VisitINPS

un anno dopo

formazione, ricerca e innovazione

L'impatto della regolarizzazione dei Migranti sul mercato del lavoro Italiano

Relatore: Edoardo Di Porto

Back to Black?

The Impact of Regularizing Migrant Workers

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Palazzo Wedekind
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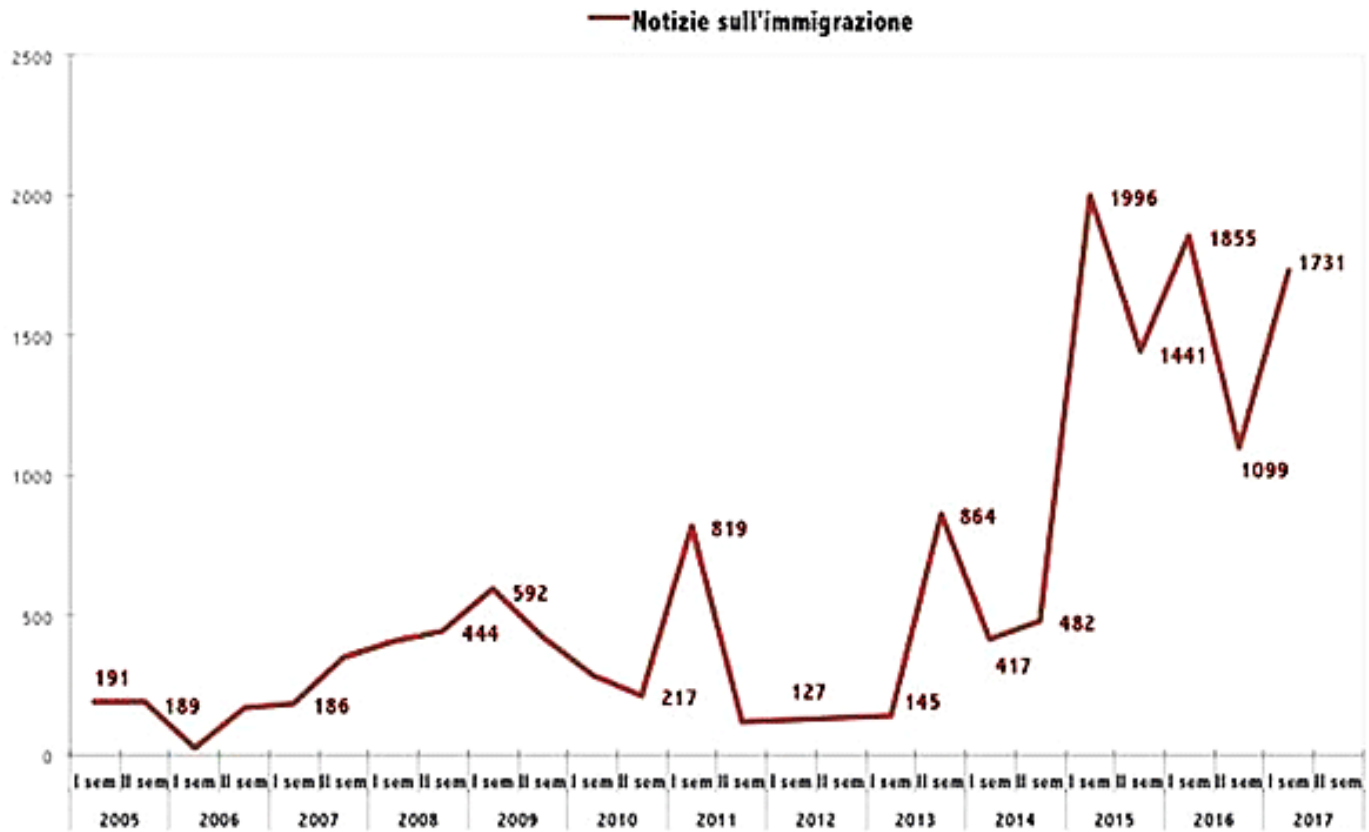
Hot Topic: TV News

L'IMMIGRAZIONE NEI TELEGIORNALI DI PRIMA SERATA DELLE RETI RAI (TG1, TG2, TG3), MEDIASET (STUDIO APERTO, TG4 E TG5), LA7 (TGLA7), CONFRONTO PER SEMESTRE, 2005 – I SEM 2017.



Nota metodologica
L'analisi dei telegiornali si svolge sulla "notiziabilità" del tema in base all'indicizzazione e alla conseguente rilevazione delle notizie che contengono un riferimento esplicito all'immigrazione e/o agli immigrati.

Economic Policy

- The literature on migration is extensive (Borjas 2014; Card and Peri 2016):
  1. Why do people migrate? Socio-demographics and geo-political determinants play a crucial role.
  2. The impact of immigration on host's economies

- **This paper:**
  - **Analyzes the impact of legalization on labour market outcomes**.
  - **DOES NOT analyzes the impact of new immigration on labour market outcomes**
  - **Studies undocumented workers** ***who exist in a legal and economic limbo*** **(J.B.Ludis)**

Legalization is not a minor issue and not only an Italian issue

- *Lavoro nero, 77 miliardi di PIL sommerso l'anno* La Stampa, 19th November 2016

Legalization is not a minor issue and not only an Italian issue

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- In U.S.:

  The Border Security, Economic Opportunity, and Immigration Modernization Act of 2013 (S.744)

  - *...This common-sense reform would provide legal status and citizenship to the 11 million undocumented immigrants in the U.S.* (A. Kugler 2013)
  - Undocumented immigrants make up an estimated 10 percent of California's workforce (PEW Research Center 2017).

A specific motivation: Aging and the Pension System

- Aging makes more difficult to finance the pension system
- Immigration provides a solution to aging
- It is simpler to make an existing job formal than to create a new one ('70s literature: A. O. Hirschman 1971)

> *I pensionati hanno un bisogno disperato di più giovani che lavorino (...) e di immigrati regolari che versino contributi. (...) Dobbiamo concentrare l'attenzione sull'ingresso regolare e a tempo indeterminato nel nostro mercato del lavoro*
>
> (Tito Boeri, 27th October 2017)

This paper

- Evaluation of Italy's largest legalization process ever: D.l. 195/2002
- Recipients: undocumented migrants and their employers
- Data: INPS archives, providing the universe of Italian workers, firms and enforcement programs
- We exploit an innovative identification strategy, based on unexpected change in the auditing policy for undeclared work: program 383/2001

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- Two levels of analysis:
  - Firm level analysis, on employment and wages
  - Worker level analysis, on the career of regularized migrants and co-workers

Regularization + Tax Amnesty (*Bossi Fini*) 195/2002

- Italy's largest legalization process ever (more than 700k applications).
- Renewable 2 years work/residence permit to all undocumented migrants whose employers:

1. Declare that they had continuously employed the immigrant for at least 3 months before the legalization law was passed
2. Legally hire the immigrant under a minimum one year contract
3. Pay an amnesty fee (700 euros for each worker).

Social Security Administrative Data - INPS Archives

- INPS DM10: firm social security declaration
  - Allow identifying **the firms that undertake the regularization**
  - Allow identifying **the number of regularized workers in regularizing firms**

