0.029)	(0.038)	(0.048)	(0.083)	(0.123)
4 years before event	0.022	0.059	0.013	0.139*	0.155
	(0.027)	(0.036)	(0.049)	(0.084)	(0.120)
3 years before event	0.047*	0.053	0.022	0.028	-0.030
	(0.026)	(0.038)	(0.052)	(0.085)	(0.122)
2 years before event	0.054*	0.023	-0.031	-0.071	-0.162
	(0.028)	(0.043)	(0.057)	(0.097)	(0.139)
1 year before event	0.081***	0.019	-0.066	-0.129	-0.270**
	(0.028)	(0.043)	(0.058)	(0.094)	(0.137)
Event year	0.268***	0.200***	0.122**	0.007	-0.113
	(0.030)	(0.042)	(0.059)	(0.103)	(0.154)
1 year after event	0.012	-0.182***	-0.335***	-0.521***	-0.698***
	(0.028)	(0.041)	(0.056)	(0.100)	(0.161)
2 years after event	0.016	-0.180***	-0.420***	-0.712***	-0.746***
	(0.030)	(0.045)	(0.066)	(0.117)	(0.166)
3 years after event	0.033	-0.176***	-0.424***	-0.652***	-0.713***
	(0.029)	(0.045)	(0.065)	(0.115)	(0.171)
4 years after event	0.036	-0.139***	-0.303***	-0.424***	-0.363*
	(0.029)	(0.046)	(0.067)	(0.125)	(0.200)
5 years after event	-0.013	-0.206***	-0.339***	-0.309**	-0.181
	(0.034)	(0.052)	(0.076)	(0.128)	(0.187)
State-by-year FE	Yes	Yes	Yes	Yes	Yes
CRD FE	Yes	Yes	Yes	Yes	Yes
Constant	-2.491***	-2.396***	-2.363***	-2.357***	-2.356***
	(0.040)	(0.033)	(0.031)	(0.030)	(0.030)
Observations	14,195	14,195	14,195	14,195	14,195
R-squared	0.553	0.554	0.558	0.557	0.554
Number of counties	963	963	963	963	963

Note: Each column contains event coefficient estimates from a distinct regression of Equation (21) with different indemnity ratio cutoff points such as 0.1, 0.3, 0.5, 0.7, 0.9. Each estimation includes state-by-year and crop reporting district (CRD) fixed effects using the CAT contract samples of the 2001-2017 panel for corn. Standard errors are at the significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table 3 How the logit transformation of participation at coverage levels of at least of 65%, as measured by percent of insured acres at the coverage levels of 65% or greater than 65%, responds to a large disaster event for corn, equation (21)

	The cutoff points of indemnity ratio				
	0.1	0.3	0.5	0.7	0.9
VARIABLES	Dependent variable: Logit of percent of insured acres				
5 years before event	0.043*	-0.001	-0.041	-0.072**	-0.140***
	(0.023)	(0.020)	(0.025)	(0.032)	(0.046)
4 years before event	0.048**	0.008	-0.023	-0.035	-0.140**
	(0.023)	(0.019)	(0.022)	(0.031)	(0.060)
3 years before event	0.029	-0.017	-0.049**	-0.044	-0.101
	(0.022)	(0.019)	(0.022)	(0.033)	(0.067)
2 years before event	0.050**	0.008	-0.010	-0.021	-0.078
	(0.023)	(0.018)	(0.020)	(0.027)	(0.053)
1 year before event	0.065***	0.016	0.002	-0.035	-0.145***
	(0.024)	(0.019)	(0.020)	(0.026)	(0.046)
Event year	0.195***	0.096***	0.064**	0.040	-0.016
	(0.038)	(0.025)	(0.026)	(0.028)	(0.050)
1 year after event	0.061**	0.067***	0.069***	0.093***	0.020
	(0.025)	(0.020)	(0.022)	(0.028)	(0.060)
2 years after event	0.078***	0.072***	0.098***	0.131***	0.066
	(0.021)	(0.017)	(0.019)	(0.026)	(0.052)
3 years after event	0.036*	0.045***	0.052***	0.094***	0.086*
	(0.019)	(0.016)	(0.018)	(0.025)	(0.047)
4 years after event	0.011	0.041**	0.037**	0.070***	0.085**
	(0.022)	(0.017)	(0.018)	(0.023)	(0.042)
5 years after event	-0.005	0.025	0.034*	0.079***	0.070
	(0.022)	(0.018)	(0.019)	(0.026)	(0.047)
State-by-year FE	Yes	Yes	Yes	Yes	Yes
CRD FE	Yes	Yes	Yes	Yes	Yes
Constant	-1.190***	-0.892***	-0.816***	-0.804***	-0.797***
	(0.107)	(0.058)	(0.042)	(0.035)	(0.028)
Observations	14,903	14,903	14,903	14,903	14,903
R-squared	0.658	0.656	0.656	0.657	0.656
Number of counties	973	973	973	973	973

