Small Business Survival Capabilities and Policy Effectiveness: Evidence from Oakland

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QUICK OVERVIEW: SETTING & CONTRIBUTION

- Known: Small businesses in Europe & U.S. account for 99+% of firms and half of employment

- The assumption that small businesses are homogenous in characteristics is problematic for understanding internal mechanisms of small businesses and for policy

Our contribution:

1. Understanding heterogeneities of *survival capabilities*

   - *Survival capabilities := endowment concept of how a business facing a macro revenue shock adapts*

2. Mapping survival capabilities to types of policy support for small businesses

3. Testing implications for PPP program effectiveness in U.S.

SMALL BUSINESS SIZE

Our particular heterogeneity focus is on **firm size**. Reasons:

1. **Event-driven:**

   - Helping the City of Oakland look at their survey to understand impact of the crisis as early as March 20th.

   - Big differences in firm labor and expected survival forecast by firm size

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1. **<u>Event-driven:</u>**

2. **<u>Macro literature:</u>**

   - Nonemployers and microbusinesses as providers of community vibrancy, important for spillovers and tax base

     - Austin-Glaeser-Summers (2018), Alm-Buschman-Sjoqvist (2014), Shoag-Veuger (2018), Tsivanidis-Gechter (2019)

   - Larger small businesses as job growth providers

     - Davis-Haltiwanger-Schuh (1996), Davis-Haltiwanger-Jarmin,-Krizan,-Miranda-Nucci-Sandusky (2007), Haltiwanger-Jarmin-Miranda (2013), Decker-Haltiwanger-Jarmin-Miranda (2014), Mayer-Siegel-Wright (2018)

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- Note that some people discuss small businesses as only important in the jobs provision realm, but this is only half of the story.

- Policy decisions should reflect dual benefits-balancing.

OUTLINE

I. Frames for thinking about survival capabilities

II. Policy program choices

III. Data from Oakland

IV. Survival Capabilities Results

V. Policy program choices implications

VI. Testing the PPP

STORY-BASED FRAME

Firm Size = Number of Employees

Bakery

- Nonemployer: Owner works all the time
- Literature: Non-pecuniary utility from entrepreneurship
- Tradeoff in closing down: savings account / claiming unemployment insurance

Taqueria

- Only employs 3 loyal, core cooks who also work counter
  - "jack-of-all-trades"
- Can't let cooks go in distress without closing down

Pizza Restaurant

- Employs 20 people
  - Wait staff : Low specific human capital and not core
  - Cooks: Core but small % of workers

Simplified Accounting

$$\pi = r - l - c$$

cash flows (π); net revenues (r); labor costs (l); committed other costs (c)

Shock & Survival

- A negative macro shock R^- to the economy imposes a loss of a unit of net revenue on average for small businesses, but with variance across firms

- Survival is keeping cash flow positive during shock:

$$survival := \pi + \frac{d\pi}{dR^-} > 0$$

Total differentiation

- Taking the derivative and allowing for labor to scale with revenues or be directly impacted by the shock, we have the survival condition as:

$$\underbrace{\left(r + \frac{dr}{dR^-}\right)}_{revenue\ grit} - \underbrace{\left(l + \frac{\partial l}{\partial r}\frac{dr}{dR^-} + \frac{dl}{dR^-}\right)}_{labor\ flexibility} - \underbrace{\left(c + \frac{dc}{dR^-}\right)}_{committed\ costs} > 0$$

Survival is a function of

1. Ability of firms to exhibit **revenue resiliency**

2. **Labor cost flexibility**, which incorporates how elastic a firm's labor cost is to revenue as well as direct labor effects from the macro shock

3. Level of **committed costs** and the ability to restructure costs

POLICY PROGRAM TYPE CHOICES: A natural mapping to our Frame

1. **Subsidized Working Capital Loans:** Provide subsidized loans, often with conditions to ensure that loan proceeds are used to support working capital in rebuilding revenues

   - *Most useful for those firms that have revenue resiliency among their survival capabilities.*

2. **Labor Costs Grants and Subsidies:** Provide a subsidy to labor costs, conditional on labor remaining in place.

   - *Less efficient for small businesses endowed with high labor flexibility for business cycle downturns*

3. **Lease or Debt Payment Restructuring Subsidies:** Reduce the committed cost burdens via government restructuring of obligations.