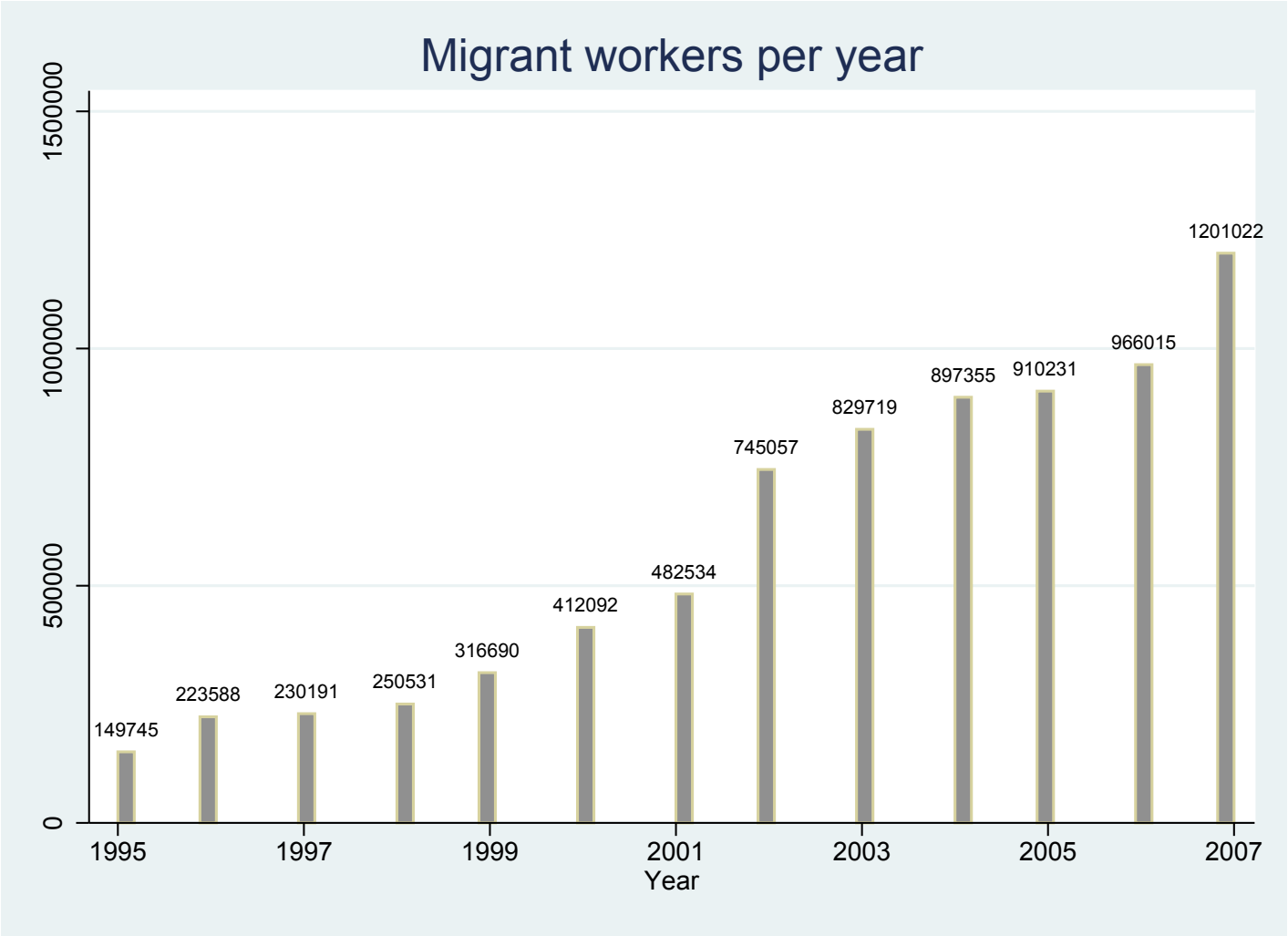
- INPS O1M archive
  - Allow the **identification of regularized workers**: those who have been hired in regularizing firms between September and December 2002 (and being not-working in the same firm 3 months before).
  - Nationality, two sources: an INPS provided variable collected from various administrative sources, and, when missing, place of birth.

- Auditing data: INPS VG00 archive
  - auditing programs since 2000 to detect undeclared workers (and related fines), at the firm level

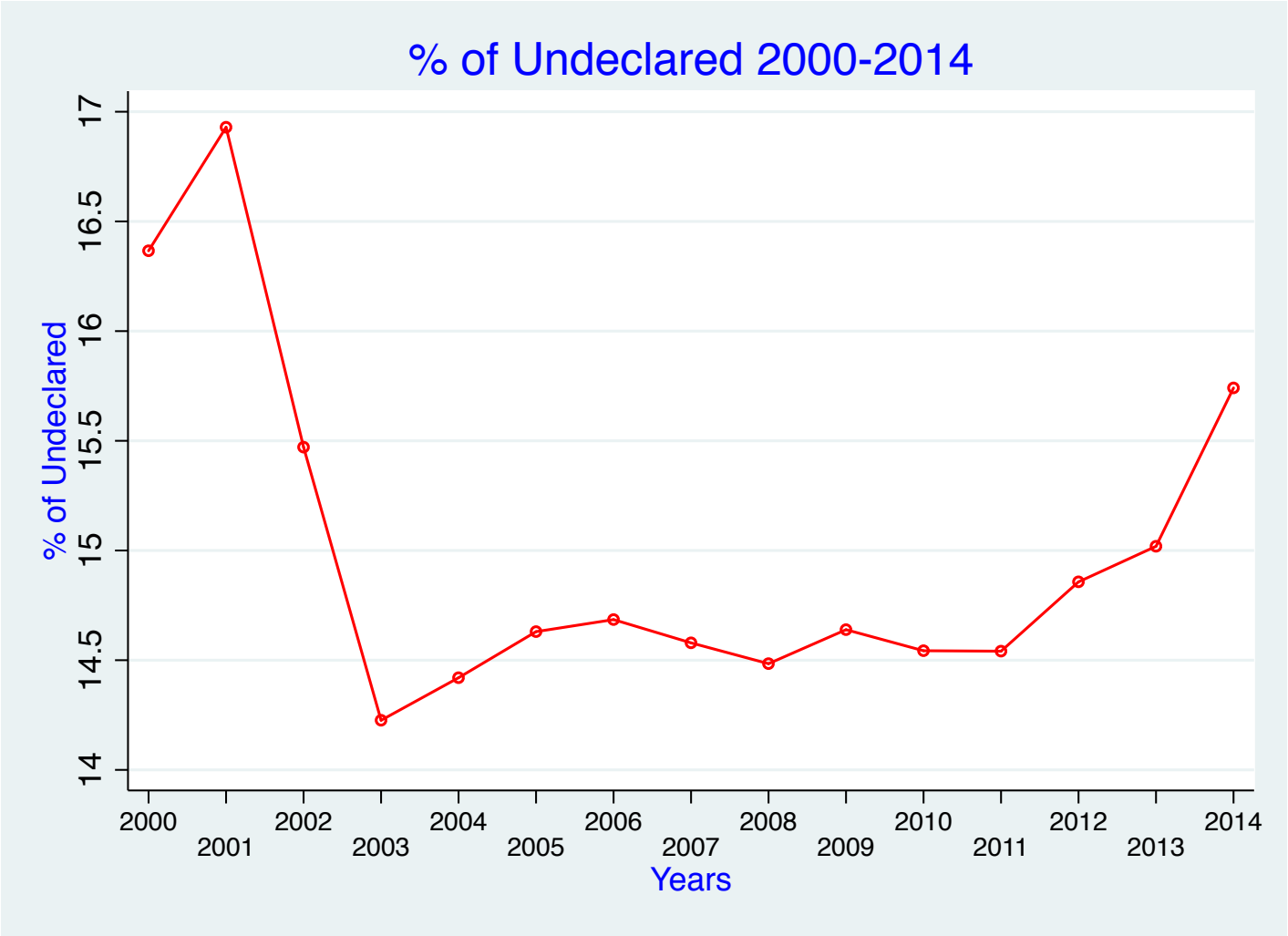
Regularization in Italy: a first look at INPS archives

- Around 210,000 regularized workers, in around 98,000 firms
- Around 20,000 *black* firms, that have been regularized

Legalization 195/2002: migrants in the private sector



Legalization 195/2002: undeclared work



Results in a nutshell

- Firm level
  1. a short run employment growth,
     no significant effects after one year
  2. no causal impact on wages

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- Worker level
  1. regularized migrants have an incredibly high survival rate in the economy: 80% after 5 years
  2. co-workers not significantly affected by the reform:
     slightly increasing job separation, but no exit

Descriptive stats migrants: regularized vs other

Entry characteristics

	Regular	Ex Bossi Fini	After insp.
Age	29.9	29.7	29.5
Europe	41.1	54.6	41.4
Asia	19.7	18.3	9.3
Africa	30.2	20.1	37.2
North Am.	0.4	0.04	1.0
Central Am.	2.0	0.4	1.4
South Am.	6.5	6.6	9.7
Australia	0.1	0.0	0.2
Blue collar	77.9	97.0	
Manufacturing	33.2	27.2	26.8
Constructions	16.2	38.2	17.7
Sales	6.0	8.0	6.5
Transports	6.5	5.3	12.0
Food&Tourism	14.3	9.9	19.8
Professionals	2.5	0.6	1.3
Services	12.4	6.4	6.8
Health	1.7	0.4	2.6
Obs.	250,577	194,271	1,174