Note: Each column contains event coefficient estimates from a distinct regression of Equation (21) with different indemnity ratio cutoff points such as 0.1, 0.3, 0.5, 0.7, 0.9. Each estimation includes state-by-year and crop reporting district (CRD) fixed effects using the samples at coverage levels of at least of 65% from the 2001-2017 panel for corn. Standard errors are at the significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table 4 How the logit transformation of participation at coverage levels of at least of 75%, as measured by percent of insured acres at the coverage levels of 75% or greater than 75%, responds to a large disaster event for corn, equation (21)

	The cutoff points of indemnity ratio				
	0.1	0.3	0.5	0.7	0.9
VARIABLES	Dependent variable: Logit of percent of insured acres				
5 years before event	0.073***	0.036	0.021	-0.016	-0.161***
	(0.027)	(0.026)	(0.029)	(0.032)	(0.054)
4 years before event	0.122***	0.085***	0.038	-0.026	-0.142**
	(0.030)	(0.027)	(0.028)	(0.035)	(0.059)
3 years before event	0.118***	0.063**	0.010	-0.035	-0.179***
	(0.029)	(0.025)	(0.026)	(0.032)	(0.058)
2 years before event	0.123***	0.044*	0.035	-0.028	-0.061
	(0.027)	(0.027)	(0.027)	(0.036)	(0.052)
1 year before event	0.174***	0.092***	0.054**	0.015	-0.130**
	(0.029)	(0.026)	(0.026)	(0.033)	(0.056)
Event year	0.480***	0.278***	0.210***	0.173***	0.074
	(0.048)	(0.034)	(0.033)	(0.035)	(0.054)
1 year after event	0.203***	0.160***	0.141***	0.155***	0.073
	(0.029)	(0.025)	(0.025)	(0.031)	(0.054)
2 years after event	0.163***	0.129***	0.120***	0.154***	0.107**
	(0.023)	(0.021)	(0.022)	(0.027)	(0.044)
3 years after event	0.123***	0.099***	0.082***	0.068**	-0.004
	(0.026)	(0.022)	(0.023)	(0.032)	(0.055)
4 years after event	0.018	0.039*	0.024	0.024	-0.029
	(0.025)	(0.023)	(0.025)	(0.032)	(0.054)
5 years after event	-0.039	0.010	0.024	0.034	-0.035
	(0.026)	(0.023)	(0.026)	(0.033)	(0.058)
State-by-year FE	Yes	Yes	Yes	Yes	Yes
CRD FE	Yes	Yes	Yes	Yes	Yes
Constant	-2.931***	-2.381***	-2.172***	-2.054***	-1.992***
	(0.129)	(0.084)	(0.060)	(0.047)	(0.040)
Observations	14,771	14,771	14,771	14,771	14,771
R-squared	0.684	0.672	0.667	0.666	0.664
Number of counties	972	972	972	972	972

Note: Each column contains event coefficient estimates from a distinct regression of Equation (21) with different indemnity ratio cutoff points such as 0.1, 0.3, 0.5, 0.7, 0.9. Each estimation includes state-by-year and crop reporting district (CRD) fixed effects using the samples at coverage levels of at least of 75% from the 2001-2017 panel for corn. Standard errors are at the significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table 5 How the logit transformation of extensive margin participation, as measured by percent of insured acres with all samples including buy-up and CAT contracts, responds to a large disaster event for soybeans, equation (21)

