Exhibits

2019. május 2.

Investment descriptives

Investment rate statistics shown here always exclude the first year of the firm, because there I_t equals K_t by construction.

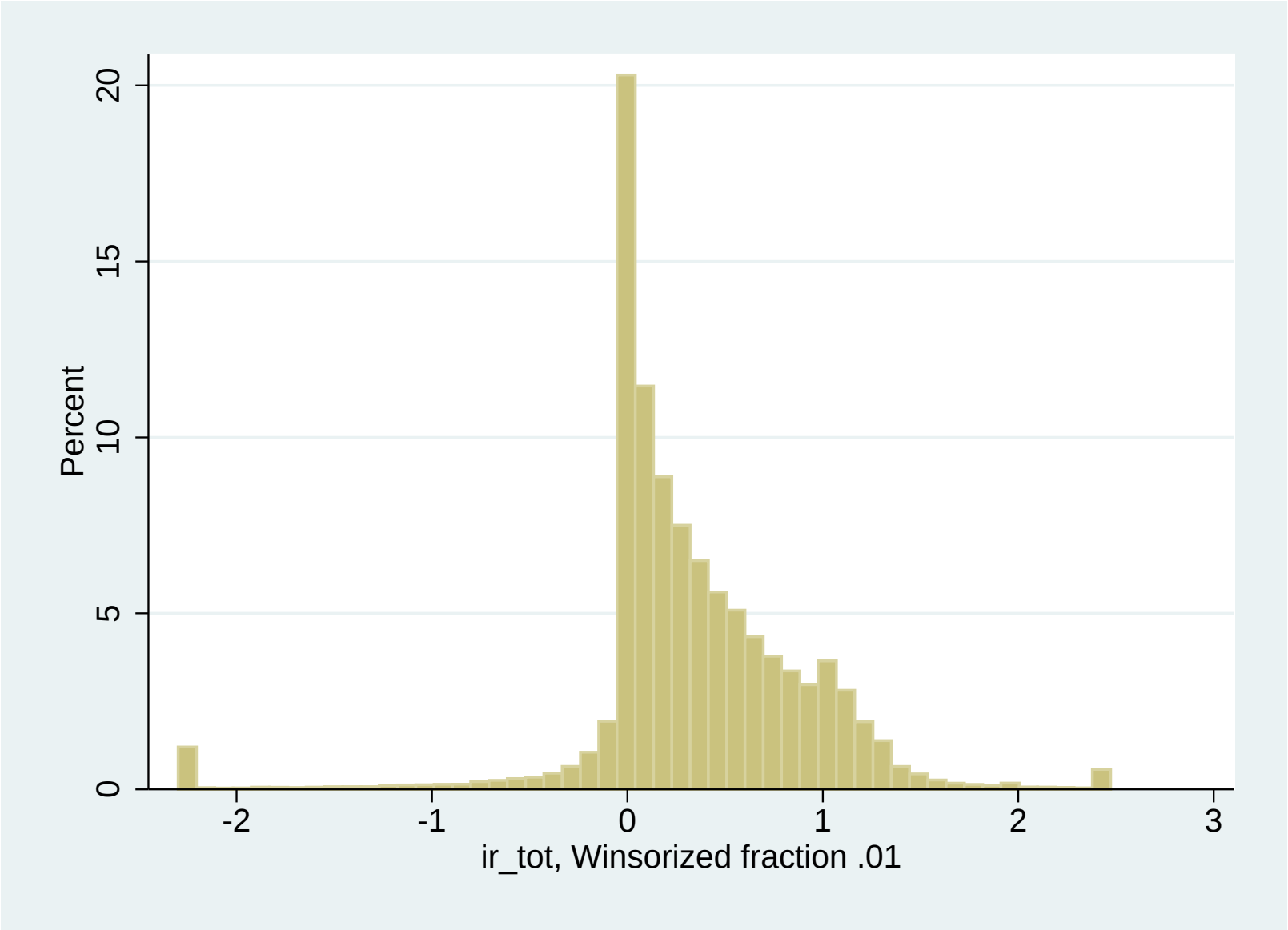
- "Table II" on three samples
  1. manufacturing firms, excl. small firms (mean $L < 10$); manuf firm: being in manuf in min 1 year between 1992 and 2003
  2. non-machine manufacturing, excl. small firms
  3. non-machine manuf, all firm sizes
- histogram of investment flow/stock
  - these are based on winsorized IRs, for all firm sizes in non-machine manufacturing
  - total, domestic, imported, and lumpy vs non-lumpy imported IRs
  - A firm-product dyad is lumpy if i. it is mainly reported in countable units in the import statistics, ii. its median price $>$ 2500 USD, and iii. the product is not classified as parts by BEC.
  - lumpy and non-lumpy IR distributions are compared both on the whole sample and without inaction observations

"Table II": Investment rate (I_t/K_t) statistics

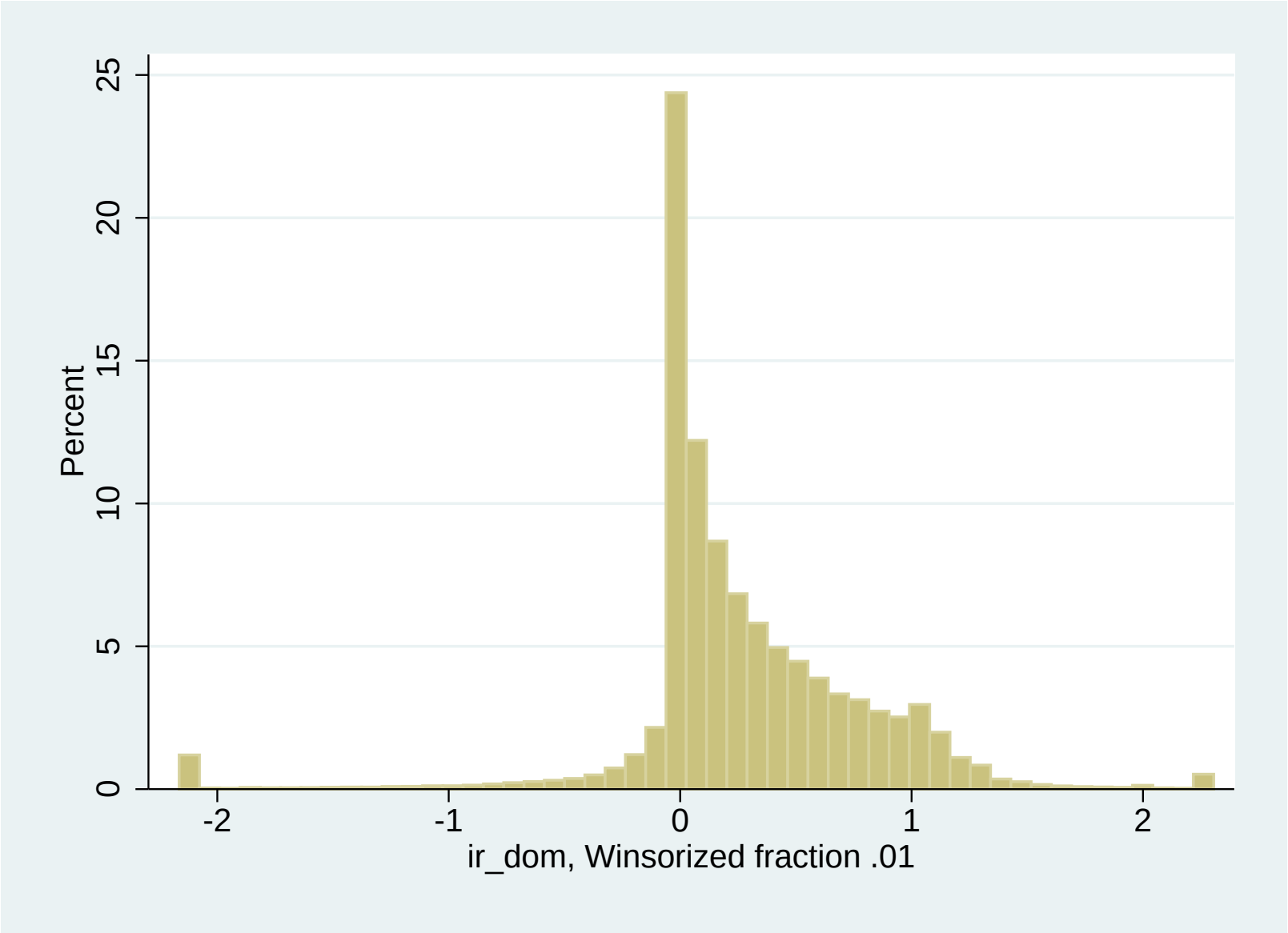
	Manufacturing 10+ employees	Non-machine manuf 10+ employees	Non-machine manuf all firm sizes
Average IR	0.321	0.270	-0.132
Average IR (winsor. 0.01)	0.378	0.335	0.338
Median IR	0.291	0.260	0.247
Inaction (%)	5.9	6.4	13.3
Positive investment (%)	85.9	85.0	77.0
Negative investment (%)	8.1	8.6	9.8
Positive spike (%)	59.9	56.9	54.1
Negative spike (%)	3.7	3.8	5.1
Observations	75,281	57,607	137,508

Notes: Inaction: abs(IR)<0.01, Positive spike: IR>0.2, Negative spike: IR<-0.2.
All samples exclude the first year of firms, where I_t equals K_t by construction.