Descriptives migrants

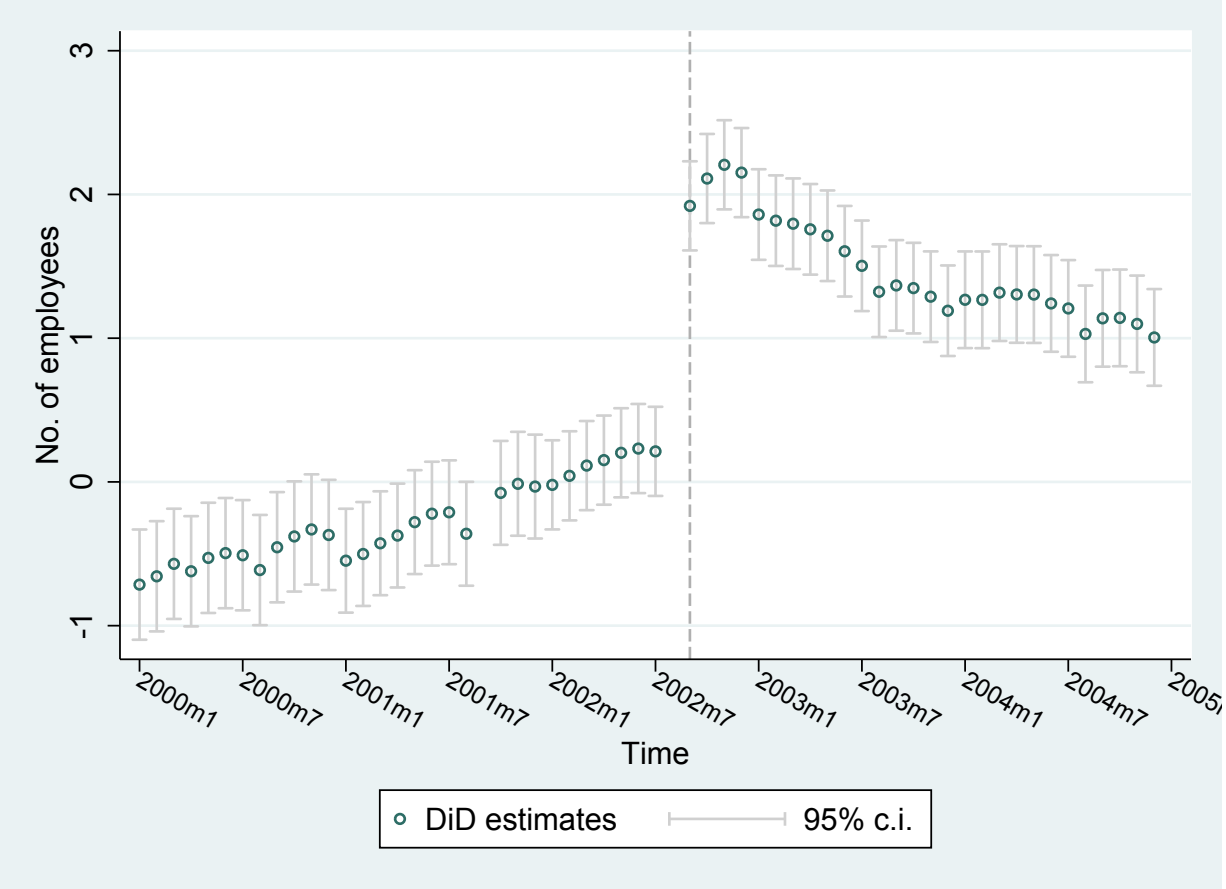
Entry characteristics

	Regular	Ex Bossi Fini	After insp.
Abruzzo	1.4	1.4	4.7
Campania	2.0	5.1	2.3
Emilia Romagna	12.0	9.7	16.6
Friuli-VG	3.6	1.4	2.8
Lazio	7.9	11.8	4.0
Liguria	2.1	2.2	1.9
Lombardia	26.4	27.6	20.9
Marche	3.7	2.6	1.0
Piemonte	7.8	9.6	5.8
Puglia	1.4	1.0	1.7
Toscana	8.2	9.3	8.3
Trentino AA	3.4	0.9	2.2
Umbria	1.9	1.9	3.3
Veneto	15.8	13.2	19.4
Obs.	250,577	194,271	1,174

Summary Statistics: outcomes

		Empl. May	Empl. Dec.	Wage May	Wage Dec.
Controls	mean	7.45	7.45	1493	1458
	median	2.00	2.00	1465	1431
	p25	1.00	1.00	1128	1083
	p.75	5.00	5.00	1764	1735
Treated or Regularizing	mean	5.58	7.53	1371	1259
	median	1.00	3.00	1399	1275
	p25	0.00	2.00	1102	950
	p75	5.00	7.00	1638	1514

DiD analysis and selection into treatment



$$y_{i,t} = \sum_{t=2000,1}^{t=2004,12} \beta_T \mathbb{1}(T = t) + \sum_{t=2000,1}^{t=2004,12} \beta_E \mathbb{1}(T = t) \times E_i + \eta_i + \varepsilon_{i,t}$$

Standard errors clustered at firm level

A Natural Experiment, identifying a LATE

- Firms self select into the amnesty/regularization program, thus it might be difficult to find a proper control group for a natural experiment

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A Natural Experiment, identifying a LATE

- Firms self select into the amnesty/regularization program, thus it might be difficult to find a proper control group for a natural experiment
- The number of undocumented workers that could be regularized depends on firm characteristics and enforcement
- A policy that exogenously shocks the *belief* about enforcement affects employer decisions to undertake the amnesty/regularization.
- The best candidate would be an unexpected auditing program

The Natural Experiment: Auditing Program ex lege 383/2001

- Auditing Program 383/2001:
  1. introduced in 2001 by a previous law for different purposes for a different target group (all irregular workers, migrants were not considered, illegal migrants were not eligible)
  2. enacted around august 2002
  3. planned by different institutions in addition to INPS (provinces, ispettorato del lavoro, Agenzia delle Entrate, ministry of welfare ...)
  4. with different rules with respect to the standard auditing programs

Identification Strategy

Relevant characteristics by type of inspection

	2001	2002	Ex 383	Total
Regular	39.74	38.20	69.30	39.60
Irregular - not fined	14.50	18.27	15.98	17.66
Irregular - fined	45.76	43.53	14.72	42.74
Not found	(.)	1.28	0.26	0.52
Migrants	.31	.32	.12	0.26
Fine (median)	2,639	1,796	650	2,404
Fine (mean)	20,200	15,783	3,762	18,681
N	8,580	7,836	5,518	21,934