	The cutoff points of indemnity ratio				
	0.1	0.3	0.5	0.7	0.9
VARIABLES	Dependent variable: Logit of percent of insured acres				
5 years before event	-0.033	0.030	0.012	0.100*	-0.070
	(0.030)	(0.030)	(0.041)	(0.058)	(0.194)
4 years before event	-0.022	0.015	0.023	0.174**	0.039
	(0.031)	(0.030)	(0.043)	(0.069)	(0.253)
3 years before event	-0.004	0.029	-0.003	0.110*	0.100
	(0.028)	(0.030)	(0.042)	(0.061)	(0.184)
2 years before event	-0.006	0.025	0.007	0.099*	0.264
	(0.029)	(0.025)	(0.038)	(0.060)	(0.260)
1 year before event	0.020	0.022	0.017	0.095*	0.220
	(0.029)	(0.028)	(0.036)	(0.058)	(0.200)
Event year	0.014	0.046*	0.015	0.126**	0.395**
	(0.029)	(0.026)	(0.033)	(0.055)	(0.174)
1 year after event	0.001	0.046*	0.079**	0.200***	0.378*
	(0.027)	(0.025)	(0.035)	(0.062)	(0.218)
2 years after event	0.017	0.053**	0.156***	0.263***	0.556**
	(0.026)	(0.027)	(0.035)	(0.060)	(0.219)
3 years after event	-0.024	0.013	0.097***	0.225***	0.466***
	(0.024)	(0.028)	(0.036)	(0.064)	(0.177)
4 years after event	-0.024	0.007	0.059	0.225***	0.268
	(0.028)	(0.029)	(0.039)	(0.059)	(0.179)
5 years after event	-0.038	-0.025	0.039	0.167***	0.275*
	(0.030)	(0.032)	(0.037)	(0.055)	(0.167)
State-by-year FE	Yes	Yes	Yes	Yes	Yes
CRD FE	Yes	Yes	Yes	Yes	Yes
Constant	1.315***	1.225***	1.286***	1.262***	1.287***
	(0.103)	(0.055)	(0.040)	(0.031)	(0.029)
Observations	14,191	14,191	14,191	14,191	14,191
R-squared	0.186	0.187	0.189	0.192	0.190
Number of counties	931	931	931	931	931

Note: Each column contains event coefficient estimates from a distinct regression of Equation (21) with different indemnity ratio cutoff points such as 0.1, 0.3, 0.5, 0.7, 0.9. Each estimation includes state-by-year and crop reporting district (CRD) fixed effects using the 2001-2017 panel's full samples for soybeans. Standard errors are at the significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table 6 How the logit transformation of buy-up contract participation, as measured by percent of insured acres in buy-up contracts, responds to a large disaster event for soybeans, equation (21)

	The cutoff points of indemnity ratio				
	0.1	0.3	0.5	0.7	0.9
VARIABLES	Dependent variable: Logit of percent of insured acres				
5 years before event	-0.008	0.027	0.001	0.036	0.050
	(0.026)	(0.025)	(0.037)	(0.049)	(0.121)
4 years before event	-0.002	0.002	0.014	0.075	-0.021
	(0.026)	(0.025)	(0.033)	(0.052)	(0.120)
3 years before event	0.005	0.021	-0.005	0.038	0.039
	(0.026)	(0.025)	(0.035)	(0.050)	(0.099)
2 years before event	-0.018	0.006	-0.019	0.023	0.060
	(0.026)	(0.022)	(0.032)	(0.047)	(0.152)
1 year before event	0.032	0.003	-0.011	0.050	0.142
	(0.026)	(0.022)	(0.030)	(0.043)	(0.125)
Event year	0.018	0.030	-0.031	0.035	0.251**
	(0.027)	(0.022)	(0.027)	(0.040)	(0.111)
1 year after event	0.016	0.060***	0.080***	0.151***	0.312**
	(0.025)	(0.023)	(0.029)	(0.044)	(0.137)
2 years after event	0.030	0.060***	0.110***	0.166***	0.408***
	(0.024)	(0.022)	(0.029)	(0.043)	(0.135)
3 years after event	-0.014	-0.003	0.064**	0.178***	0.395***
	(0.023)	(0.023)	(0.028)	(0.048)	(0.112)
4 years after event	-0.023	0.008	0.045	0.127***	0.279**
	(0.027)	(0.025)	(0.031)	(0.046)	(0.133)
5 years after event	-0.046*	-0.011	0.011	0.134***	0.278**
	(0.027)	(0.025)	(0.028)	(0.046)	(0.114)
State-by-year FE	Yes	Yes	Yes	Yes	Yes
CRD FE	Yes	Yes	Yes	Yes	Yes
Constant	0.595***	0.577***	0.636***	0.599***	0.611***
	(0.087)	(0.049)	(0.037)	(0.027)	(0.025)
Observations	14,191	14,191	14,191	14,191	14,191
R-squared	0.343	0.343	0.345	0.346	0.346
Number of counties	931	931	931	931	931