   - *Especially relevant for small businesses whose survival will depend on their ability to restructure large committed costs incurred prior to the macro shock.*

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CITY OF OAKLAND

DATA SOURCES

1. City of Oakland Small Business Survey I – March-April

2. Manual collected supplemental data online (google maps/yelp/webpages/closure lists)

3. SafeGraph foot traffic

4. Homebase employee and wages data

5. City of Oakland Small Business Survey II – June

CITY OF OAKLAND SMALL BUSINESS SURVEY

Survey

- Implemented 2nd week of March, 2020
- Analysis Sample: March 13 – April 30
- 1,088 in original sample: filtered out businesses > 50 employees, strictly online businesses & nonprofits
- 1,014 = sample
- Approximately 11% of small businesses

City

- 433,000 people
- 201 sq km
- Employment (2016): 205,000
- Median household income ~$68,000
- Cost of living = London*112.5%
- Shelter in place: March 16, 2020

INDUSTRIES   (Manual data collection online)

	Obs	Percentage	Examples
Business services	82	8.1%	Catering, industrial cleaning, printing, photography, technology
Construction / fabrication / venues / workspaces	95	9.4%	Construction, entertainment venues, event spaces, parking lots, housing, manufacturing, wholesale trade
Fitness / gym / wellness	86	8.5%	Fitness centers, gyms, massage, acupuncture
Medical offices	38	3.7%	Chiropractic, dentist, optical, physical therapy, psychology
Personal services home	28	2.8%	Home repair, landscape, pet walking, realty
Personal services shop	75	7.4%	Auto repair, car wash, child care, education, laundry, tattoo
Professional services	206	20.3%	Architects, consultants, designers, engineers, lawyers
Restaurant	156	15.4%	Restaurants
Retail	144	14.2%	Retail shops
Salon	104	10.3%	Salons, barbers
	1,014	100.0%	

	Obs	Mean	Median	StDev	Range Defined Min	Max
Employees	1,014	6.52	2	9.81	0	50
Nonemployer	1,014	0.250		0.433	0	0
Microbusiness	1,014	0.430		0.495	1	5
Enterprise	1,014	0.321		0.467	6	50

If microbusiness or enterprise…

Employees	761	8.68	4	10.46	
Full-time	761	4.46	2	6.70	
Part-time	761	4.22	2	6.75	

- We run estimations in Log Workers = $\mathrm{Ln}(1 + \text{employees})$, where the "1" represents the owner/proprietor

- All "log workers" are ex ante values for the business

- We then always depict the results graphically to understand the margin of firm size by these **3** categories

(Manual data collection online)

Commerce Location and Essential Designation	Obs	Percent	
Main Street	674	0.665	
At a Venue, Home, or Offsite	340	0.335	
	1,014	1.000	
Essential Business under Shelter-in-Place	1,014	0.110	

Interim Outcome as of May 1	Obs	Percent	Cumulative Percent
Permanently Closed or Lacking Ongoing Concern Signal	159	0.192	0.192
Temporarily Closed	211	0.255	0.447
Trying	172	0.208	0.655
Open	285	0.345	1.000
	827	1.000	

OUTCOME 1: REVENUE RESILIENCY

DATA & RESULTS

Gross Receipts   Summary Stats

Gross Receipts	Obs	Percentage	Cumulative %
Declining (dummy YoY as of February)		0.523	
% Δ Gross Receipts Decline Year-over-Year as of March:			
< 2%	6	0.007	0.007
2 - 5%	7	0.008	0.015
5 - 10%	30	0.035	0.050
10 - 20%	53	0.061	0.111
20 - 40%	168	0.194	0.306
>40%	600	0.694	1.000
Observations with revenue decline data	864	1.000	

Estimating Equation:

$$Log(\% \triangle \ Receipts\ Decline\ March)_i$$
$$= \beta_0 + \beta_1 LogWorkers_i^{Pre}$$
$$+ \beta_2 Nonemployer_i$$
$$+ \beta_3 Log(\% \triangle \ ReceiptsDecline\ Feb)_i$$
$$+ \mu^{mainstreet} + \mu^{essential} + \mu_{industry}$$
$$+ \varepsilon_i$$
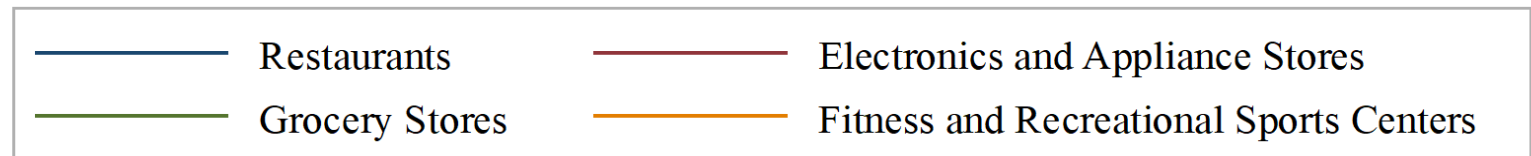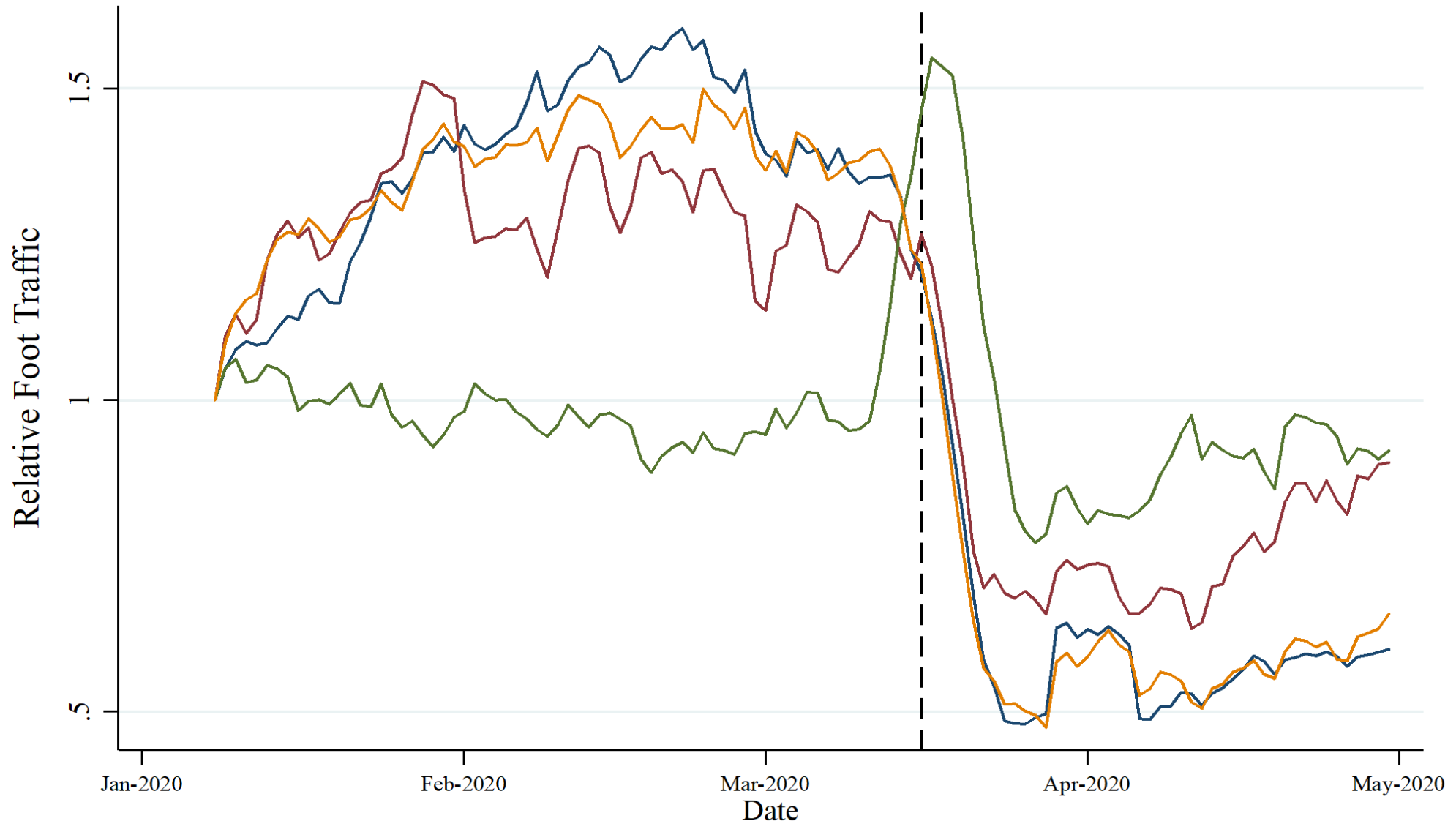
OUTCOMES: REVENUE RESILIENCY   Foot traffic

- SAFEGraph covers mobile locations for over 30 million individuals using cellphone tracking (consented)

- Overlaid to 5 million U.S. establishments based on location and shape polygon

- Does not cover non- "main street" businesses (landscaping, etc)

- Proxy for revenues within-firm:

  - Not necessary to map expected revenues to foot traffic by industry, for example.
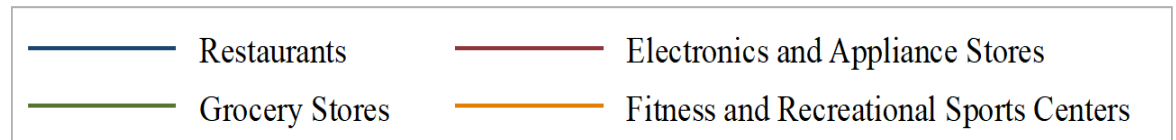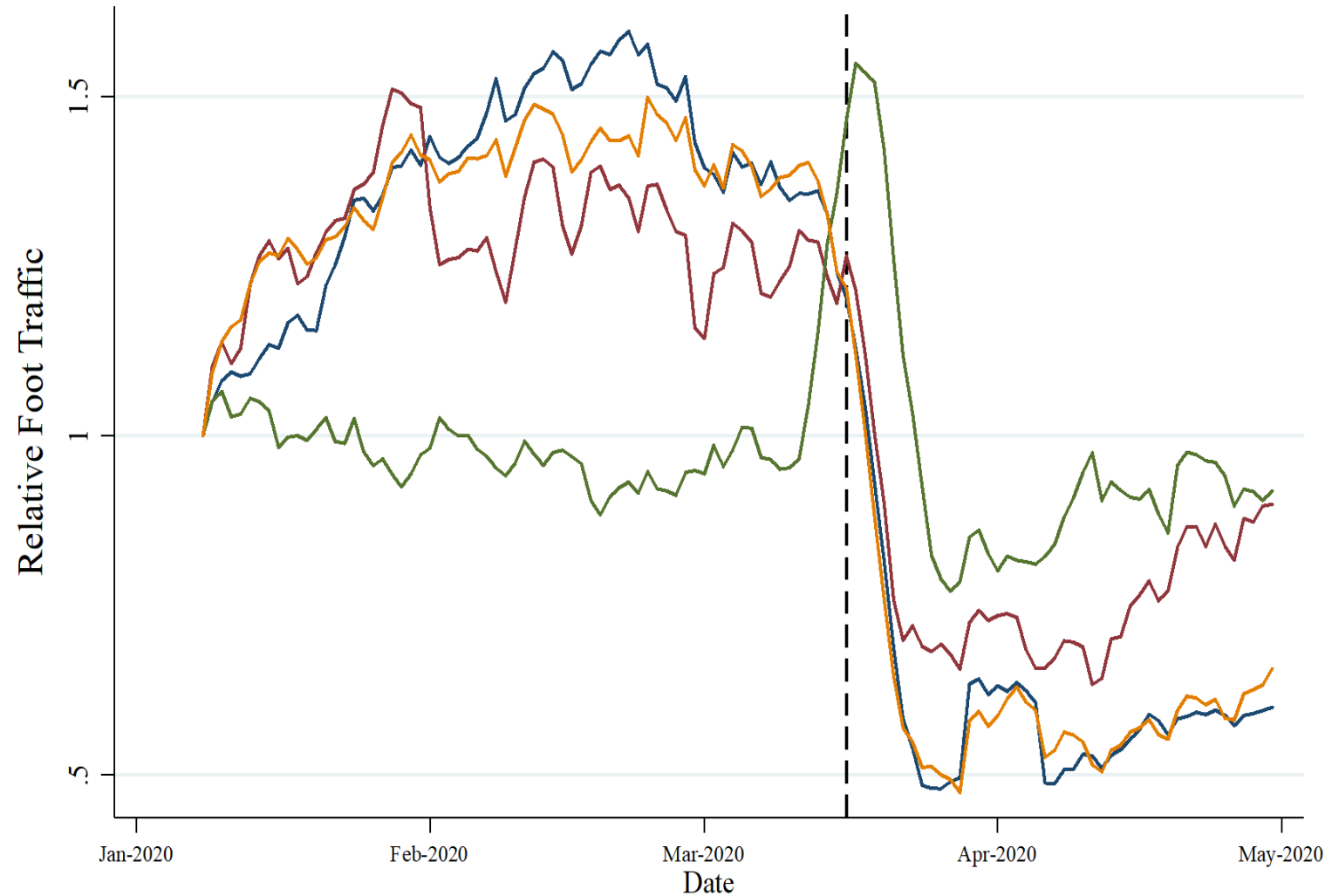