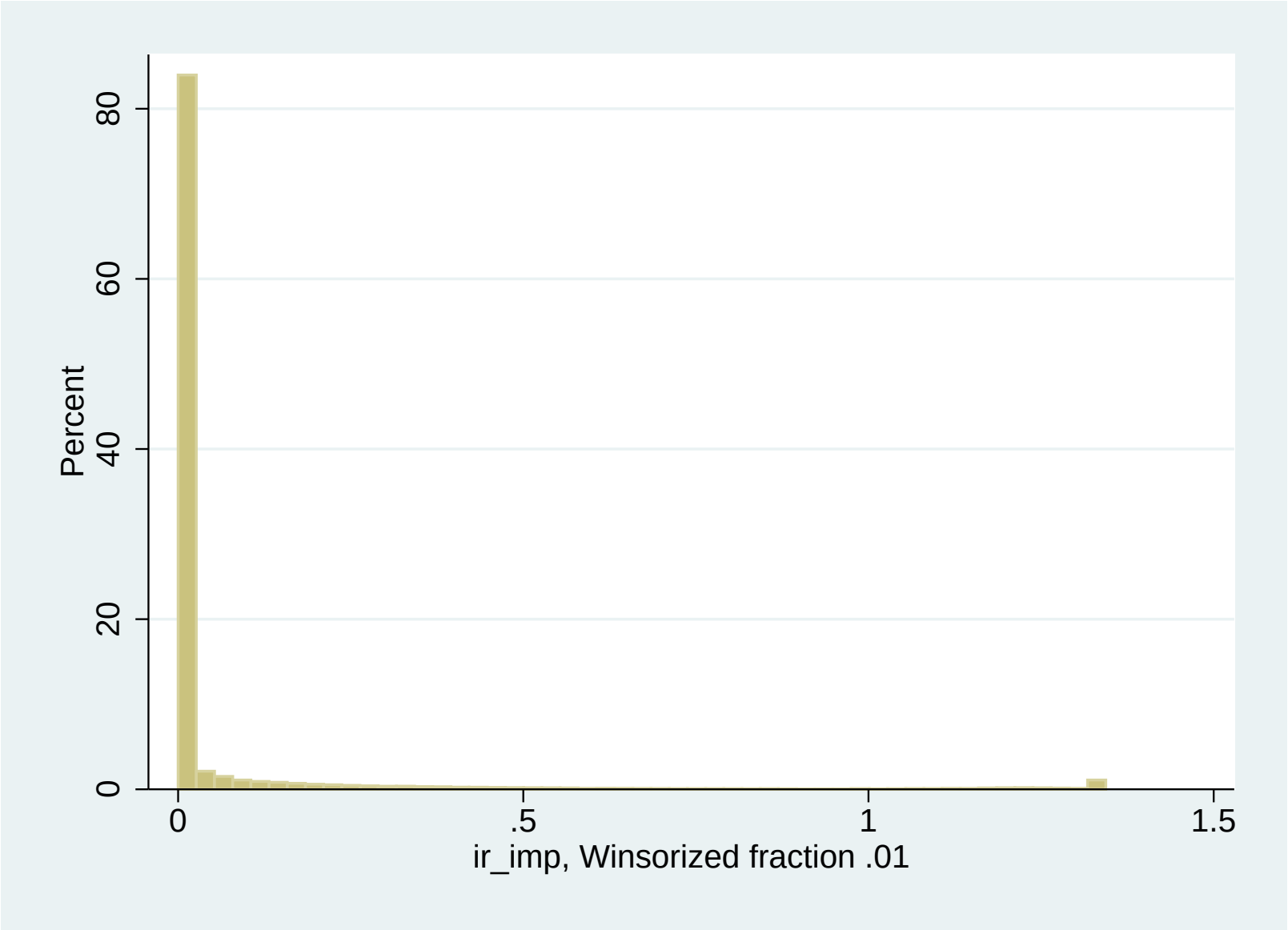
Investment Rate distribution



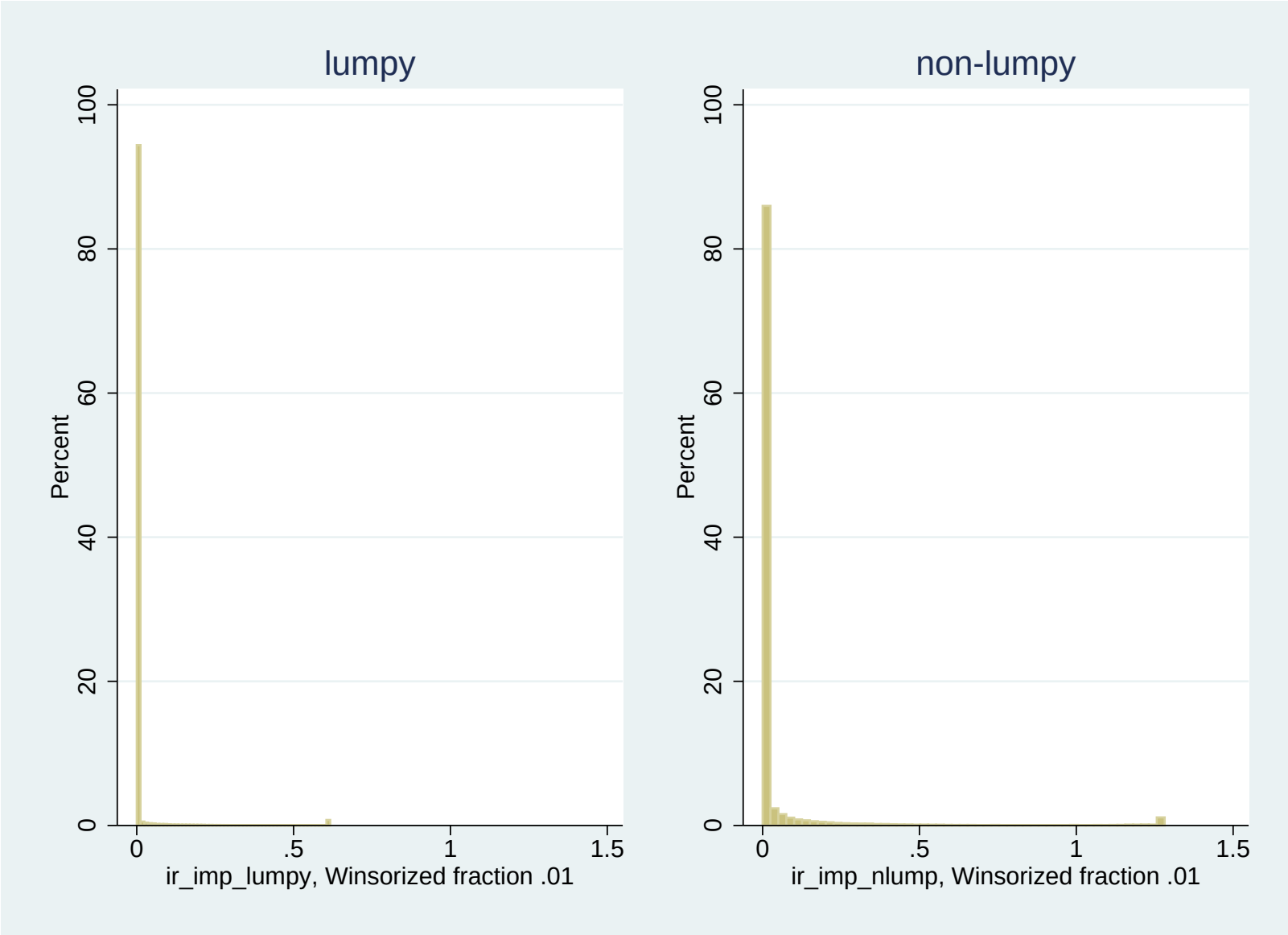
Domestic IR distribution



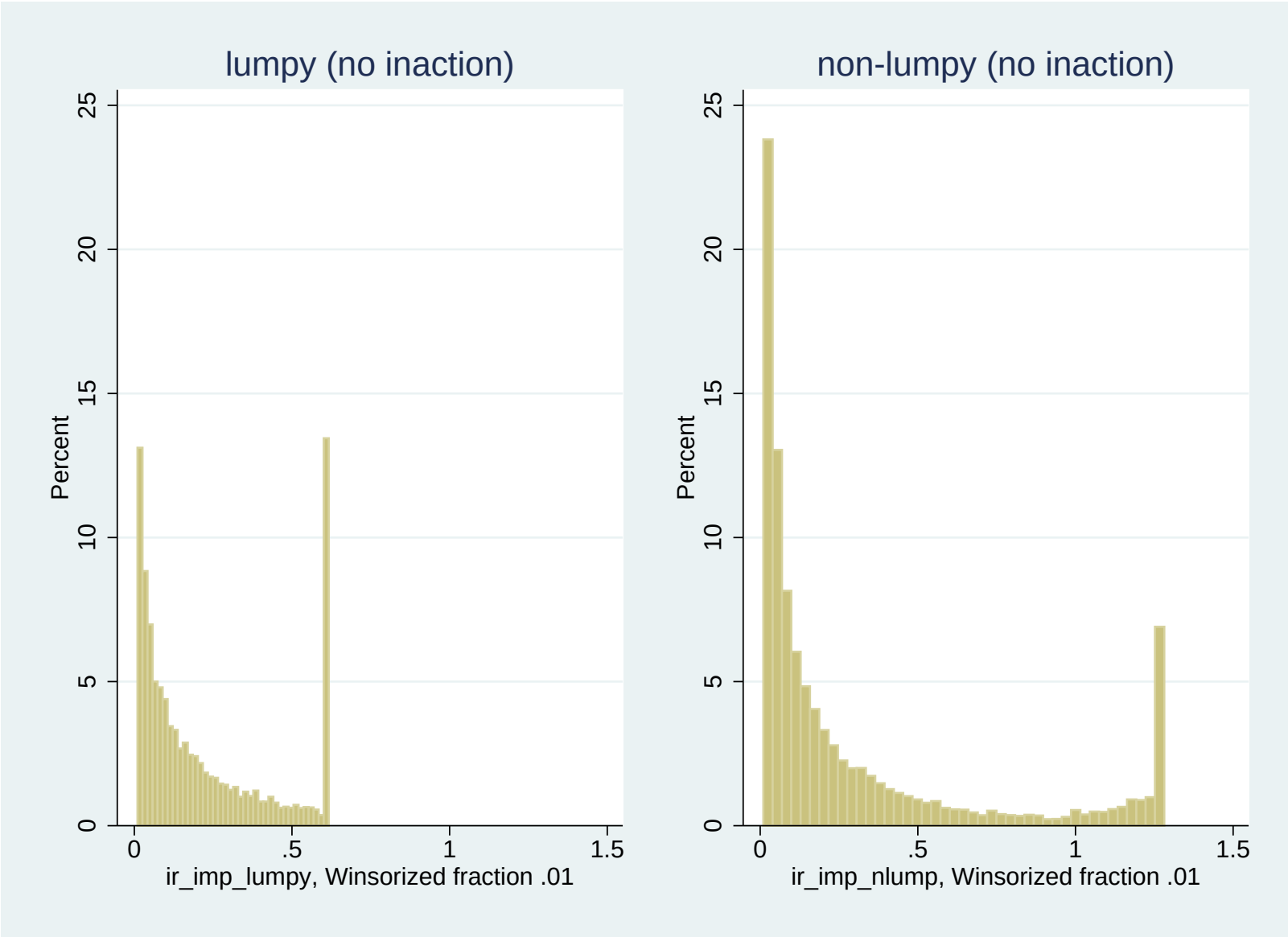
Imported IR distribution



Imported IR distribution - lumpy vs non-lumpy



Imported IR distribution - lumpy vs non-lumpy, without inaction



Event studies around large imports

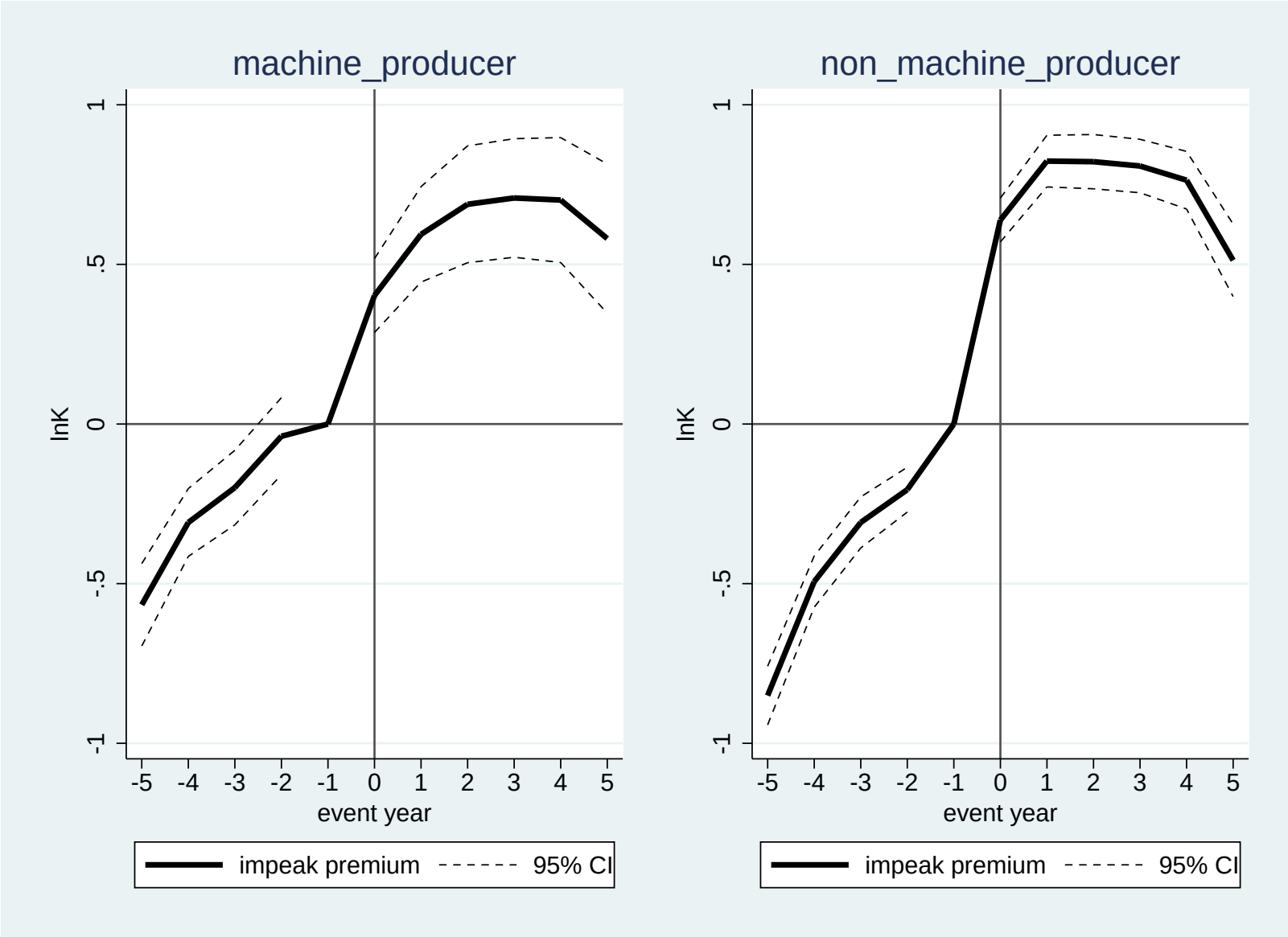
- Machine producers import much more machines than non-machine producers. They partly use machines as intermediates inputs.