Note: Each column contains event coefficient estimates from a distinct regression of Equation (21) with different indemnity ratio cutoff points such as 0.1, 0.3, 0.5, 0.7, 0.9. Each estimation includes state-by-year and crop reporting district (CRD) fixed effects using the buy-up contract samples of the 2001-2017 panel for soybeans. Standard errors are at the significance levels: *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 7 How the logit transformation of CAT contract participation, as measured by percent of insured acres in CAT contracts, responds to a large disaster event for soybeans, equation (21)

	The cutoff points of indemnity ratio				
	0.1	0.3	0.5	0.7	0.9
VARIABLES	Dependent variable: Logit of percent of insured acres				
5 years before event	0.026	0.072	0.006	-0.165	-0.261
	(0.032)	(0.050)	(0.075)	(0.132)	(0.165)
4 years before event	0.080**	0.099**	0.093	-0.129	-0.252
	(0.032)	(0.050)	(0.068)	(0.128)	(0.161)
3 years before event	0.097***	0.078	-0.046	-0.106	-0.159
	(0.030)	(0.048)	(0.073)	(0.135)	(0.179)
2 years before event	0.153***	0.103**	0.041	-0.322**	-0.451***
	(0.030)	(0.048)	(0.072)	(0.137)	(0.169)
1 year before event	0.219***	0.147***	0.065	-0.137	-0.212
	(0.030)	(0.049)	(0.074)	(0.135)	(0.173)
Event year	0.373***	0.325***	0.249***	0.145	0.122
	(0.033)	(0.051)	(0.076)	(0.146)	(0.186)
1 year after event	0.130***	-0.048	-0.219***	-0.392***	-0.567***
	(0.031)	(0.051)	(0.082)	(0.151)	(0.195)
2 years after event	0.073**	-0.121**	-0.354***	-0.598***	-0.808***
	(0.033)	(0.055)	(0.088)	(0.158)	(0.194)
3 years after event	0.061*	-0.129**	-0.311***	-0.545**	-0.584**
	(0.034)	(0.063)	(0.099)	(0.218)	(0.274)
4 years after event	0.048	-0.193***	-0.277***	-0.335*	-0.427*
	(0.034)	(0.062)	(0.094)	(0.172)	(0.240)
5 years after event	0.034	-0.138**	-0.219**	-0.500***	-0.512**
	(0.039)	(0.062)	(0.104)	(0.189)	(0.241)
State-by-year FE	Yes	Yes	Yes	Yes	Yes
CRD FE	Yes	Yes	Yes	Yes	Yes
Constant	-2.586***	-2.429***	-2.386***	-2.368***	-2.368***
	(0.038)	(0.031)	(0.031)	(0.031)	(0.031)
Observations	13,220	13,220	13,220	13,220	13,220
R-squared	0.532	0.528	0.527	0.526	0.526
Number of counties	910	910	910	910	910

Note: Each column contains event coefficient estimates from a distinct regression of Equation (21) with different indemnity ratio cutoff points such as 0.1, 0.3, 0.5, 0.7, 0.9. Each estimation includes state-by-year and crop reporting district (CRD) fixed effects using the CAT contract samples of the 2001-2017 panel for soybeans. Standard errors are at the significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table 8 How the logit transformation of participation at coverage levels of at least of 65%, as measured by percent of insured acres at the coverage levels of 65% or greater than 65%, responds to a large disaster event for soybeans, equation (21)