SafeGraph Devices in California
total devices by county

50,000 - 500,000
10,000 - 50,000
5,000 - 10,000
2,500 - 5,000
1,000 - 2,500
15 - 1,000
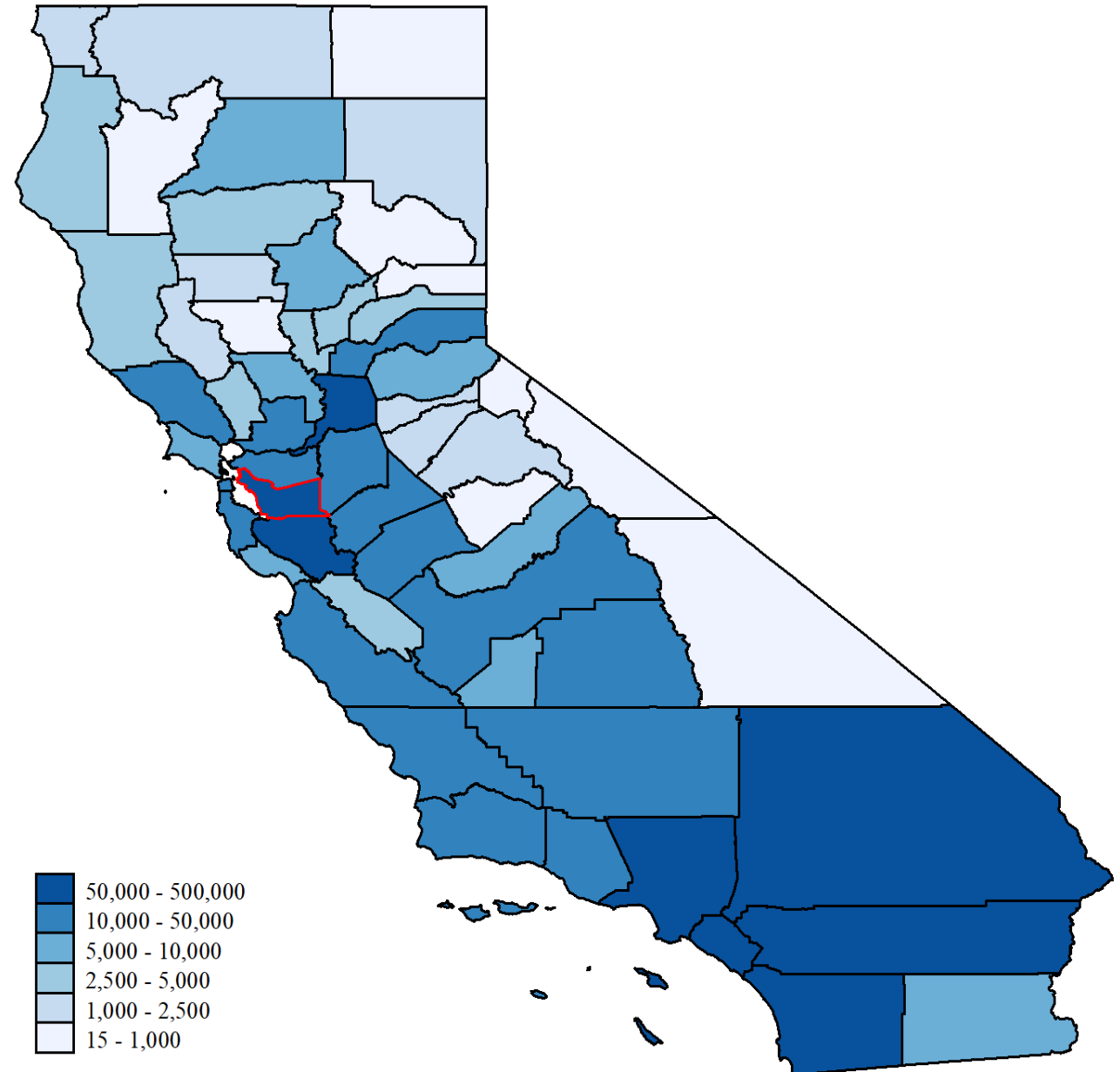
EXAMPLES OF FOOT TRAFFIC DATA: Measure is 7-day moving average relative to early January

OUTCOMES: REVENUE RESILIENCY Foot Traffic

Estimating Equation:

$$LogFootTraffic_{it} = \beta_0 * Post_t$$
$$+ \beta_1 LogWorkers_i^{Pre} Post_t$$
$$+ \beta_2 Nonemployer_i Post_t$$
$$+ \gamma_i + \delta_t + \varepsilon_{it}.$$

REVENUE RESILIENCY RESULTS

Dependent Variable:	(1)	(2)	(3)	(4)	(5)	(6)
	Log (1+ % Decline YoY Receipts, March 2020)				Log (Foot Traffic)	
Log Workers	0.0126** [0.00616]	0.0274*** [0.00895]	0.0099 [0.0071]	0.0271*** [0.0103]		
Nonemployer		0.0538** [0.0246]		0.0593** [0.0261]		
Post					-1.344*** [0.109]	-1.193*** [0.139]
Post*Log Workers					-0.0673 [0.0435]	-0.126** [0.0543]
Post*Nonemployer						-0.334* [0.192]
Log Receipts Decline February	0.217*** [0.0402]	0.225*** [0.0403]	0.219*** [0.0408]	0.231*** [0.0412]		
Fixed Effects			Industry, Main Street, Essential	Industry, Main Street, Essential	Firm	Firm
Day Fixed Effects					Yes	Yes
Observations	349	349	349	349	23,292	23,292
R-squared	0.107	0.120	0.125	0.139	0.796	0.797

Larger small businesses and nonemployers face a greater decline in revenues

GRAPHIC REVENUE RESILIENCY RESULTS: Oakland Survey

- Plotted: marginal effects of size, taking other variables at mean

- Microbusinesses face a decline rate of -0.408 in March year-over-year gross receipts