Focus on Lombardia

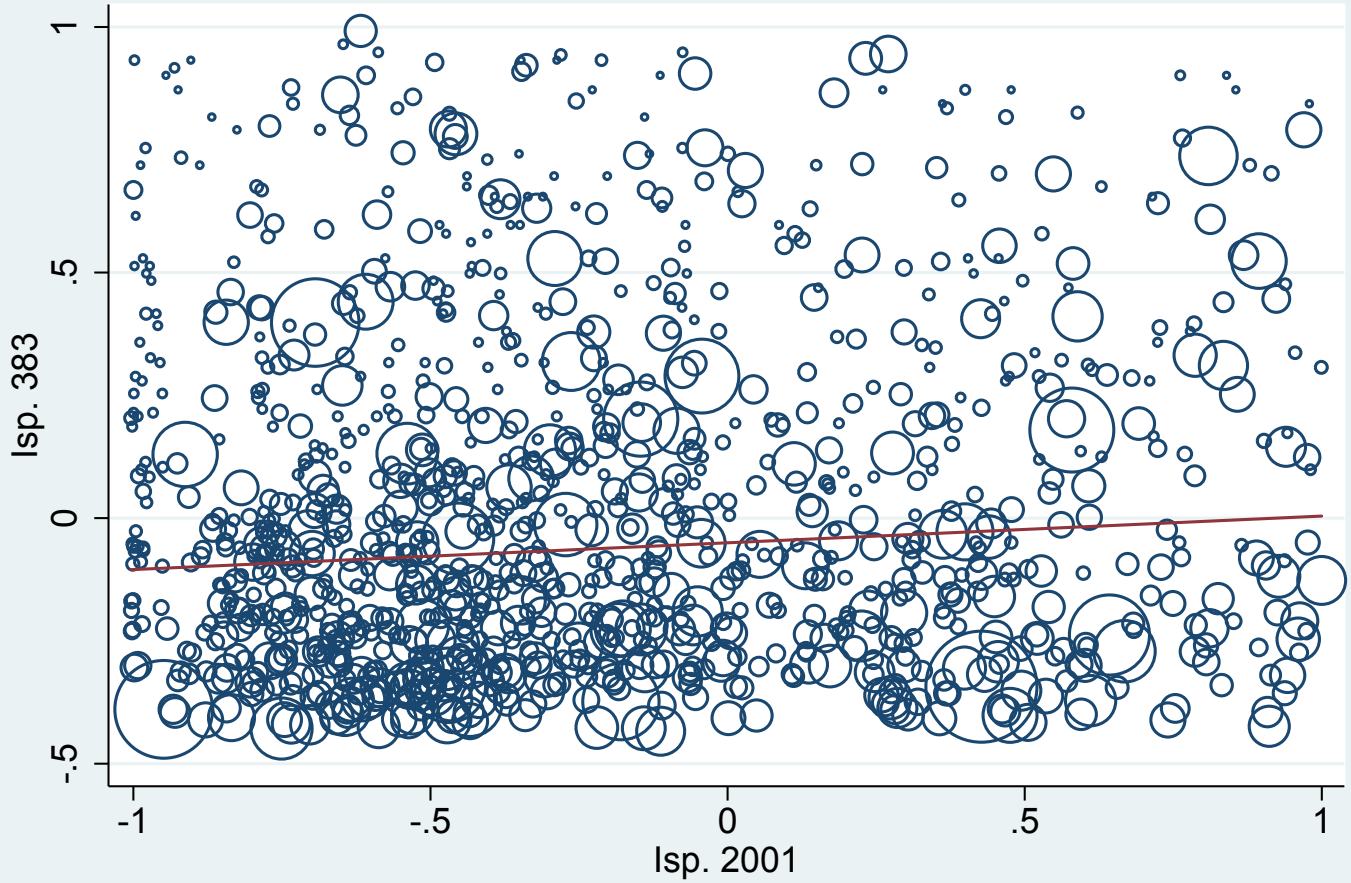
Identification Strategy

Sector by type of inspection

	2001	2002	Ex 383	Total
Manufacturing	21.82	21.97	31.57	24.32
Constructions	17.55	15.18	3.38	13.14
Sales	19.57	21.20	30.64	22.94
Transports	2.51	1.98	0.59	1.84
Food&Tourism	19.68	16.60	12.82	16.85
Real estate	1.39	1.87	1.02	1.47
Professionals	1.59	2.08	2.05	1.88
Services	3.54	3.75	2.78	3.42
Health	1.44	0.77	1.13	1.12

Focus on Lombardia - only sectors counting for $\geq$ 1%

Identification Strategy



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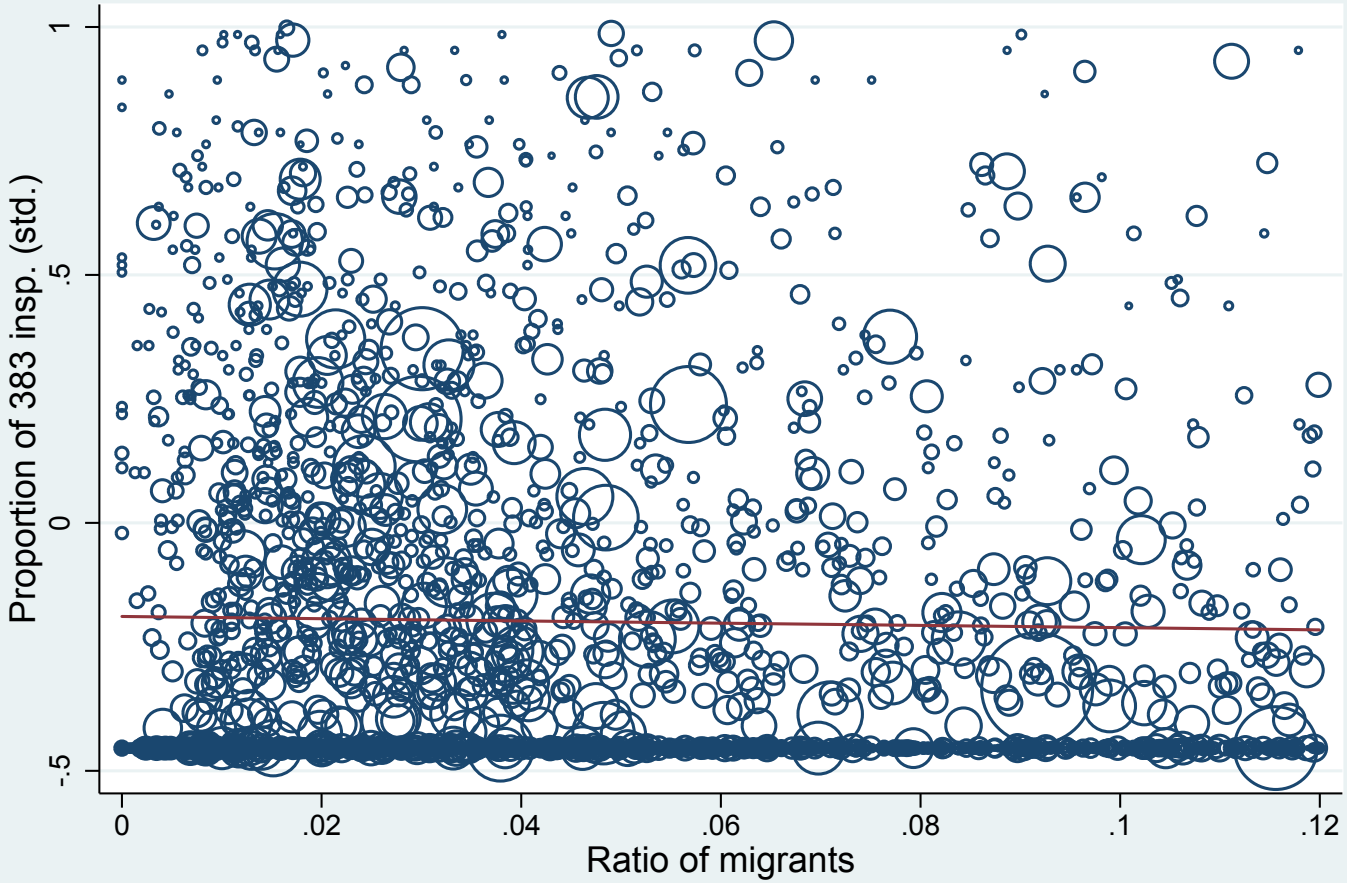

The Econometric Model

$$y_{i,c,t} = \beta_0 T_{i,c,t} + \beta_1 x_{i,c,t} + \beta_2 insp_{c,t-1} + \eta_i + \sigma_S \times \delta_t + \sigma_{PROV} \times \delta_t + \varepsilon_{i,c,t}$$

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$c = \text{prov} \times \text{sector}$

$x_{i,c}$: age, size of c

η_i: individual FE

σ_S: sector FE

σ_{LLM}: province FE

δ_t: year FE

$\text{insp}_{c,t-1}$: inspections in c

The Econometric Model

$$y_{i,c,t} = \beta_0 \widehat{T_{i,c,t}} + \beta_1 x_{i,c,t} + \beta_2 insp_{c,t-1} + \eta_i + \sigma_S \times \delta_t + \sigma_{PROV} \times \delta_t + \varepsilon_{i,c,t}$$

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The Econometric Model

- **Dependent variables**: changes in employment and wages at the firm level between May 2002 (four months before the regularization) and:
  - December 2002, for a short term analysis
  - May and September 2003, for a medium run analysis

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The Econometric Model

- **Dependent variables**: changes in employment and wages at the firm level between May 2002 (four months before the regularization) and:
  - December 2002, for a short term analysis
  - May and September 2003, for a medium run analysis
- **Treatment variable**: being a regularizing firm
- Universe of firms at 2002, using also the year 2001 to control for unobserved heterogeneity: panel estimation
- **Instrument**: 383 inspections at the province and industry 2 digit level, excluding firm's own 383 inspection:

$$\text{insp383}_{i,t|i\in c} = \sum_{j\in c} \text{insp383}_{j,t} - \text{insp383}_{i,t} \tag{1}$$

Summary Statistics: instruments and covariates

		383 inspections	Inspections in t-1	Cell's dimension
Controls	mean	13.2	40.6	1490
	median	2	13	707
	min	0	0	1
	max	502	499	13681
Treated	mean	19.8	67.7	2101
	median	4	37	1257
	min	0	0	1
	max	502	499	13681

Variables at the province-industry 2digit NACE.