	The cutoff points of indemnity ratio				
	0.1	0.3	0.5	0.7	0.9
VARIABLES	Dependent variable: Logit of percent of insured acres				
5 years before event	0.018	-0.024	-0.024	-0.018	-0.072
	(0.019)	(0.017)	(0.024)	(0.027)	(0.049)
4 years before event	0.016	-0.005	0.005	-0.016	-0.105**
	(0.019)	(0.016)	(0.020)	(0.026)	(0.049)
3 years before event	0.011	-0.009	-0.012	-0.001	0.038
	(0.019)	(0.016)	(0.020)	(0.023)	(0.044)
2 years before event	0.012	-0.013	-0.016	-0.024	-0.033
	(0.020)	(0.016)	(0.019)	(0.026)	(0.052)
1 year before event	0.029	-0.006	-0.024	-0.043*	-0.027
	(0.022)	(0.018)	(0.020)	(0.024)	(0.049)
Event year	0.088***	0.036**	0.006	-0.019	0.031
	(0.024)	(0.016)	(0.019)	(0.024)	(0.049)
1 year after event	0.032	0.064***	0.103***	0.126***	0.126**
	(0.022)	(0.016)	(0.020)	(0.029)	(0.057)
2 years after event	0.059***	0.070***	0.075***	0.076***	0.076
	(0.022)	(0.016)	(0.017)	(0.026)	(0.048)
3 years after event	0.014	0.055***	0.069***	0.109***	0.121**
	(0.020)	(0.016)	(0.019)	(0.027)	(0.048)
4 years after event	0.011	0.046**	0.054***	0.083***	0.094**
	(0.020)	(0.018)	(0.019)	(0.023)	(0.041)
5 years after event	0.024	0.049***	0.045**	0.096***	0.092*
	(0.019)	(0.016)	(0.018)	(0.025)	(0.050)
State-by-year FE	Yes	Yes	Yes	Yes	Yes
CRD FE	Yes	Yes	Yes	Yes	Yes
Constant	-0.696***	-0.537***	-0.523***	-0.529***	-0.546***
	(0.085)	(0.045)	(0.032)	(0.026)	(0.023)
Observations	14,177	14,177	14,177	14,177	14,177
R-squared	0.673	0.675	0.675	0.676	0.673
Number of counties	931	931	931	931	931

Note: Each column contains event coefficient estimates from a distinct regression of Equation (21) with different indemnity ratio cutoff points such as 0.1, 0.3, 0.5, 0.7, 0.9. Each estimation includes state-by-year and crop reporting district (CRD) fixed effects using the samples at coverage levels of at least of 65% from the 2001-2017 panel for soybeans. Standard errors are at the significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table 9 How the logit transformation of participation at coverage levels of at least of 75%, as measured by percent of insured acres at the coverage levels of 75% or greater than 75%, responds to a large disaster event for soybeans, equation (21)

	The cutoff points of indemnity ratio				
	0.1	0.3	0.5	0.7	0.9
VARIABLES	Dependent variable: Logit of percent of insured acres				
5 years before event	0.043*	-0.024	-0.053**	-0.067**	-0.117**
	(0.023)	(0.022)	(0.026)	(0.034)	(0.057)
4 years before event	0.007	-0.013	-0.013	-0.019	-0.072
	(0.020)	(0.018)	(0.022)	(0.032)	(0.066)
3 years before event	0.014	-0.024	-0.034	-0.001	-0.011
	(0.022)	(0.020)	(0.024)	(0.034)	(0.063)
2 years before event	0.043**	-0.026	-0.046**	-0.027	-0.095
	(0.022)	(0.018)	(0.022)	(0.031)	(0.059)
1 year before event	0.050**	0.006	-0.035	-0.076**	-0.147***
	(0.022)	(0.021)	(0.025)	(0.030)	(0.056)
Event year	0.206***	0.098***	0.062**	0.024	0.059
	(0.035)	(0.025)	(0.026)	(0.029)	(0.054)
1 year after event	0.049**	0.039**	0.055**	0.054*	-0.068
	(0.020)	(0.018)	(0.022)	(0.030)	(0.055)
2 years after event	0.070***	0.060***	0.051**	0.035	-0.034
	(0.024)	(0.020)	(0.021)	(0.026)	(0.049)
3 years after event	0.029	0.055**	0.072***	0.071**	0.027
	(0.024)	(0.021)	(0.025)	(0.029)	(0.043)
4 years after event	0.040*	0.067***	0.075***	0.087***	0.028
	(0.021)	(0.018)	(0.020)	(0.023)	(0.037)
5 years after event	0.053**	0.070***	0.060***	0.057**	0.036
	(0.021)	(0.019)	(0.021)	(0.025)	(0.042)
State-by-year FE	Yes	Yes	Yes	Yes	Yes
CRD FE	Yes	Yes	Yes	Yes	Yes
Constant	-1.893***	-1.587***	-1.530***	-1.551***	-1.556***
	(0.096)	(0.057)	(0.044)	(0.035)	(0.032)
Observations	14,129	14,129	14,129	14,129	14,129
R-squared	0.700	0.698	0.698	0.697	0.697
Number of counties	928	928	928	928	928