	mean	median	stdev	N
Machine producers	779.6	7.3	14213.0	19,138
Non-machine producers	48.6	2.4	370.6	34,729

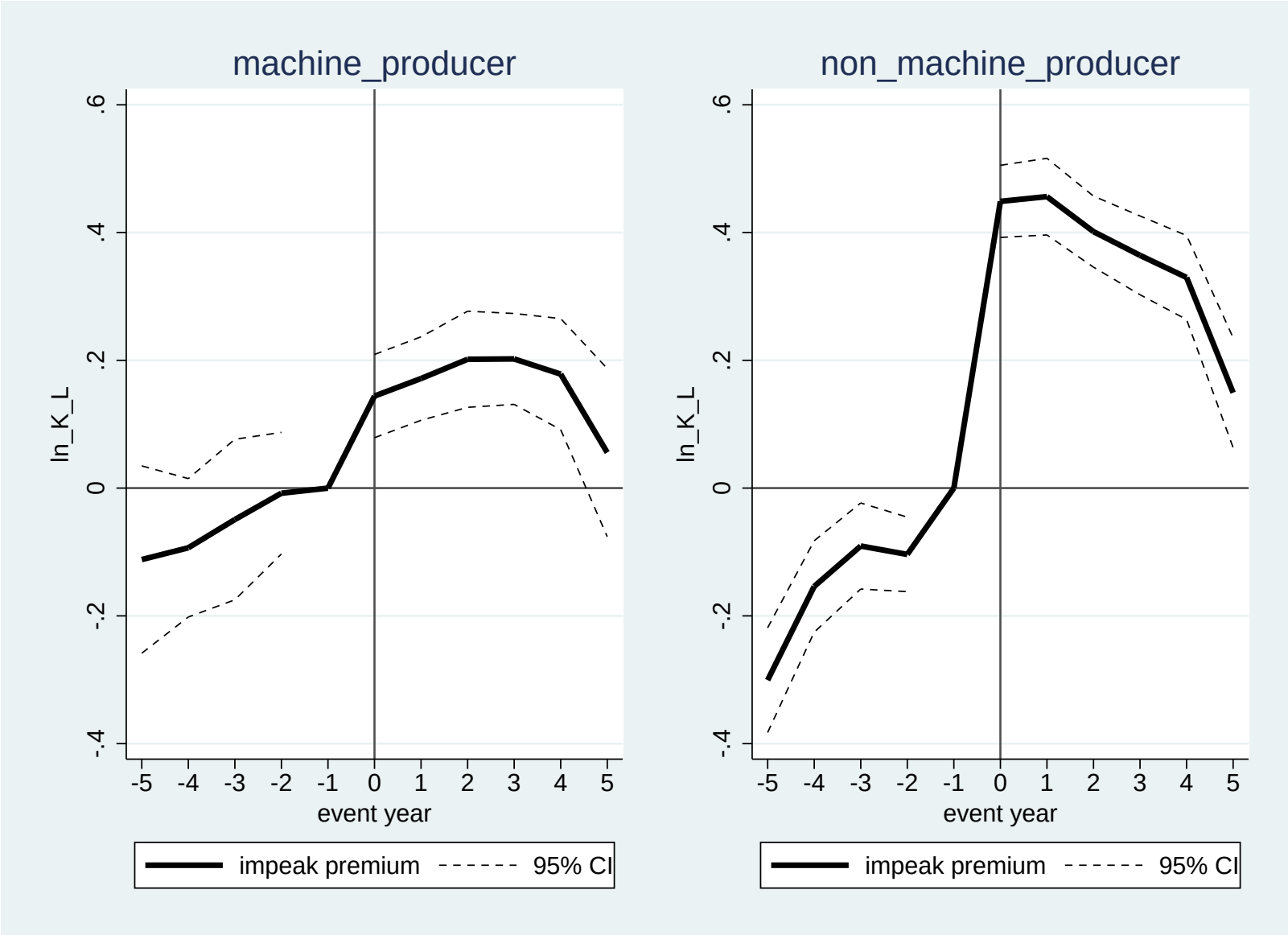
Notes: Non-zero imports (in million HUF) of machines and parts.

- Define import>2.5 million HUF as an import peak and observe around this peak how capital stock and material use change within the firm.
- Event study graphs are normalized to event year -1