- Enterprises face a decline rate of -0.476

- Microbusinesses ward off **14%** of the shock relative to enterprises

- The taqueria is able to more nimbly keep a larger proportion of pre-crisis revenues
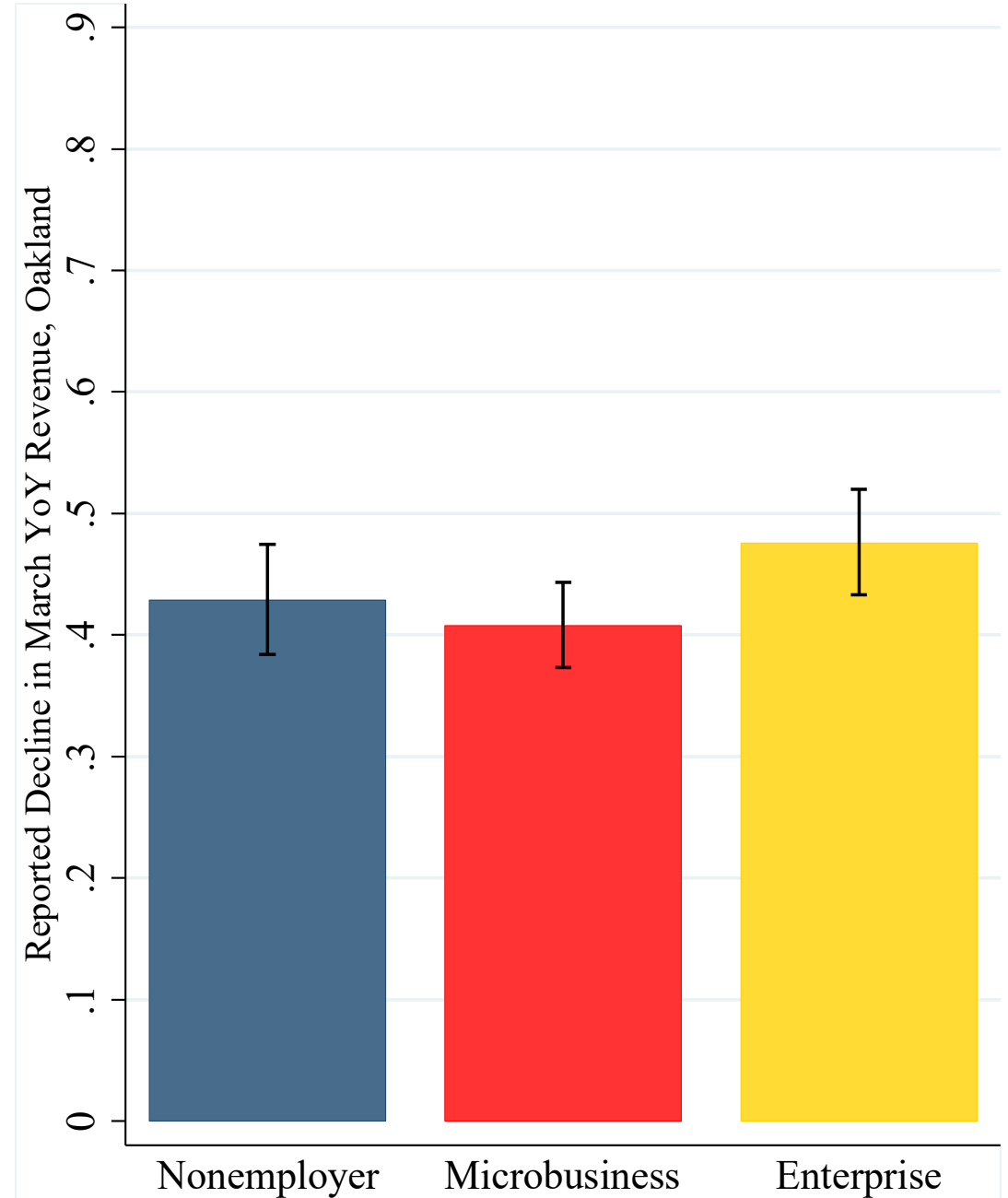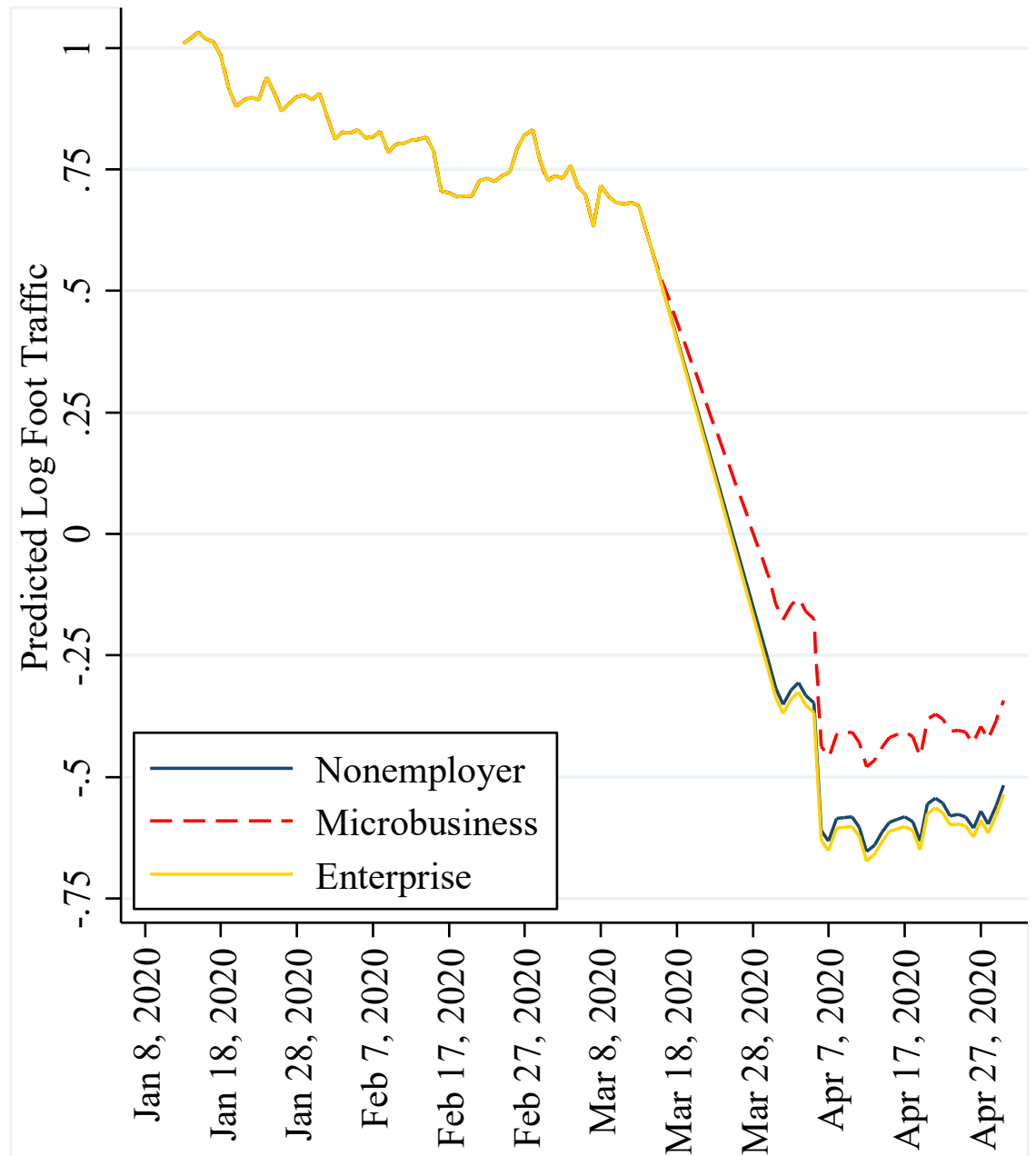
GRAPHIC REVENUE RESILIENCY RESULTS: Foot Traffic