Employment - OLS estimates

	May-Dec '02	May '02-May '03	May '02-Sep '03
Treated	1.348***	1.002***	-.474***
	(0.011)	(0.017)	(0.018)
Obs.	2,037,474	1,863,650	1,863,650

*** p<0.01, ** p<0.05, * p<0.1

Controls included: cells dimension, firm FE, sector×year FE, SLL×year FE, inspections in t-1

Excluding outliers (1^{st} and 99^{th} pctile of the outcome) and largest firms (99^{th} pctile in terms of employment in May 2002)

Errors clustered at firm's level

Employment - IV estimates

	May-Dec '02	May '02-May '03	May '02-Sep '03
Treated	2.362***	.857	-.551
	(0.651)	(0.993)	(0.996)
Obs.	2,037,474	1,875,084	1,863,650
KP	108.996	108.212	108.212

*** p<0.01, ** p<0.05, * p<0.1

Controls included: cells dimension, firm FE, sector×year FE, SLL×year FE, inspections in t-1

IV: Inspections ex lege 383 in the cell

Excluding outliers (1^{st} and 99^{th} pctile of the outcome) and largest firms (99^{th} pctile in terms of employment in May 2002)

Errors clustered at firm's level

Wage Per Capita - OLS estimates

	May-Dec '02	May '02-May '03	May '02-Sep '03
Treated	-31.355***	-35.995***	15.120***
	(1.476)	(2.077)	(1.763)
Obs.	1,752,462	1,698,412	1,653,532

*** p<0.01, ** p<0.05, * p<0.1

Controls included: cells dimension, firm FE, sector×year FE, SLL×year FE, inspections in t-1

Excluding outliers (1^{st} and 99^{th} pctile of the outcome) and largest firms (99^{th} pctile in terms of employment in May 2002)

Errors clustered at firm's level

Wage Per Capita - IV estimates

	May-Dec '02	May '02-May '03	May '02-Sep '03
Treated	-118.124	-55.679	-127.972
	(105.922)	(168.980)	(157.205)
Obs.	1,752,462	1,698,412	1,653,532
KP	83.69	85.69	86.00

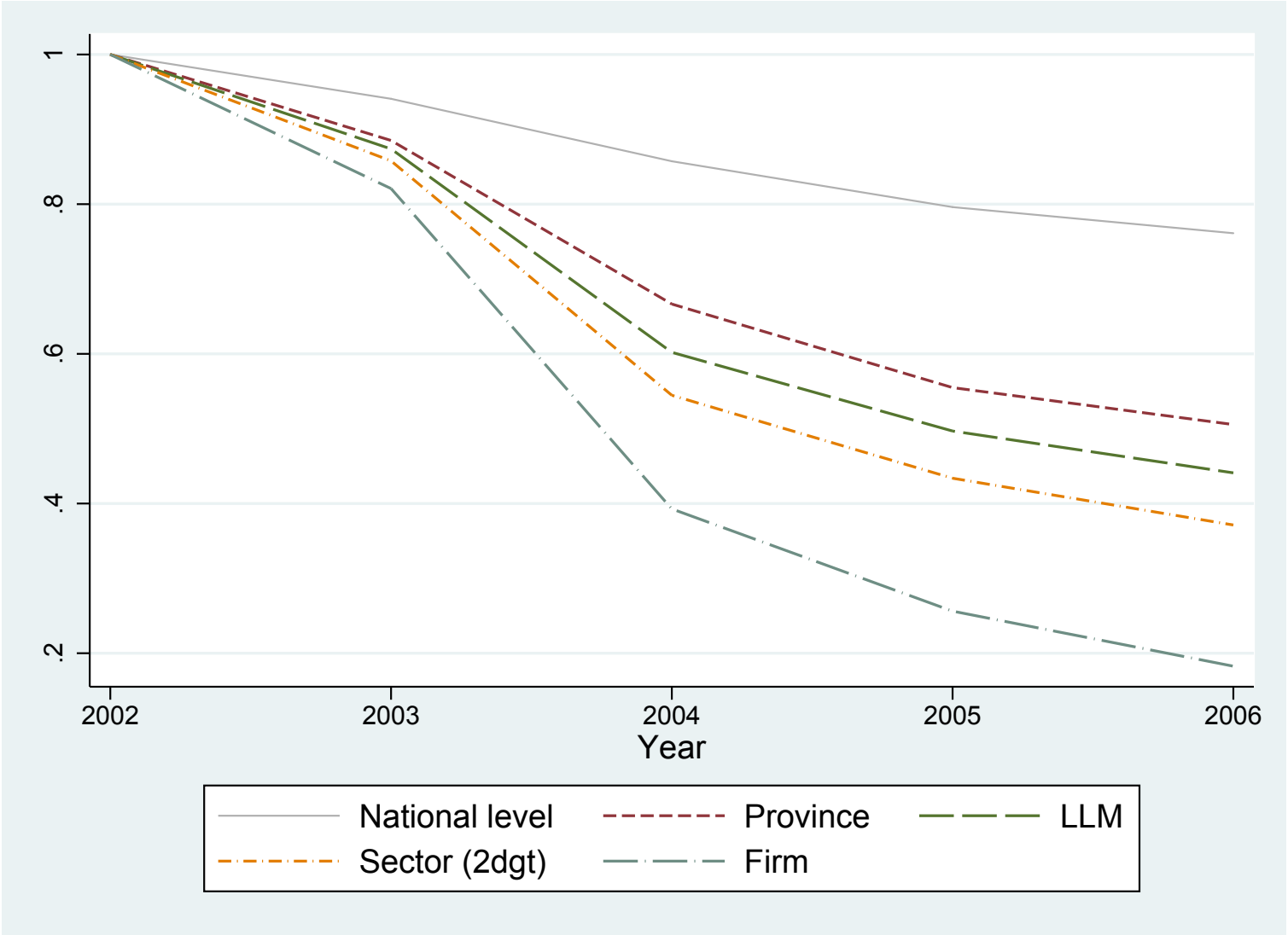
Controls included: cell's dimension, firm FE, sector×year FE, SLL×year FE, inspections in t-1

IV: Inspections ex lege 383 in the cell, and interacted with north

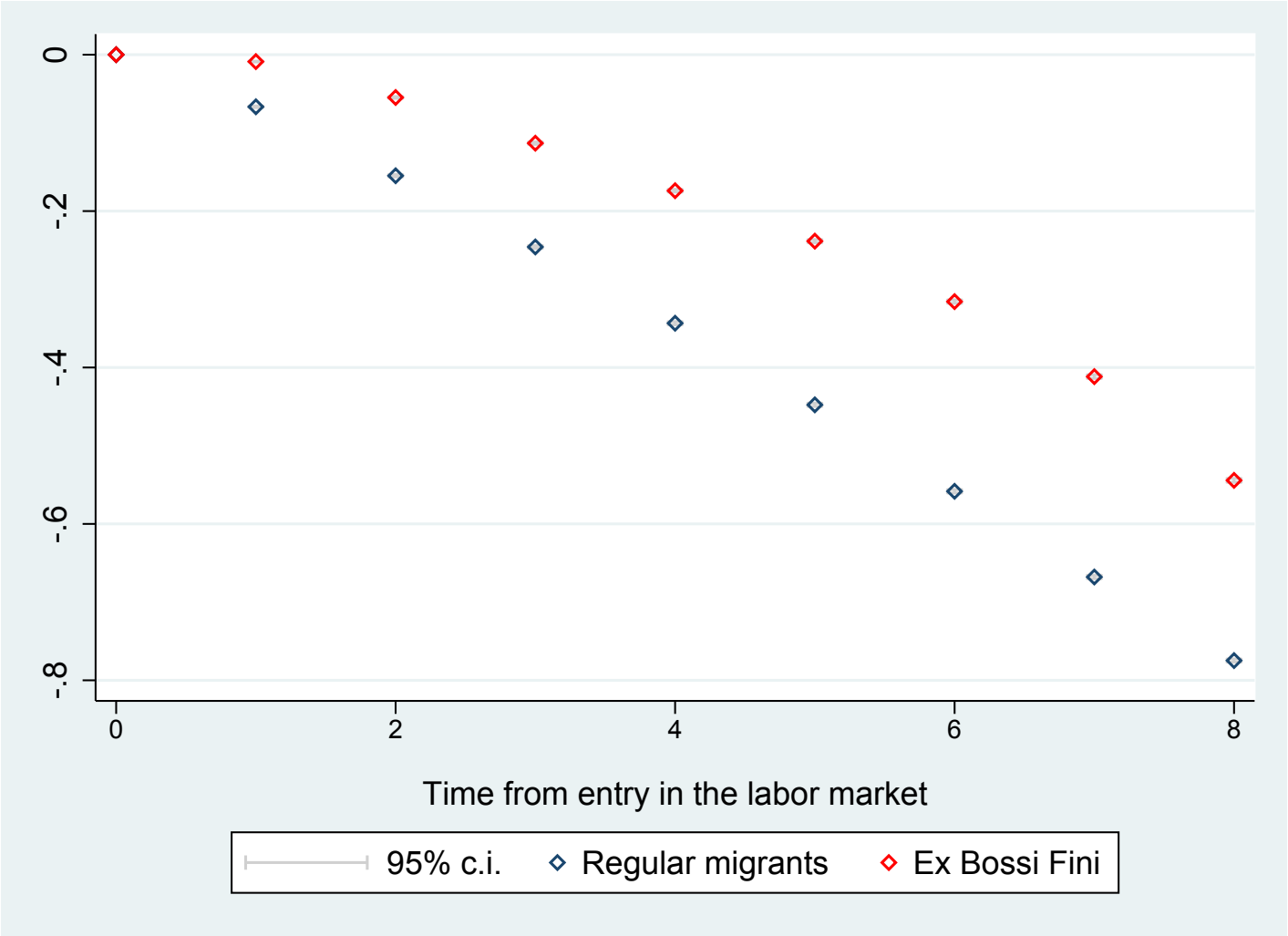
Excluding outliers (1^{st} and 99^{th} pctile of the outcome) and largest firms (99^{th} pctile in terms of employment in May 2002)