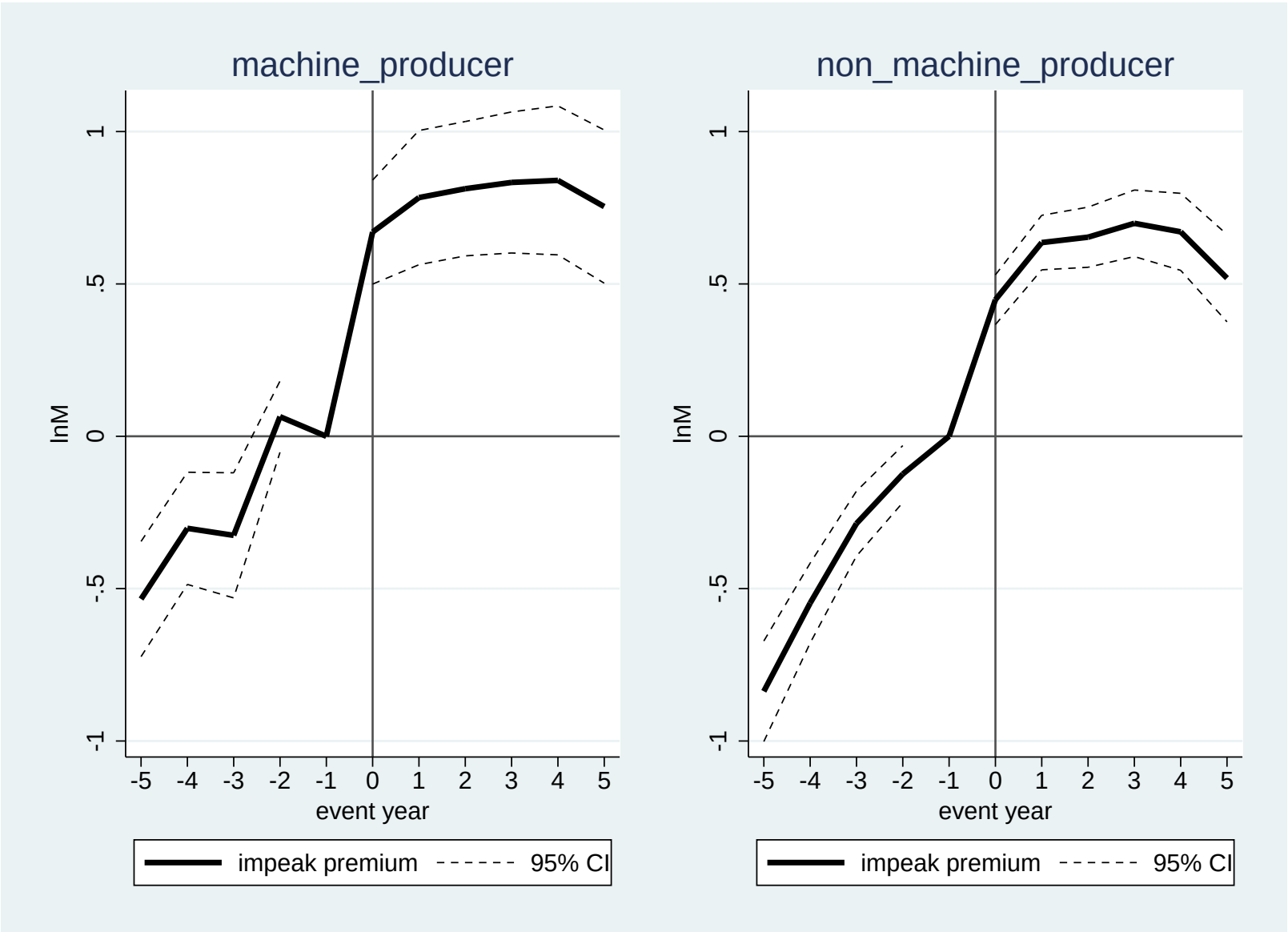
Capital stock around import peaks



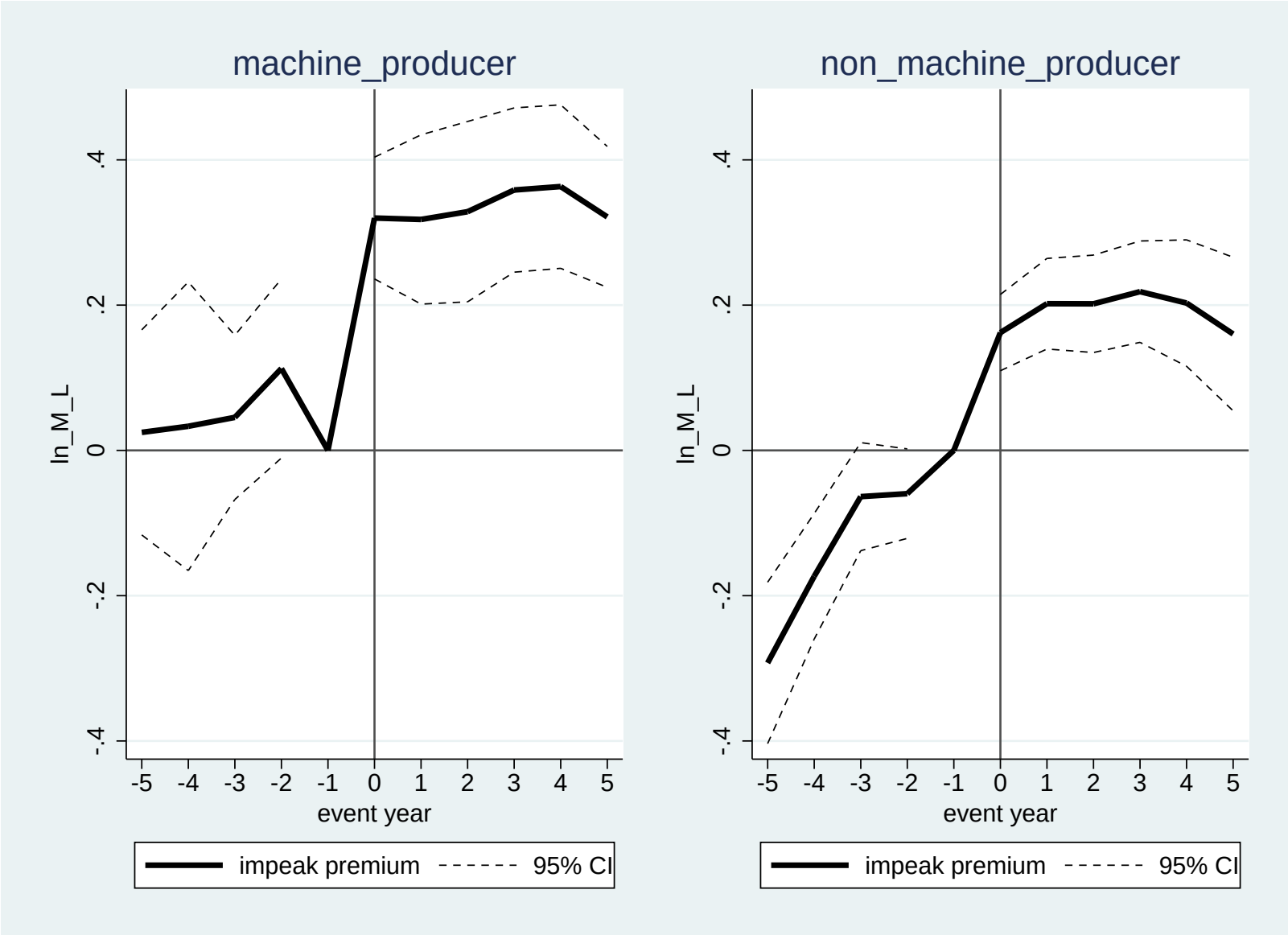
Capital intensity around import peaks



Material use around import peaks



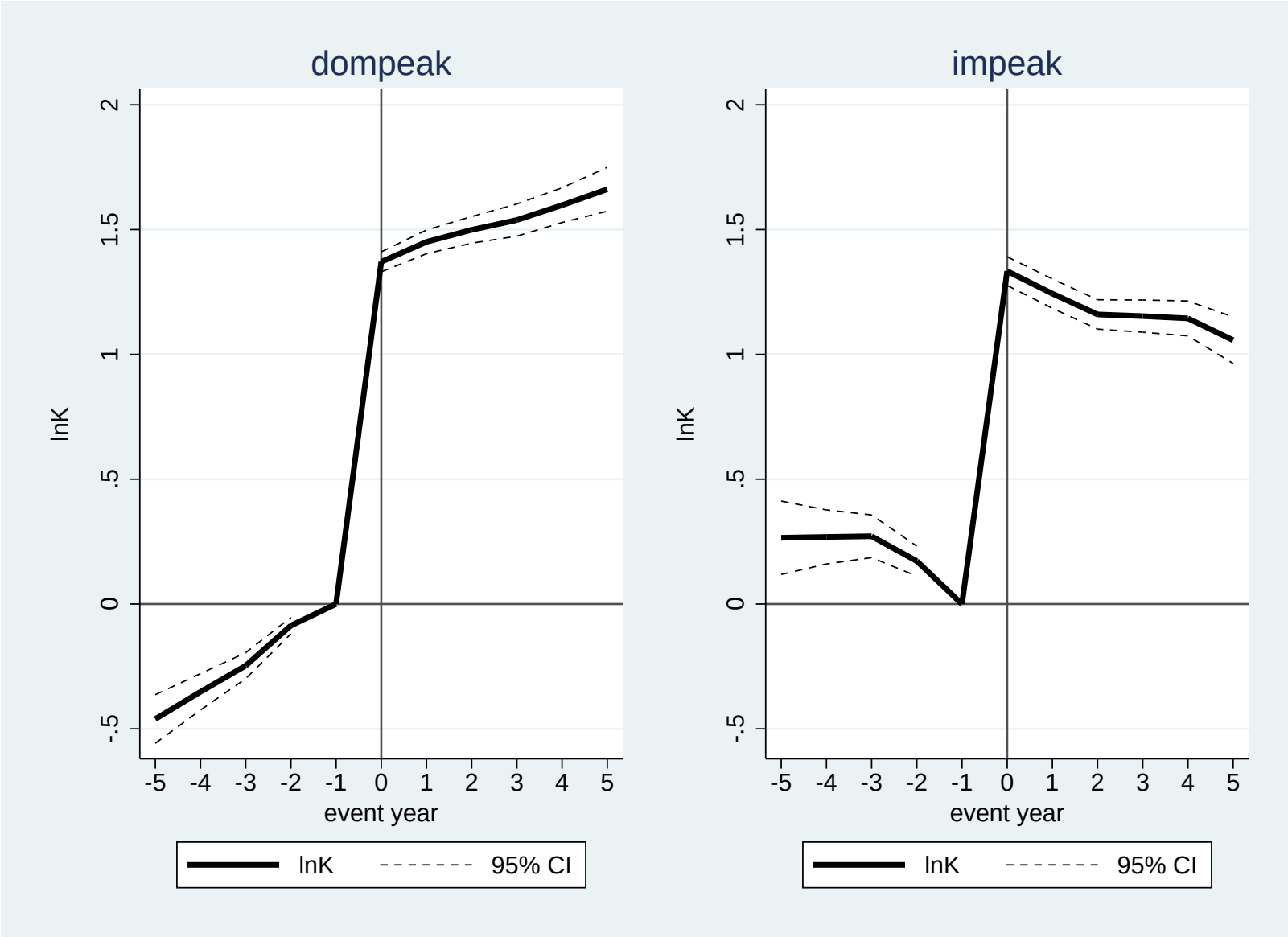
Material intensity around import peaks



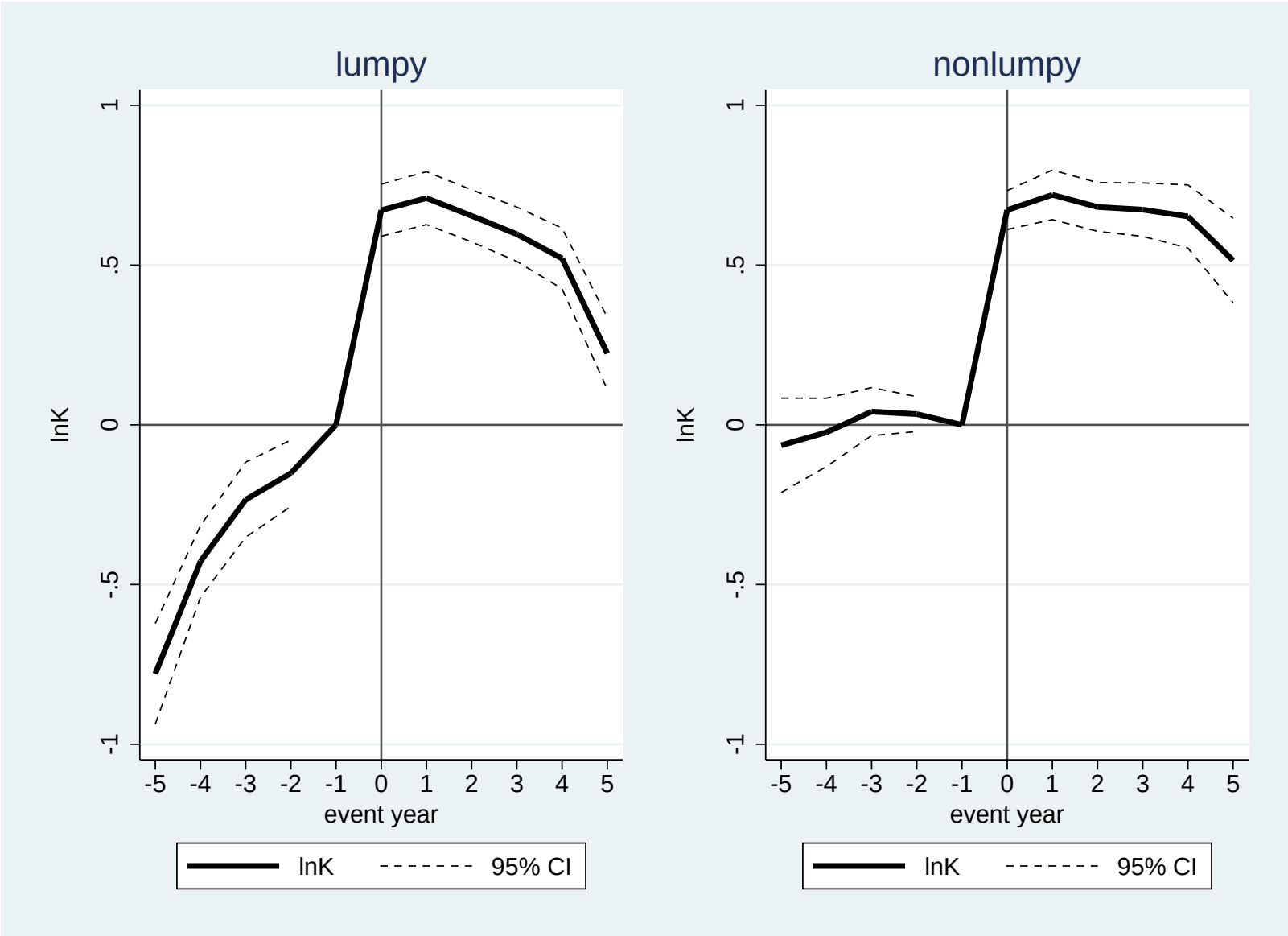
Event studies around large investments

- These event studies are based on a sample of non-machine producers of all sizes.
- Peak if net investment $>$ 2.5 million HUF
- Domestic versus import
- Lumpy import versus nonlumpy import
- Same-sized shock to lnK between year -1 and year 0 is enforced pairwise