Note: Each column contains event coefficient estimates from a distinct regression of Equation (21) with different indemnity ratio cutoff points such as 0.1, 0.3, 0.5, 0.7, 0.9. Each estimation includes state-by-year and crop reporting district (CRD) fixed effects using the samples at coverage levels of at least of 75% from the 2001-2017 panel for soybeans. Standard errors are at the significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table 10 How the logit transformation of intensive margin participation, as measured by acreage weighted average coverage level for participating acres, responds to a large disaster event for corn, equation (21)

	The cutoff points of indemnity ratio				
	0.1	0.3	0.5	0.7	0.9
VARIABLES	Dependent variable: Logit of weighted average coverage level				
5 years before event	0.008***	0.007***	0.011***	0.015***	-0.006
	(0.003)	(0.002)	(0.003)	(0.005)	(0.009)
4 years before event	0.007**	0.004*	0.010***	0.015***	0.000
	(0.003)	(0.002)	(0.003)	(0.004)	(0.008)
3 years before event	0.004	-0.000	0.008***	0.017***	0.018**
	(0.003)	(0.003)	(0.003)	(0.004)	(0.008)
2 years before event	0.005*	0.002	0.007**	0.015***	0.019***
	(0.003)	(0.002)	(0.003)	(0.004)	(0.007)
1 year before event	0.004	0.006**	0.011***	0.017***	0.012*
	(0.003)	(0.002)	(0.003)	(0.004)	(0.006)
Event year	0.003	0.010***	0.019***	0.024***	0.021***
	(0.003)	(0.003)	(0.003)	(0.004)	(0.007)
1 year after event	0.017***	0.033***	0.041***	0.049***	0.045***
	(0.003)	(0.002)	(0.003)	(0.004)	(0.008)
2 years after event	0.019***	0.027***	0.033***	0.041***	0.034***
	(0.003)	(0.002)	(0.003)	(0.004)	(0.007)
3 years after event	0.012***	0.018***	0.026***	0.031***	0.019**
	(0.003)	(0.002)	(0.003)	(0.004)	(0.008)
4 years after event	0.008***	0.012***	0.010***	0.015***	-0.004
	(0.003)	(0.002)	(0.003)	(0.004)	(0.008)
5 years after event	0.002	0.008***	0.008***	0.010**	-0.005
	(0.003)	(0.003)	(0.003)	(0.005)	(0.007)
State-by-year FE	Yes	Yes	Yes	Yes	Yes
CRD FE	Yes	Yes	Yes	Yes	Yes
Constant	0.663***	0.675***	0.674***	0.678***	0.685***
	(0.011)	(0.006)	(0.005)	(0.004)	(0.004)
Observations	14,961	14,961	14,961	14,961	14,961
R-squared	0.794	0.799	0.800	0.798	0.793
Number of counties	973	973	973	973	973

Note: Each column contains event coefficient estimates from a distinct regression of Equation (21) with different indemnity ratio cutoff points such as 0.1, 0.3, 0.5, 0.7, 0.9. Each estimation includes state-by-year and crop reporting district (CRD) fixed effects using the 2001-2017 panel for corn. The coverage level equals to 0.5 at CAT coverage when calculating the weighted average coverage level. Standard errors are at the significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table 11 How the logit transformation of buy-up contract participation, as measured by acreage weighted average coverage level for participating acres in buy-up contracts, responds to a large disaster event for corn , equation (21)