Errors clustered at firm's level

Legalized Migrants Survival rate



Migrants: legalized vs others



Controlling for citizenship, age, sector and province of entry

Co-Worker level Analysis: the Econometric Model

$$y_{w,i,t} = \beta_0 \widehat{T_{i,t}} + \beta_1 x_{w,i,t} + \beta_2 insp_{c,t-1} + \eta_w + \sigma_S \times \delta_t + \sigma_{PROV} \times \delta_t + \varepsilon_{w,i,c,t}$$

$$T_{i,c,t} = \gamma_0 insp383_{i,t} + \gamma_1 x_{w,i,t} + \gamma_2 insp_{c,t-1} + \eta_w + \sigma_S \times \delta_t + \sigma_{PROV} \times \delta_t + \upsilon_{i,c,t}$$

$c = prov \times sector$

$x_{w,i}$: age, qualification, no. employees

η_w: individual FE

σ_S: sector FE

σ_{PROV}: province FE

δ_t: year FE

$insp_{c,t-1}$: inspections in c

The Econometric Model

- Universe of workers employed in 2002.
- **Treatment group**: coworkers of regularized immigrants in Sept-Dec 2002.
- **Control group**: workers in non regularizing firms.
- **Dependent variables**: job separation, probability of exit.
- **Instrument**: 383 inspections at the province and industry 2 digit level, excluding firm's own 383 inspection:

Summary Statistics: workers

		Exit	Job Separation	Wages(m)	% Blue Collar
Controls	mean	0.09	0.13	1692	0.59
	median	0	0	1591	1
	p25	0	0	1226	0
	p75	0	0	1963	1
Treated	mean	0.11	0.26	1443	0.78
	median	0	0	1430	1
	p25	0	0	1037	1
	p75	0	1	1738	1

Sample: we exclude all workers active less than 2 months between Jan-Sep 2002 and out of the 2-98 pct of the monthly earnings distribution

Individual level analysis, firms below 15 workers

	FE below 15	
	Job separation	Unempl. Jan-Aug '03
Treated	0.173	-0.130
	(.448)	(1.036)
Obs.	6,108,878	5,507,492
KP	20.628	18.626

Standard errors in parentheses

Controls included: qualification, firm size, 2 dgt sector FE, province FE, Year FE

IV: Inspections ex lege 383 in the cell

Errors clustered at firm's level

Individual level analysis, firms below 15 workers

			Unempl. spell	
	Job separation	Exit	2003	2003-04
Treated	0.206*	-0.086	-0.520	-0.341
	(.084)	(.703)	(0.561)	(0.863)
Obs.	3,925,982	3,925,982	3,455,570	3,140,005
KP	40.744	40.744	40.162	40.165

Standard errors in parentheses

Controls included: age, qualification, migrant, female, firm size, 2 dgt sector FE, province FE

IV: Inspections ex lege 383 in the cell

Errors clustered at firm's level

Results

- Firm Level Analysis:
  - Short run causal impact on employment: positive
  - Short run causal impact on wages: not significant
  - Medium/long run causal impacts: not significant
- Worker level analysis:
  - Legalized migrants do not go *Back to Black!*
  - Legalized migrants are attached to the labor market, more than other migrants
  - Coworkers: We have causal evidence on separation (positive in cross section) and exit (negative in cross section) but the overall effect seems not significant (i.e. panel).

Possible Mechanisms at work

- Excess of demand?
  - No impact on wages and co-worker careers
  - Immigrants have a very high geographical mobility
  - They remain attached to the labour market
- Migrants, now documented, move to fill vacancies in other local market and in specific sectors.
- What about regularizing firms?

GRAZIE

Appendix with Additional Results

in the following slides some additional results

Hirings and Separations-IV Estimates

	Hiring Nat.	Hiring Mig.	Sep. Nat.	Sep. Mig.
Treated	0.824	0.925*	0.673	0.321
	(0.798)	(0.379)	(0.899)	(0.319)
Obs	2,037,474	2,037,474	2,037,474	2,037,474
KP	108.99	108.99	108.99	108.99

Note: the variables are computed yearly, cluster standard errors at firm's level;

- hirings natives mean: 0.98 - hirings migrants mean: 0.21 - separations natives mean: 1.09 - separations migrants mean: 0.12, these variables are very skewed

Robustness checks-IV Short Run

	May-Dec '02 Baseline	May-Dec '02 Excl.383/01 recipients	May-Dec '02 Empl. native
Treated	2.362***	2.590***	0.665
	(0.651)	(0.650)	(0.583)
Obs.	2,037,474	2,021,410	2,037,474
KP	108.996	109.800	108.996

*** p<0.01, ** p<0.05, * p<0.1

Controls included: cells dimension, firm FE, sector×year FE, SLL×year FE, inspections in t-1

IV: Inspections ex lege 383 in the cell

Excluding outliers (1^{st} and 99^{th} pctile of the outcome) and largest firms (99^{th} pctile in terms of employment in May 2002)

Errors clustered at firm's level

Robustness checks-IV Short Run

	CS-Empl.	CS-Wage pc	FE-Empl LLM	FE-Wage pc LLM
Treated	3.213***	-89.808	3.090***	-101.7126
	(0.527)	(81.328)	(0.619)	(97.739)
Obs	1,178,349	1,026,439	2,033,278	1,748,794
KP	93.559	69.00	113.052	99.478

Robustness checks-IV Short Run

	Ctrl. migrants in t-1		Ctrl. other insp. 2002	
	Empl.	Wage pc	Empl.	Wage pc
Treated	2.457***	-125.426	2.397***	-107.592
	(0.635)	(104.797)	(0.551)	(88.645)
Obs	2,023,626	1,737,954	2,023,626	1,737,954
KP	113.160	86.403	146.658	114.607

Robustness checks-IV Cross Sections

	CS-May-Dec '02	CS-May'02-Dec'04	CS-Mig. Sep.'03	CS-Mig. Sep.'04
Treated	3.310***	0.019	2.090***	1.816***
	(0.533)	(1.003)	(0.322)	(0.342)
Obs	1,162,401	969,760	1,049,455	969,760
KP	91.150	84.560	90.970	84.560

Note: cluster standard errors at firm's level

- Regressions on migrant hirings are significant:

Robustness checks-IV Cross Sections

	CS-May-Dec '02	CS-May'02-Dec'04	CS-Mig. Sep.'03	CS-Mig. Sep.'04
Treated	3.310***	0.019	2.090***	1.816***
	(0.533)	(1.003)	(0.322)	(0.342)
Obs	1,162,401	969,760	1,049,455	969,760
KP	91.150	84.560	90.970	84.560