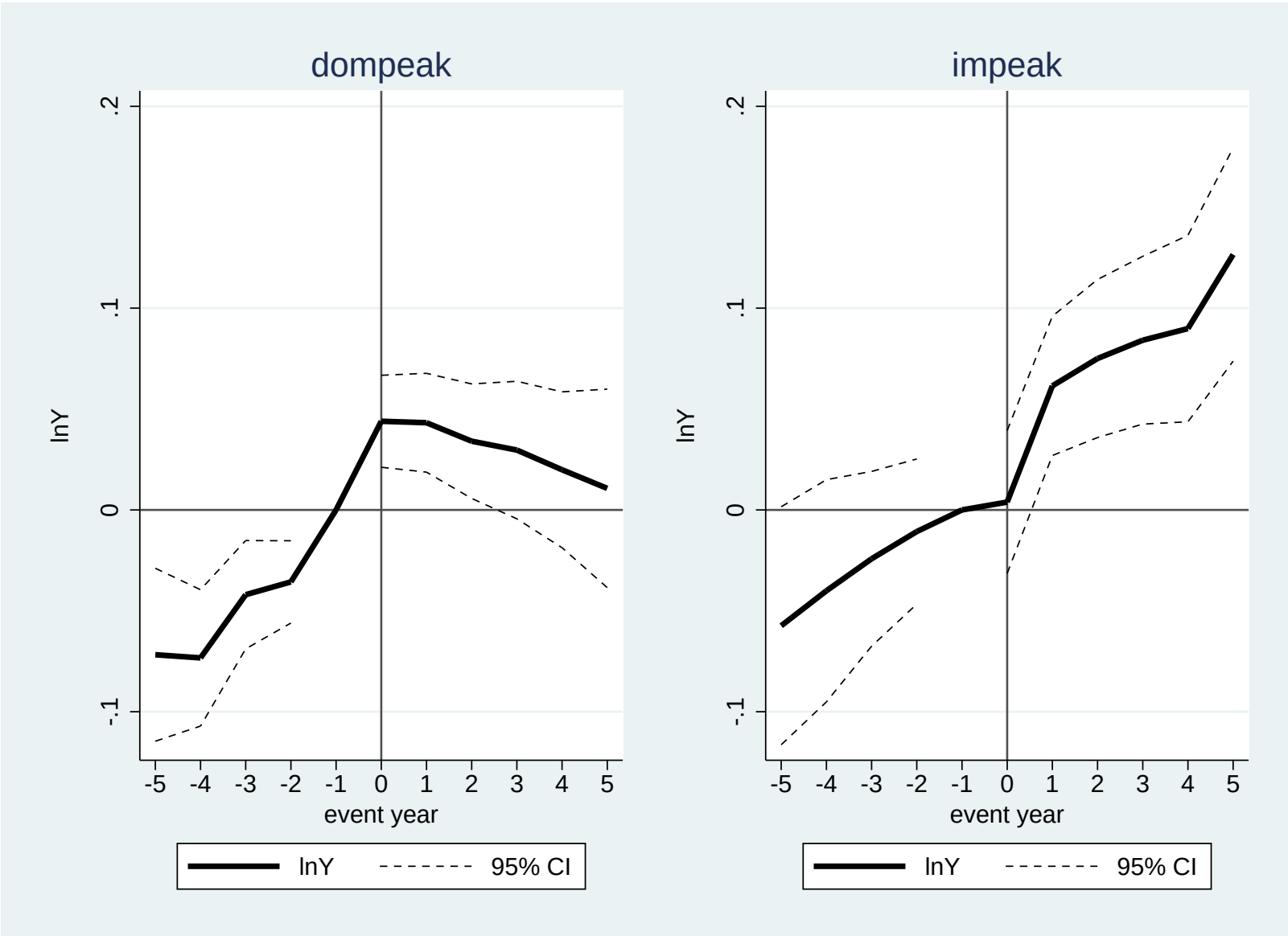
Capital stock around investment peaks (dom vs imp)



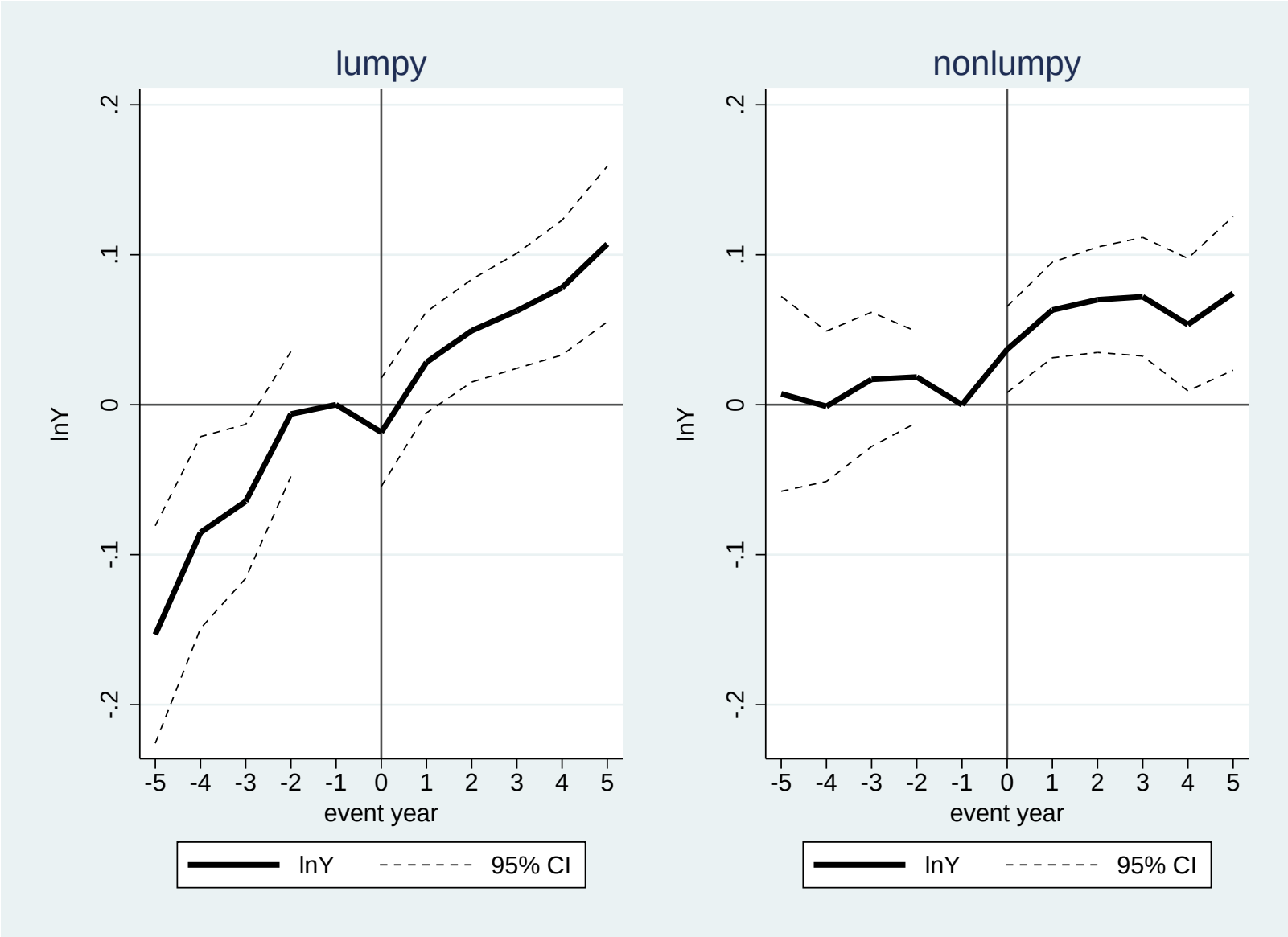
Capital stock around investment peaks (lumpy vs nonlumpy)



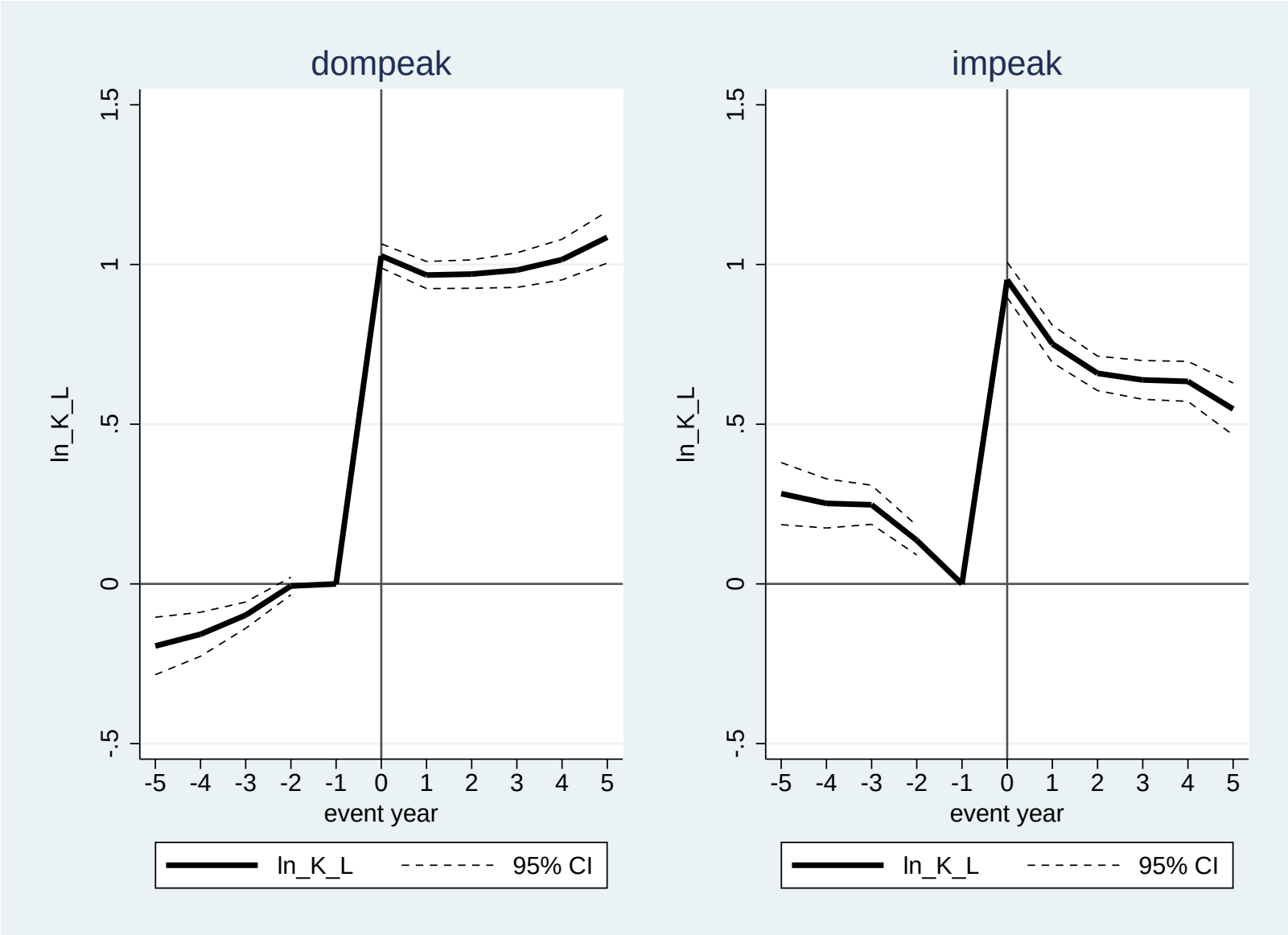
TFP around investment peaks (dom vs imp)