	The cutoff points of indemnity ratio				
	0.1	0.3	0.5	0.7	0.9
VARIABLES	Dependent variable: Logit of weighted average coverage level				
5 years before event	0.006**	0.006***	0.005*	0.007	-0.003
	(0.003)	(0.002)	(0.003)	(0.004)	(0.009)
4 years before event	0.004	0.002	0.002	0.005	0.003
	(0.003)	(0.002)	(0.003)	(0.004)	(0.007)
3 years before event	0.001	-0.000	0.000	0.002	0.012*
	(0.003)	(0.002)	(0.003)	(0.004)	(0.007)
2 years before event	0.002	0.001	0.003	0.004	0.013*
	(0.002)	(0.002)	(0.003)	(0.004)	(0.007)
1 year before event	0.000	0.003	0.006**	0.006	0.005
	(0.003)	(0.002)	(0.003)	(0.004)	(0.007)
Event year	-0.006**	0.006***	0.011***	0.013***	0.016**
	(0.003)	(0.002)	(0.003)	(0.004)	(0.007)
1 year after event	0.010***	0.023***	0.030***	0.033***	0.031***
	(0.003)	(0.002)	(0.003)	(0.004)	(0.007)
2 years after event	0.014***	0.018***	0.024***	0.029***	0.024***
	(0.002)	(0.002)	(0.002)	(0.004)	(0.008)
3 years after event	0.007***	0.013***	0.019***	0.022***	0.015**
	(0.003)	(0.002)	(0.003)	(0.004)	(0.007)
4 years after event	0.006**	0.010***	0.010***	0.009**	-0.003
	(0.003)	(0.003)	(0.003)	(0.004)	(0.008)
5 years after event	0.004	0.009***	0.007***	0.008*	-0.002
	(0.003)	(0.003)	(0.003)	(0.004)	(0.007)
State-by-year FE	Yes	Yes	Yes	Yes	Yes
CRD FE	Yes	Yes	Yes	Yes	Yes
Constant	0.832***	0.829***	0.829***	0.833***	0.835***
	(0.010)	(0.006)	(0.005)	(0.004)	(0.003)
Observations	14,960	14,960	14,960	14,960	14,960
R-squared	0.723	0.727	0.729	0.726	0.723
Number of counties	973	973	973	973	973

Note: Each column contains event coefficient estimates from a distinct regression of Equation (21) with different indemnity ratio cutoff points such as 0.1, 0.3, 0.5, 0.7, 0.9. Each estimation includes state-by-year and crop reporting district (CRD) fixed effects using samples of buy-up contract from the 2001-2017 panel for corn. Standard errors are at the significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table 12 How the logit transformation of intensive margin participation, as measured by acreage weighted average coverage level for participating acres, responds to a large disaster event for soybeans, equation (21)

	The cutoff points of indemnity ratio				
	0.1	0.3	0.5	0.7	0.9
VARIABLES	Dependent variable: Logit of weighted average coverage level				
5 years before event	0.005*	-0.003	0.004	0.021***	0.049***
	(0.003)	(0.003)	(0.004)	(0.006)	(0.018)
4 years before event	0.005	-0.001	0.011***	0.018***	0.001
	(0.003)	(0.003)	(0.004)	(0.006)	(0.019)
3 years before event	0.008*	-0.001	0.015***	0.036***	0.069**
	(0.004)	(0.003)	(0.003)	(0.005)	(0.030)
2 years before event	-0.004	-0.009*	0.004	0.010	-0.055
	(0.005)	(0.005)	(0.009)	(0.017)	(0.103)
1 year before event	-0.002	-0.005	0.005	0.016	-0.016
	(0.005)	(0.005)	(0.006)	(0.011)	(0.060)
Event year	0.007	0.005	0.016**	0.043***	0.145**
	(0.008)	(0.006)	(0.007)	(0.012)	(0.064)
1 year after event	0.002	0.012*	0.027***	0.036**	-0.039
	(0.006)	(0.007)	(0.009)	(0.017)	(0.091)
2 years after event	0.013***	0.018***	0.030***	0.046***	0.067***
	(0.003)	(0.003)	(0.004)	(0.006)	(0.026)
3 years after event	0.007**	0.013***	0.029***	0.040***	0.041*
	(0.003)	(0.003)	(0.004)	(0.006)	(0.022)
4 years after event	-0.000	0.006*	0.019***	0.024***	0.017
	(0.004)	(0.004)	(0.004)	(0.005)	(0.012)
5 years after event	0.002	0.007**	0.019***	0.028***	0.069
	(0.003)	(0.003)	(0.005)	(0.009)	(0.051)
State-by-year FE	Yes	Yes	Yes	Yes	Yes
CRD FE	Yes	Yes	Yes	Yes	Yes
Constant	0.697***	0.720***	0.702***	0.704***	0.710***
	(0.014)	(0.009)	(0.009)	(0.007)	(0.007)
Observations	14,191	14,191	14,191	14,191	14,191
R-squared	0.616	0.618	0.620	0.620	0.621
Number of counties	931	931	931	931	931