Note: cluster standard errors at firm's level

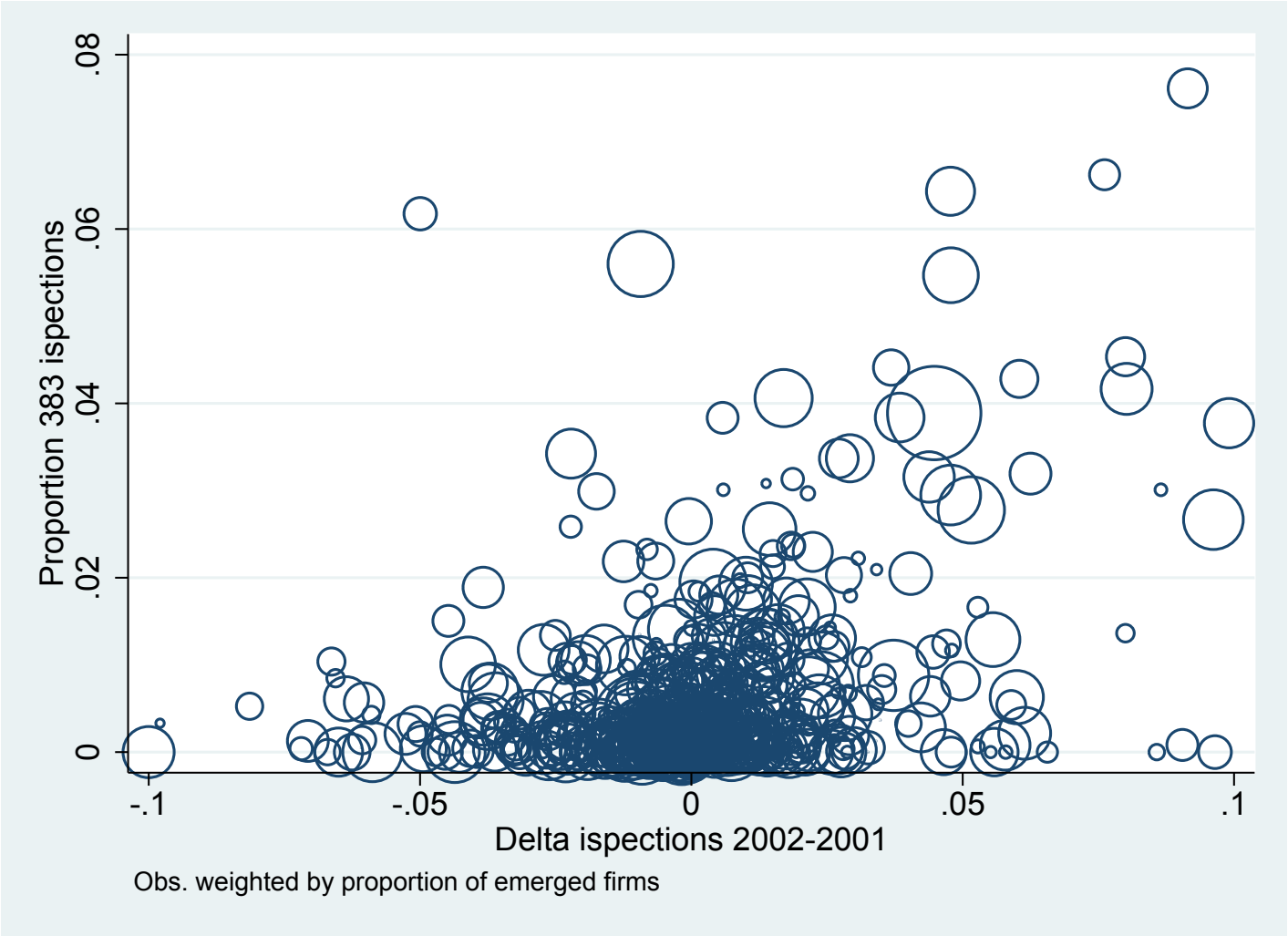
- Regressions on migrant hirings are significant:
  - CS-Mig. Hirings '03: 1.50***; CS-Mig. Hirings '04 : 0.84**.

Additional evidence - Future inspections

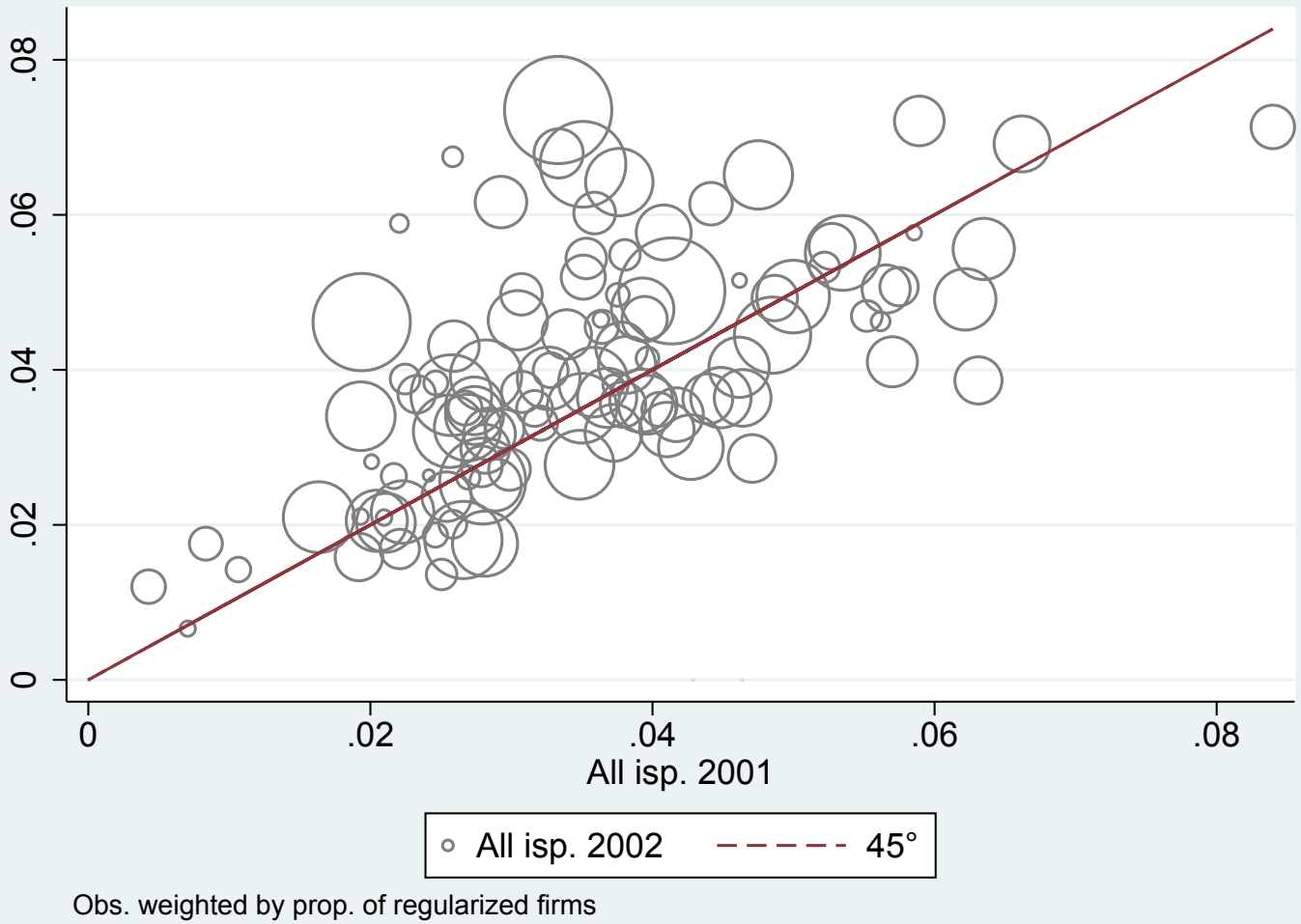
	Insp. 2004	Insp. 2003-04
Treated	-0.155***	-0.096
	(0.046)	(0.081)
Obs	1,461,791	1,461,791
KP	44.827	44.827