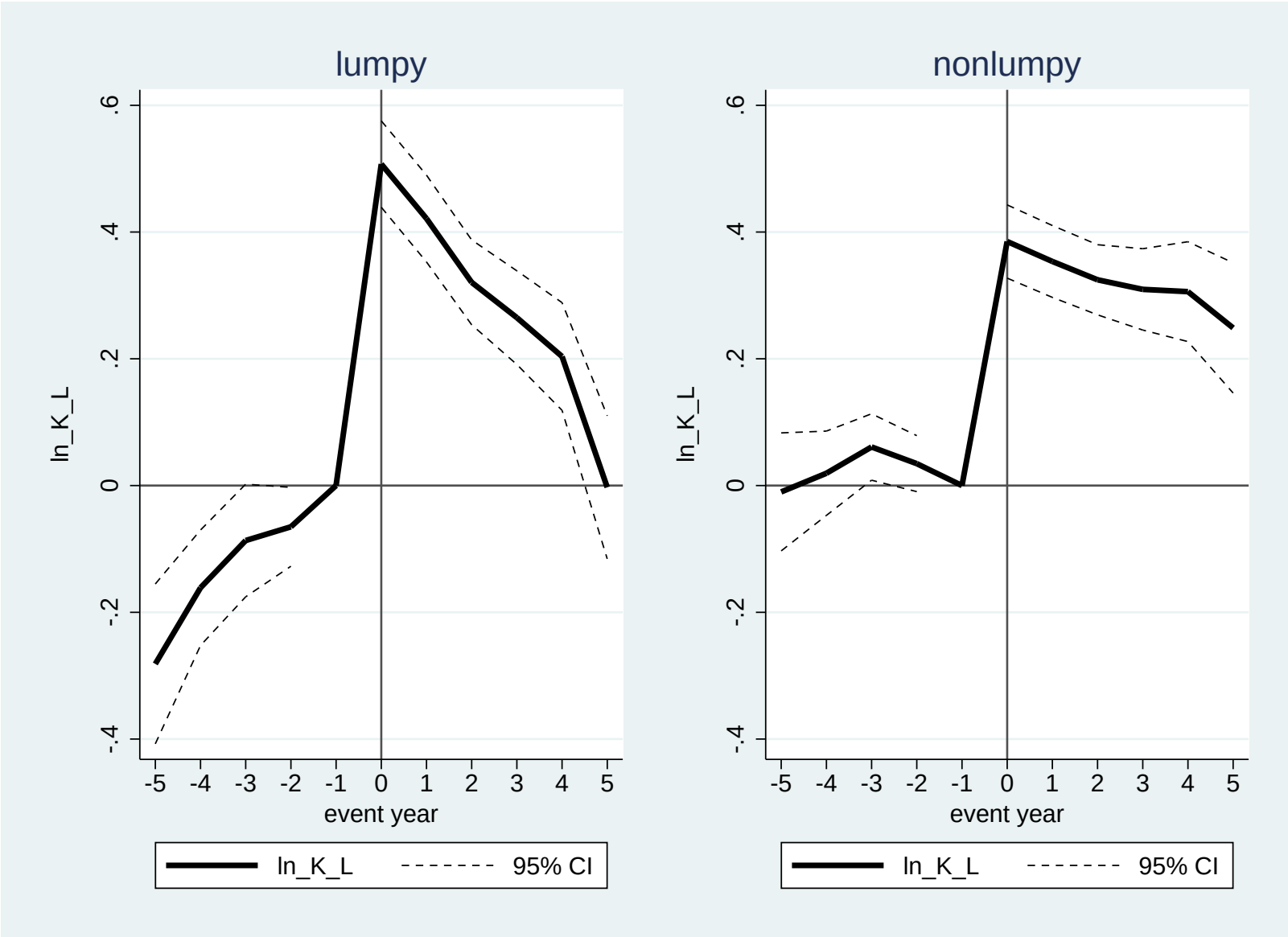
TFP around investment peaks (lumpy vs nonlumpy)



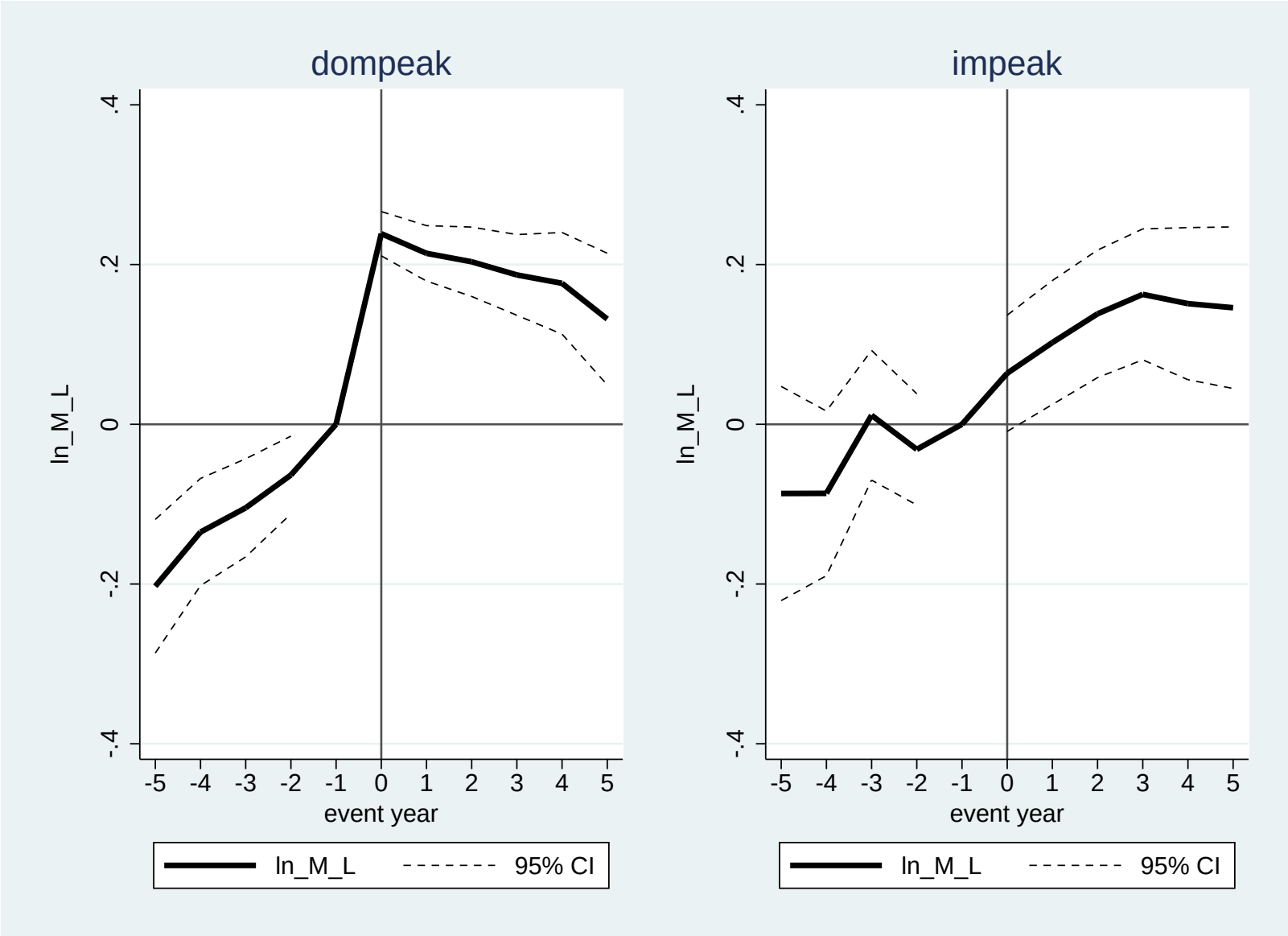
Capital intensity around investment peaks (dom vs imp)



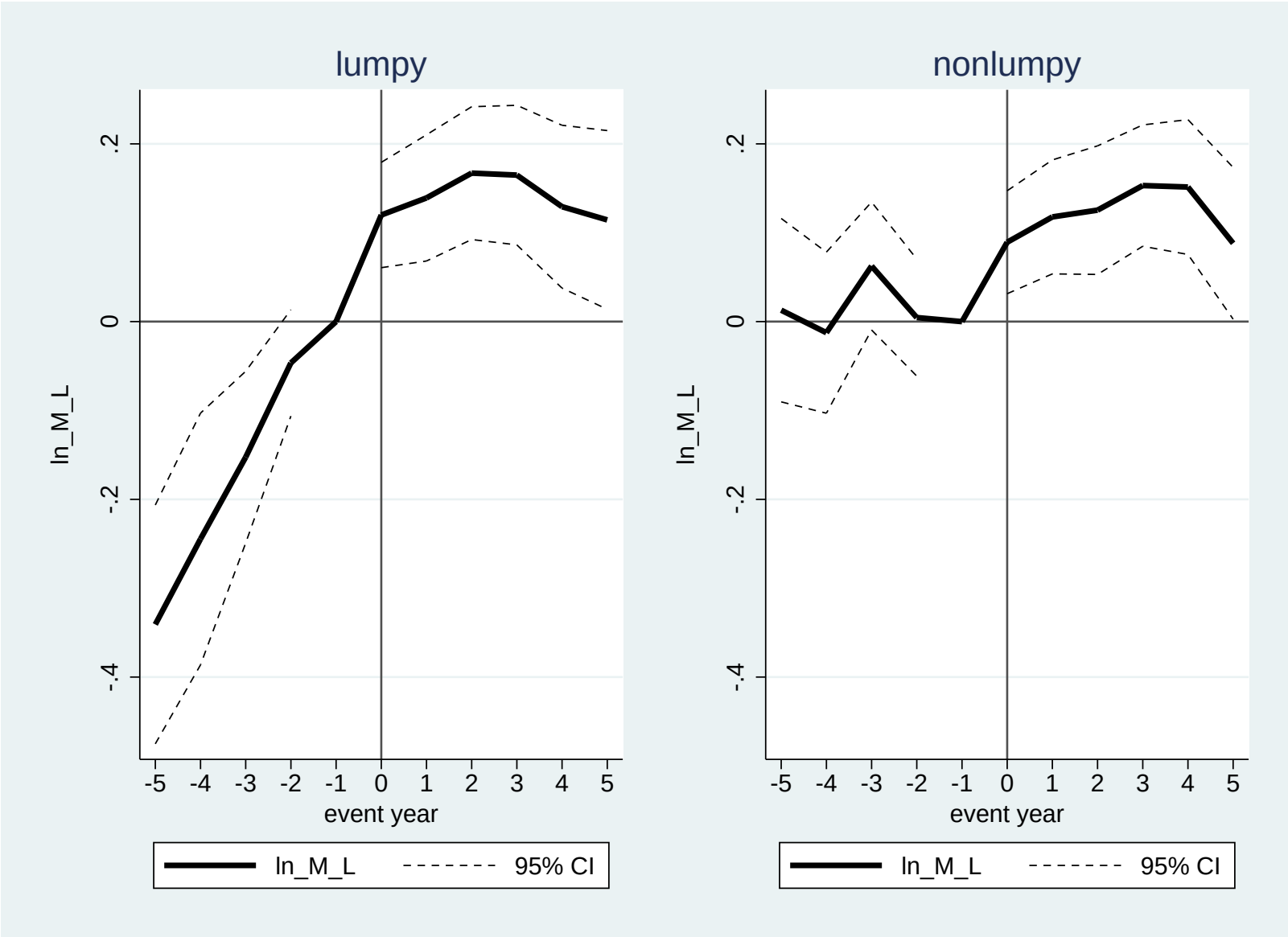
Capital intensity around investment peaks (lumpy vs nonlumpy)