Note: Each column contains event coefficient estimates from a distinct regression of Equation (21) with different indemnity ratio cutoff points such as 0.1, 0.3, 0.5, 0.7, 0.9. Each estimation includes state-by-year and crop reporting district (CRD) fixed effects using the 2001-2017 panel for soybeans. The coverage level equals to 0.5 at CAT coverage when calculating the weighted average coverage level. Standard errors are at the significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Table 13 How the logit transformation of buy-up contract participation, as measured by acreage weighted average coverage level for participating acres in buy-up contracts, responds to a large disaster event for soybeans, equation (21)

	The cutoff points of indemnity ratio				
	0.1	0.3	0.5	0.7	0.9
VARIABLES	Dependent variable: Logit of weighted average coverage level				
5 years before event	-0.005	0.000	0.003	0.009*	0.014
	(0.006)	(0.003)	(0.004)	(0.005)	(0.013)
4 years before event	0.003	-0.001	0.010**	0.016***	0.009
	(0.003)	(0.003)	(0.004)	(0.006)	(0.014)
3 years before event	0.008*	-0.001	0.011***	0.025***	0.051***
	(0.005)	(0.003)	(0.003)	(0.005)	(0.020)
2 years before event	-0.007	-0.004	0.006	0.009	-0.031
	(0.007)	(0.006)	(0.009)	(0.014)	(0.072)
1 year before event	0.001	-0.001	0.006	0.013	-0.007
	(0.006)	(0.006)	(0.008)	(0.010)	(0.043)
Event year	0.009	0.005	0.013*	0.029***	0.102**
	(0.008)	(0.006)	(0.007)	(0.010)	(0.046)
1 year after event	0.002	0.010	0.025**	0.035**	-0.016
	(0.007)	(0.008)	(0.010)	(0.014)	(0.063)
2 years after event	0.008	0.015***	0.023***	0.036***	0.046**
	(0.006)	(0.003)	(0.004)	(0.006)	(0.018)
3 years after event	0.006	0.011***	0.023***	0.029***	0.032*
	(0.005)	(0.003)	(0.004)	(0.006)	(0.018)
4 years after event	0.001	0.007*	0.016***	0.018***	0.015
	(0.005)	(0.004)	(0.004)	(0.005)	(0.013)
5 years after event	0.003	0.008**	0.017***	0.024***	0.059*
	(0.006)	(0.004)	(0.005)	(0.007)	(0.035)
State-by-year FE	Yes	Yes	Yes	Yes	Yes
CRD FE	Yes	Yes	Yes	Yes	Yes
Constant	0.868***	0.877***	0.864***	0.868***	0.875***
	(0.015)	(0.012)	(0.010)	(0.007)	(0.006)
Observations	14,191	14,191	14,191	14,191	14,191
R-squared	0.390	0.391	0.393	0.394	0.394
Number of counties	931	931	931	931	931

Note: Each column contains event coefficient estimates from a distinct regression of Equation (21) with different indemnity ratio cutoff points such as 0.1, 0.3, 0.5, 0.7, 0.9. Each estimation includes state-by-year and crop reporting district (CRD) fixed effects using samples of buy-up contract from the 2001-2017 panel for soybeans. Standard errors are at the significance levels: *** p<0.01, ** p<0.05, * p<0.1.