Note: cluster standard errors at firm's level

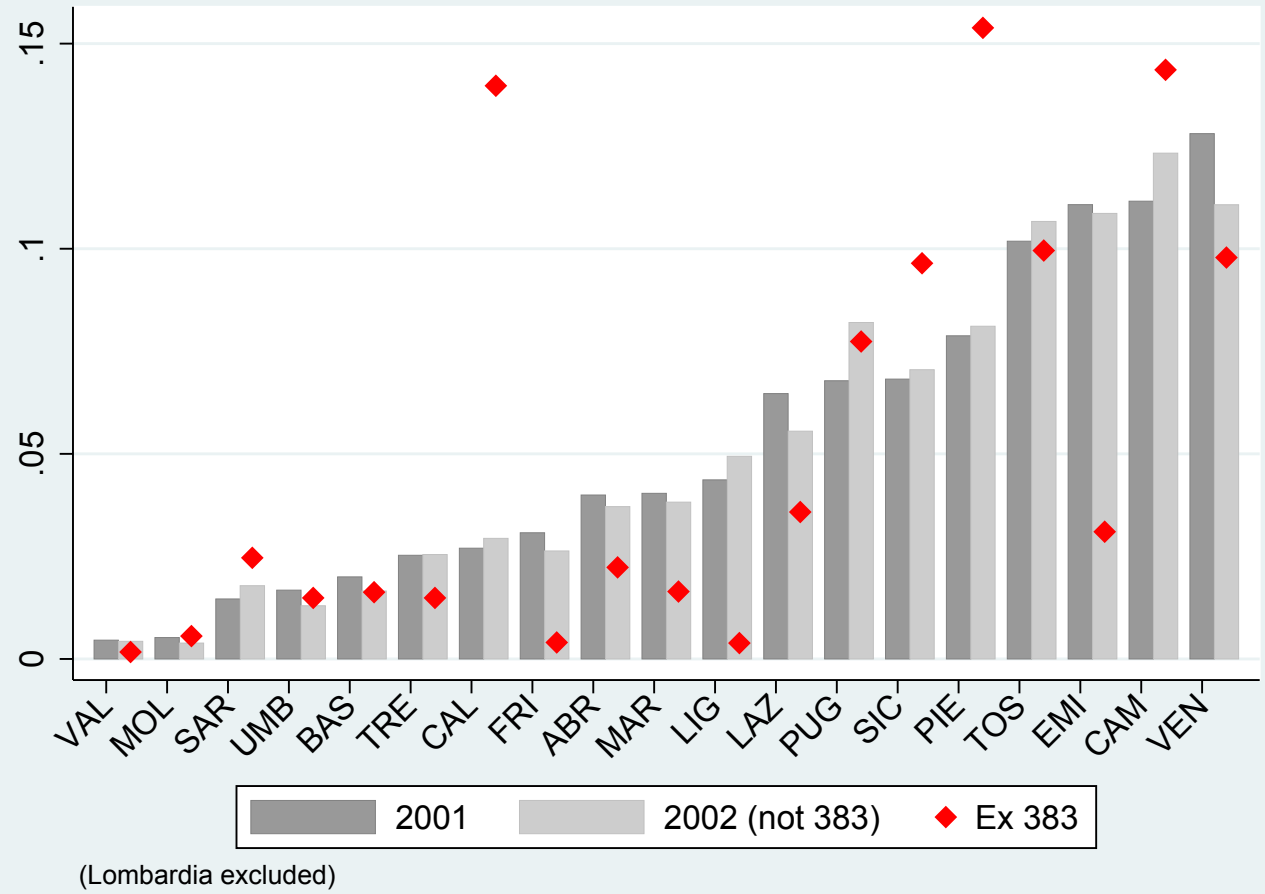
Identification Strategy



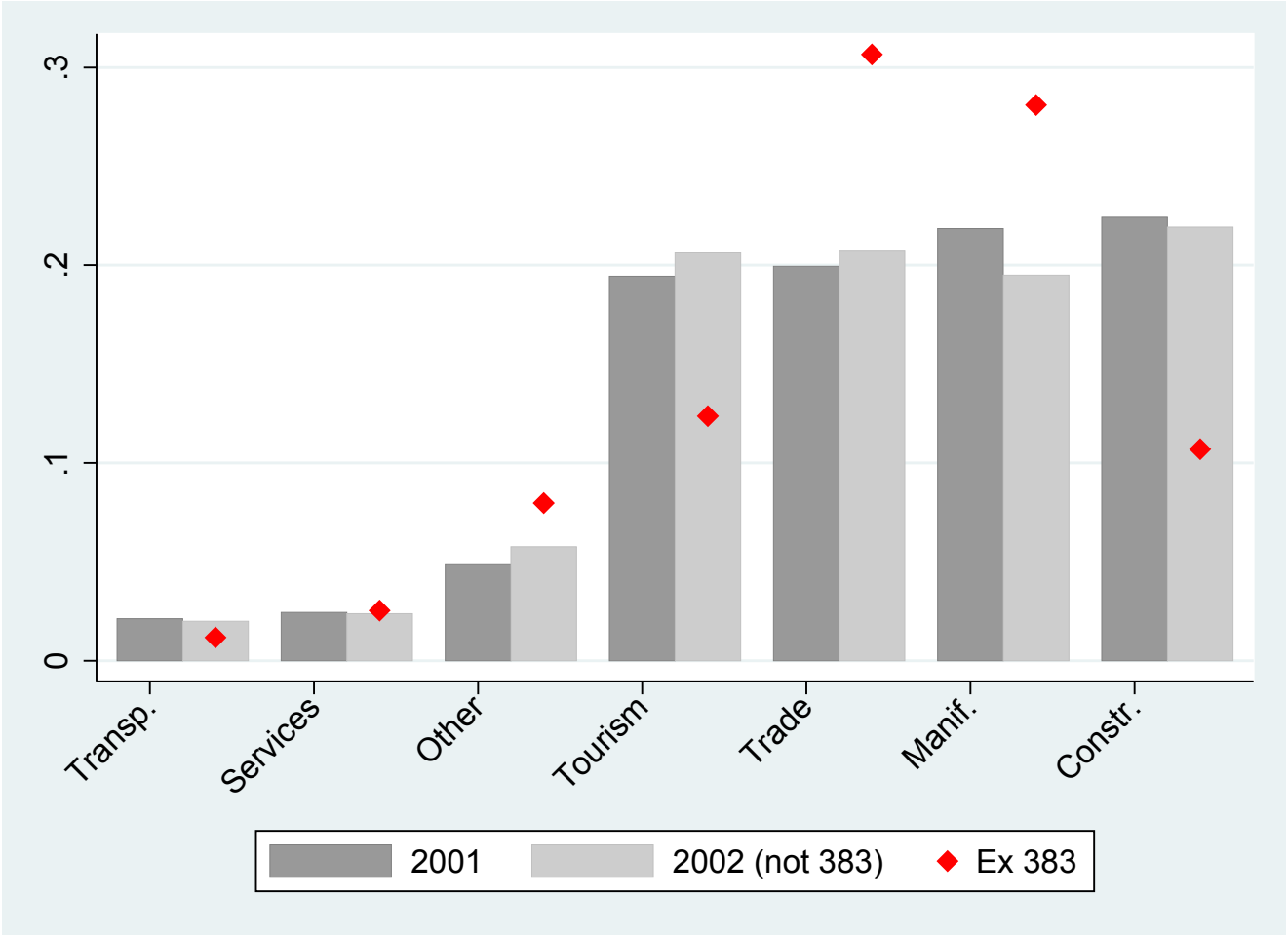
Identification Strategy



Distribution of inspections by region



Distribution of inspections by industry



First stages

The Table shows that the instrument at the individual level works just for medium-small firms, thus we consider only firms below 15 employees. Around 90% of Italian firms declares less than 15 employees

		below 13	below 15	below 50	overall
Cross section	KP	40	41	22	2
	Obs.	3,607K	3,925K	5,902K	10,511K
Panel	KP	12	19	17	4
	Obs.	4,988K	5,507K	8,872K	17,591K

Errors clustered at firm's level

Controls included: age, qualification, migrant, firm size, 2 dgt sector FE, province FE

IV: Inspections ex lege 383 in the cell

Firm level

First stages

The Table shows that the instrument at the individual level works just for medium-small firms, thus we consider only firms below 15 employees. Around 90% of Italian firms declares less than 15 employees

		below 13	below 15	below 50	overall
Cross section	KP	80	82	94	94
	Obs.	1,091k	1,110k	1,166k	1,170K
Panel	KP	98	102	110	111
	Obs.	1,852k	1,893k	2,015k	2,024K

Errors clustered at firm's level

Controls included: age, qualification, migrant, firm size, 2 dgt sector FE, province FE

IV: Inspections ex lege 383 in the cell

Cross Section First stages

	below 13	below 15	below 50	overall
KP	40	41	22	2
Obs.	3,607K	3,925K	5,902K	10,511K

Controls included: age, qualification, migrant, firm size, 2 dgt sector FE, province FE

IV: Inspections ex lege 383 in the cell

Errors clustered at firm's level