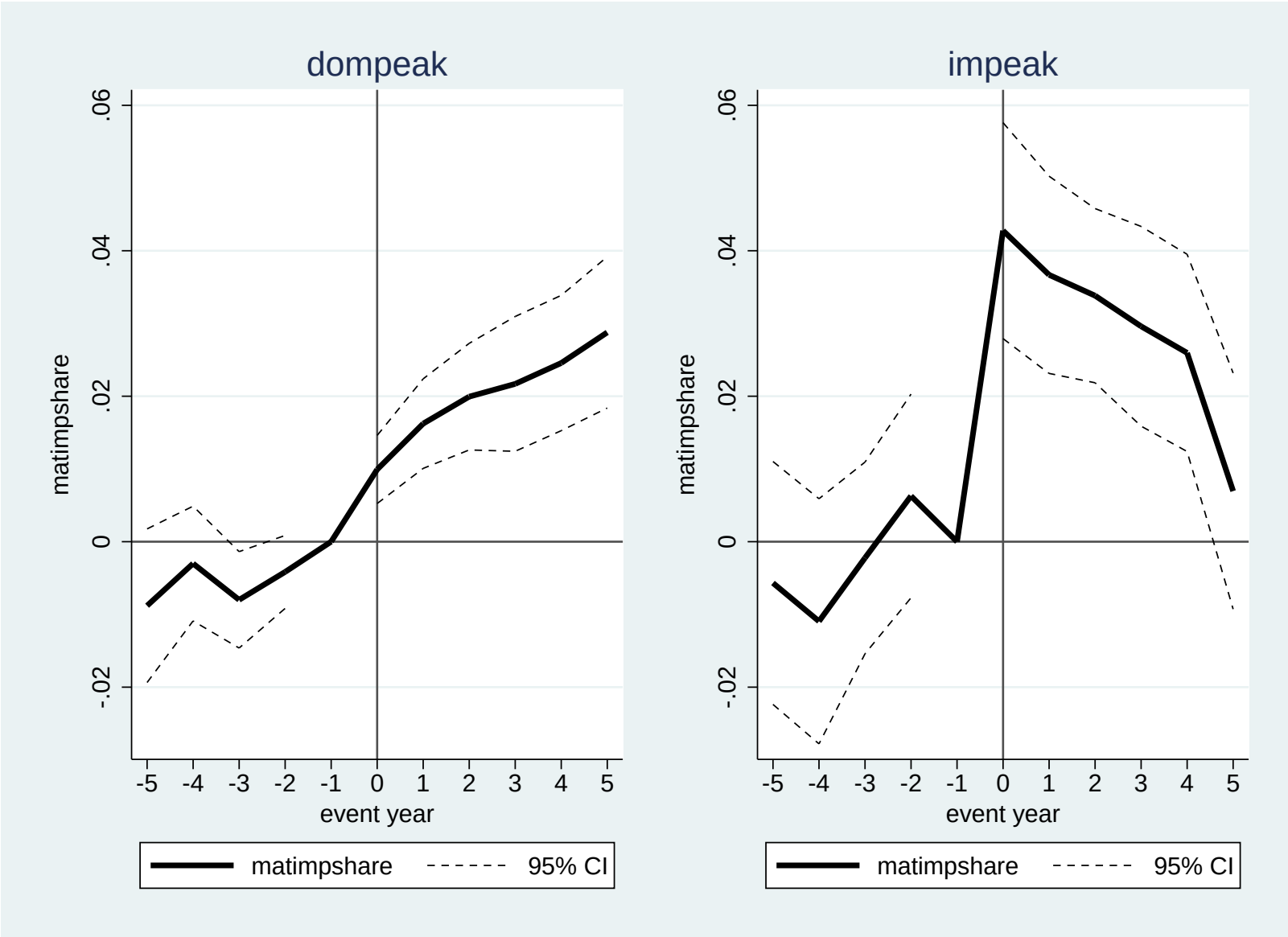
Material intensity around investment peaks (dom vs imp)



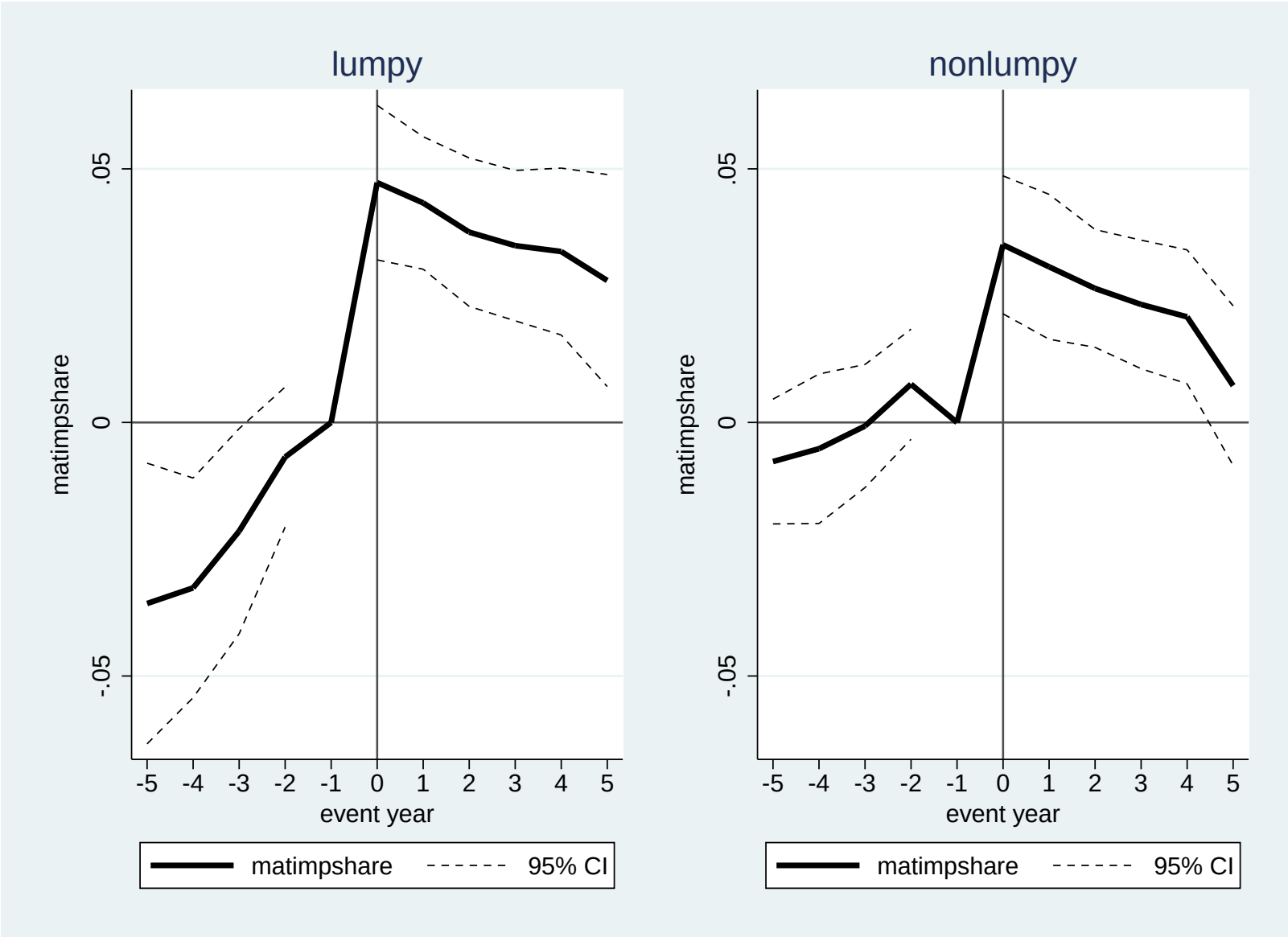
Material intensity around investment peaks (lumpy vs nonlumpy)



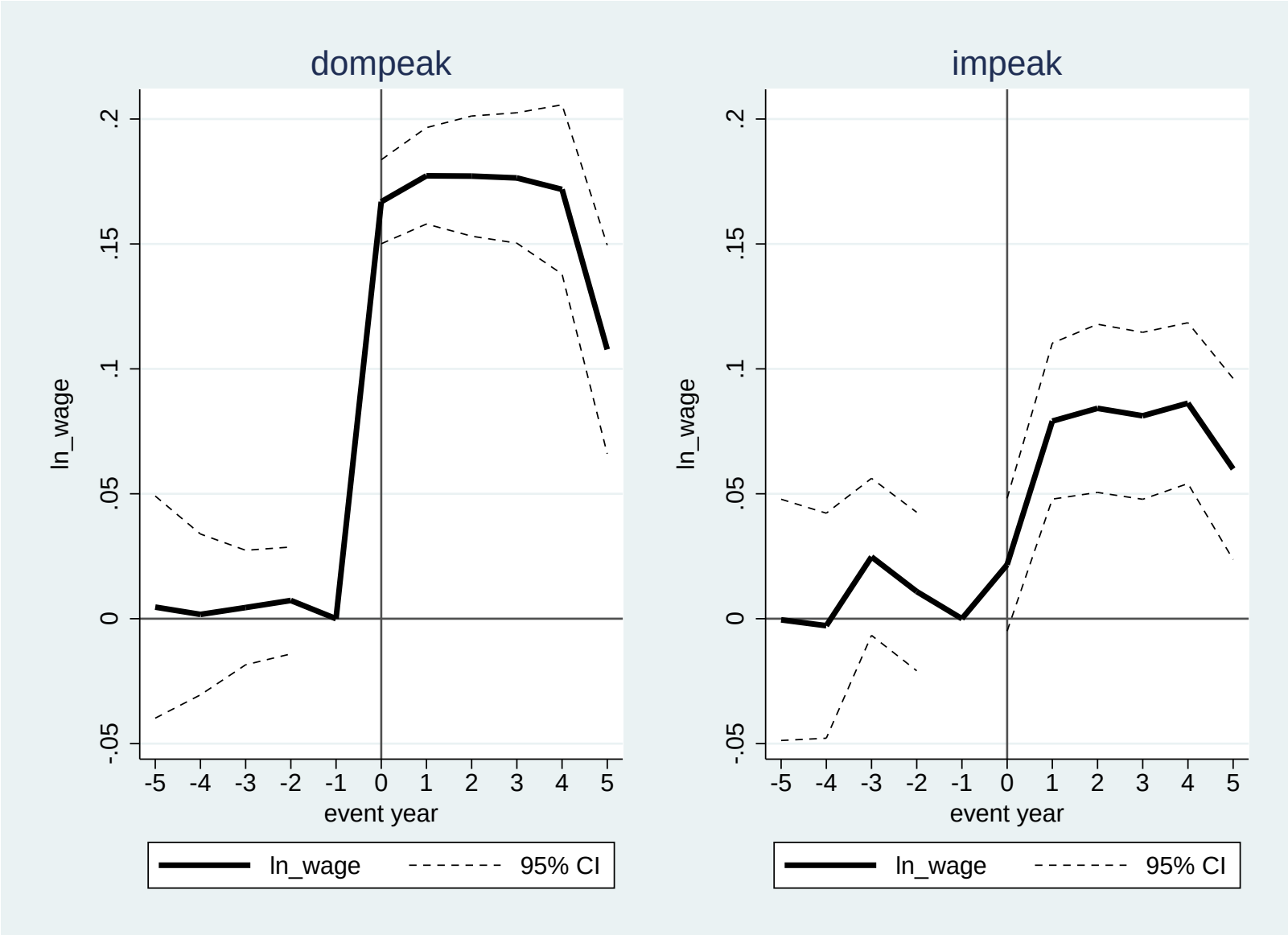
Material import intensity around investment peaks (dom vs imp)



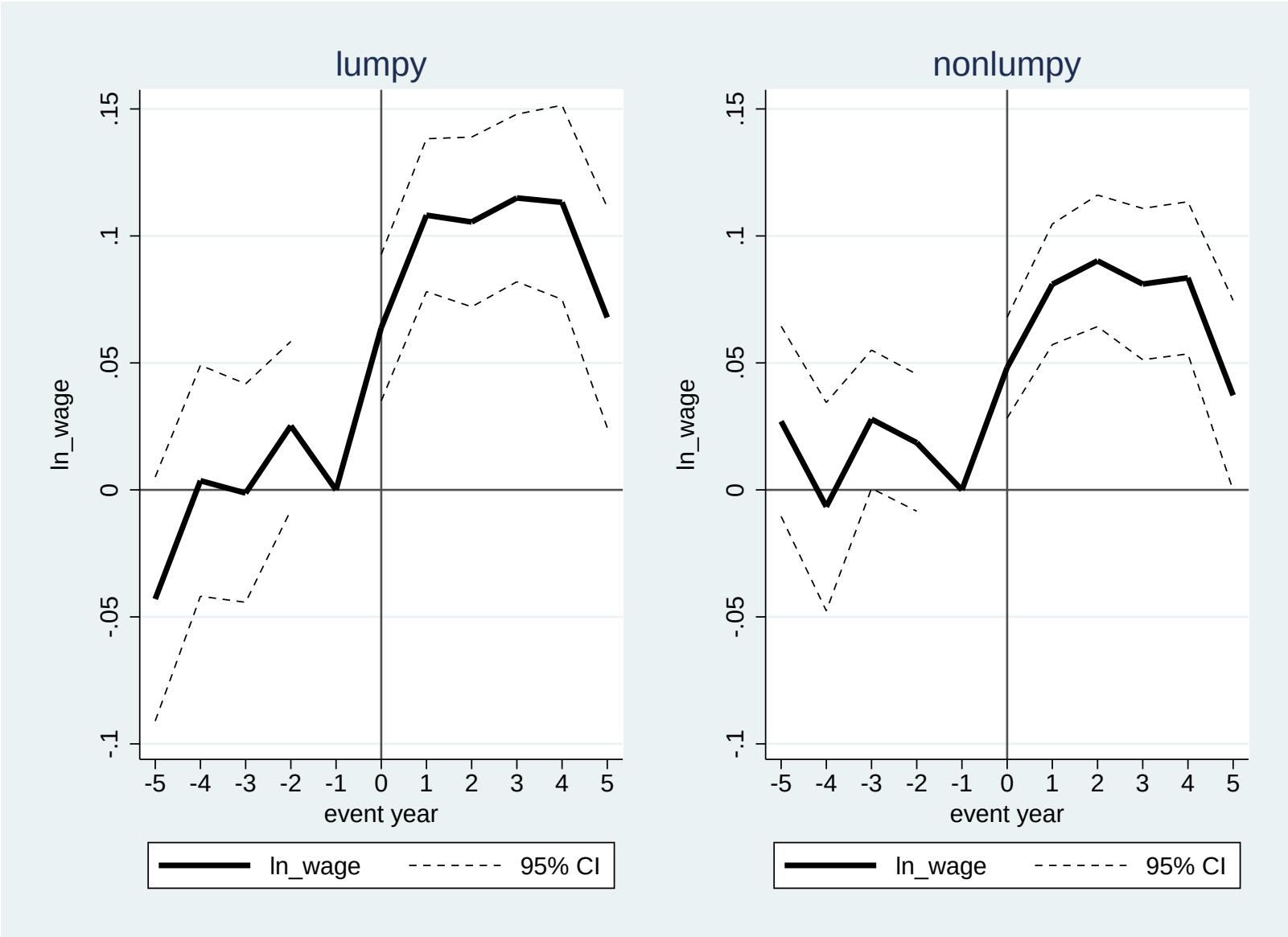
Material import intensity around investment peaks (lumpy vs nonlumpy)



Average wage around investment peaks (dom vs imp)



Average wage around investment peaks (lumpy vs nonlumpy)



Hazard and IV exhibits

- These regressions are run on a sample of non-machine producers of all sizes.
- The sample excludes firstyear importer firms.

First-stage regression

Depvar: having imported (dummy)	Pooled	Firm FE
cdtariffeu X size 0-10	-0.017***	0.009*
	(0.001)	(0.005)
cdtariffeu X size 10-50	-0.026***	-0.001
	(0.001)	(0.005)
cdtariffeu X size 50+	-0.046***	-0.019***
	(0.002)	(0.005)
lnK	0.048***	0.027***
	(0.002)	(0.001)
lnM	0.018***	0.007***
	(0.001)	(0.001)
lnL	0.008**	0.018***
	(0.003)	(0.003)
foreign (dummy)	0.321***	0.149***
	(0.011)	(0.022)
size dummies	yes	yes
age dummies	yes	yes
industry x year effects	yes	
year effects		yes
Observations	102,516	102,516
R-squared	0.296	0.211
Number of id		17,736
F-test	239.1	91.74

Notes: Robust standard errors (clustered by industry) are in parentheses. *** p<0.01, ** p<0.05, * p<0.1

IV results on productivity: TFP

Depvar: lnY	Pooled		Firm FE	
	OLS	IV	OLS	IV
having imported (dummy)	0.199***	0.263***	0.086***	0.781***
	(0.015)	(0.075)	(0.012)	(0.112)
lnK	0.132***	0.129***	0.092***	0.073***
	(0.005)	(0.006)	(0.004)	(0.005)
lnM	0.413***	0.412***	0.297***	0.292***
	(0.009)	(0.010)	(0.010)	(0.010)
lnL	0.299***	0.299***	0.364***	0.353***
	(0.010)	(0.010)	(0.010)	(0.010)
foreign (dummy)	0.161***	0.140***	0.091**	-0.033
	(0.023)	(0.034)	(0.043)	(0.047)
size dummies	yes	yes	yes	yes
age dummies	yes	yes	yes	yes
industry x year effects	yes	yes		
year effects			yes	yes
Observations	102,516	102,516	102,516	102,516
R-squared	0.771	0.771	0.545	0.503
Number of id			17,736	17,736

Notes: Robust standard errors (clustered by industry) are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

IV results on productivity: capital intensity

Depvar: ln K/L	Pooled		Firm FE	
	OLS	IV	OLS	IV
having imported (dummy)	0.748***	0.555***	0.403***	0.902***
	(0.023)	(0.126)	(0.022)	(0.200)
foreign (dummy)	0.143***	0.212***	-0.007	-0.096
	(0.038)	(0.060)	(0.081)	(0.088)
size dummies	yes	yes	yes	yes
age dummies	yes	yes	yes	yes
industry x year effects	yes	yes		
year effects			yes	yes
Observations	102,516	102,516	102,516	102,516
R-squared	0.153	0.151	0.080	0.066
Number of id			17,736	17,736

Notes: Robust standard errors (clustered by industry) are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

IV results on complementarity: material intensity

Depvar: ln M/L	Pooled		Firm FE	
	OLS	IV	OLS	IV
having imported (dummy)	0.542***	0.706***	0.206***	1.218***
	(0.021)	(0.119)	(0.020)	(0.185)
foreign (dummy)	-0.032	-0.091*	0.109	-0.072
	(0.037)	(0.055)	(0.073)	(0.078)
size dummies	yes	yes	yes	yes
age dummies	yes	yes	yes	yes
industry x year effects	yes	yes		
year effects			yes	yes
Observations	102,516	102,516	102,516	102,516
R-squared	0.161	0.159	0.056	0.007
Number of id			17,736	17,736

Notes: Robust standard errors (clustered by industry) are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

IV results on complementarity: material import intensity

Depvar: matimpshare	Pooled		Firm FE	
	OLS	IV	OLS	IV
having imported (dummy)	0.127***	0.110***	0.042***	0.148***
	(0.005)	(0.026)	(0.004)	(0.034)
foreign (dummy)	0.138***	0.144***	0.032**	0.014
	(0.009)	(0.013)	(0.014)	(0.015)
size dummies	yes	yes	yes	yes
age dummies	yes	yes	yes	yes
industry x year effects	yes	yes		
year effects			yes	yes
Observations	102,516	102,516	102,516	102,516
R-squared	0.186	0.186	0.010	-0.023
Number of id			17,736	17,736

Notes: Robust standard errors (clustered by industry) are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

IV results on complementarity: average wage

Depvar: ln wage	Pooled		Firm FE	
	OLS	IV	OLS	IV
having imported (dummy)	0.151***	0.586***	0.089***	0.796***
	(0.009)	(0.049)	(0.009)	(0.090)
foreign (dummy)	0.280***	0.125***	0.089**	-0.037
	(0.017)	(0.024)	(0.036)	(0.041)
size dummies	yes	yes	yes	yes
age dummies	yes	yes	yes	yes
industry x year effects	yes	yes		
year effects			yes	yes
Observations	102,516	102,516	102,516	102,516
R-squared	0.463	0.417	0.587	0.523
Number of id			17,736	17,736

Notes: Robust standard errors (clustered by industry) are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

Import share in capital sock