- ■ Data goes through April (still in shelter)

■ Enterprises and nonemployers face 73.8% and 73.1% percentage declines in their foot traffic

■ Microbusinesses face a 68.4% decline

■ Microbusinesses ward off **8%** of the shock relative to others

■ The taqueria is able to more nimbly keep a larger proportion of pre-crisis revenues

OUTCOME 2: LABOR FLEXIBILITY

DATA & RESULTS

- Recall in the simple framework, a small business can have a unique labor flexibility from two sources two reasons
  - Changes in synchronicity with revenue movements
  - Independent changes

$$\underbrace{\left(r + \frac{dr}{dR^-}\right)}_{revenue\ grit} - \underbrace{\left(l + \frac{\partial l}{\partial r}\frac{dr}{dR^-} + \frac{dl}{dR^-}\right)}_{labor\ flexibility} - \underbrace{\left(c + \frac{dc}{dR^-}\right)}_{committed\ costs} > 0$$

Create a revenue loss index for each firm

= Average of

- standardized percentage decline in revenue for March from the Oakland survey

- standardized percentage change in foot traffic after the shelter in place

- Because some observations lack one or the other variable, we allow solo contributions of these standardized variables

Histogram of Percentage Change in Workers in Oakland

Density

Percentage Change in Ex Ante Worker Count
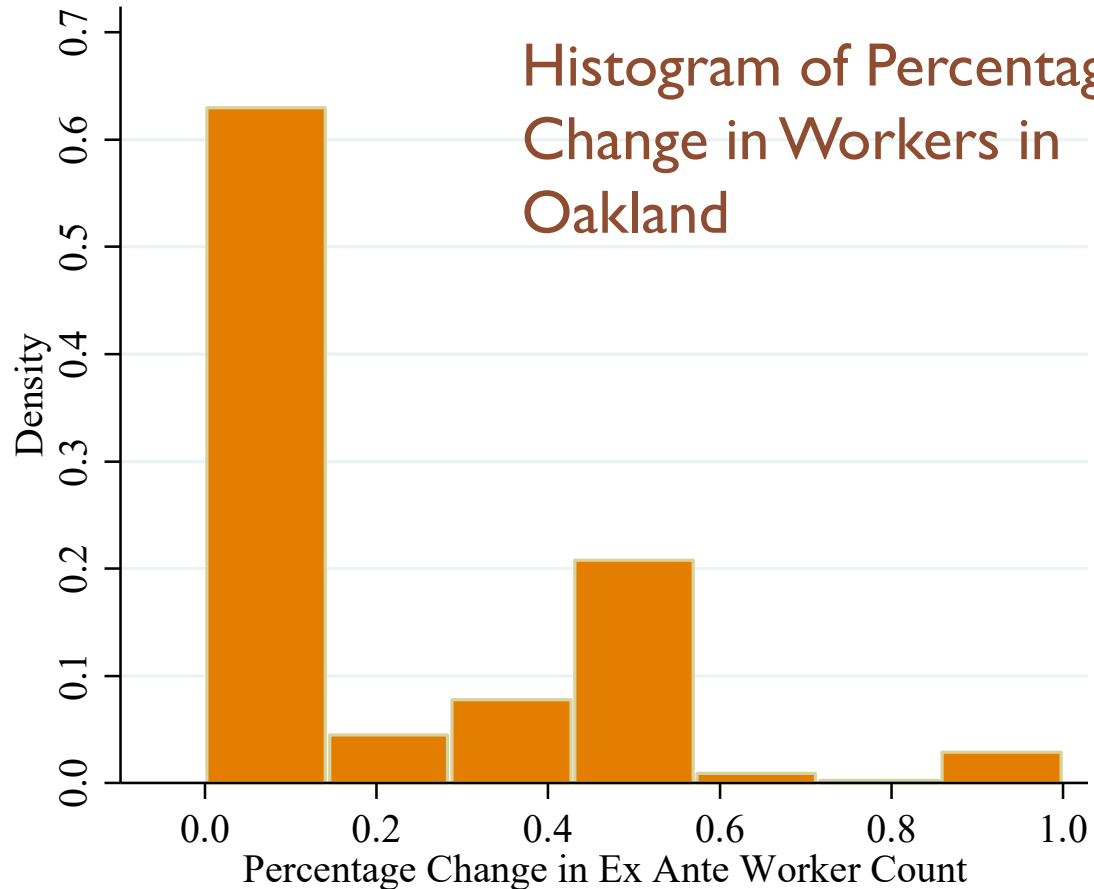
Estimating Equation:

$$FractionalLogit(\% \triangle \ Decline \ Workers_i)$$
$$= \beta_1 \ LogWorkers_i^{Pre}$$
$$+ \ \beta_2 \ RevLossIndex_i$$
$$+ \ \beta_3 \ LogWorkers_i^{Pre} RevLossIndex_i$$
$$+ \ \mu^{mainstreet} + \mu^{essential} + \mu_{industry} + \varepsilon_i$$

Homebase Employee Headcounts & Wages Paid

	Obs	Mean	StDev	50%ile
Headcount	50,449	7.60	6.98	5.5
Wages	35,463	$2,413	$3,197	$1,510

*national statistics: Oakland/Bay area subsample similar but with higher wages

Estimating Equation:

$$LogLaborCost_{it} = \beta_0 Post_t$$
$$+ \beta_1 LogFootTraffic_{jt}$$
$$+ \beta_2 LogFootTraffic_{jt} Post_t$$
$$+ \beta_3 LogWorkers_i^{Pre} Post_t$$
$$+ \beta_4 LogWorkers_i^{Pre} LogFootTraffic_{jt}$$
$$+ \beta_5 LogWorkers_i^{Pre} LogFootTraffic_{jt} Post_t$$
$$+ \gamma_i + \delta_t + \varepsilon_{it}$$

Note that Homebase has no firm identifiers. Thus, the mapping of Homebase to foot traffic is at the zip code-industry level.

LABOR FLEXIBILITY RESULTS:
Homebase Oakland

- Labor use scales with revenue loss decline

- Yet, beyond revenue declines, larger small businesses use labor flexibility as their survival strategy (within industry) more

- The scaling of labor with revenue loss does not change with firm size

Dependent Variable:	Percentage Change Decline in Full-Time Workers		Percentage Change Decline in Part-Time Workers	
Revenue Loss Index	0.0769***	0.0844*	0.0680***	0.117*
	[0.0200]	[0.0452]	[0.0239]	[0.0685]
LogWorkers^{Pre}	0.117***	0.128***	0.165***	0.173***
	[0.0150]	[0.0167]	[0.0207]	[0.0237]
LogWorkers^{Pre}*Rev Loss Index		-0.00749		-0.0214
		[0.0196]		[0.0306]
All Columns include Essential & Main Street Effects				
Industry F.E.	N	Y	N	Y
Observations	556	556	442	442
R-squared	0.099	0.118	0.096	0.104

GRAPHIC LABOR FLEXIBILITY RESULTS: Oakland Survey

- Plotted: marginal effects of size, taking other variables at mean

- Full-Time:
  - Enterprises laid off 38.1% of workers
  - Microbusinesses only laid off 17.7%

- Part-time
  - Enterprises laid off 49.6% of workers
  - Microbusinesses only 23.8 %.

- Microbusinesses (the tacqueria) use labor flexibility half as much (47.6%) as enterprises (pizza restaurant)
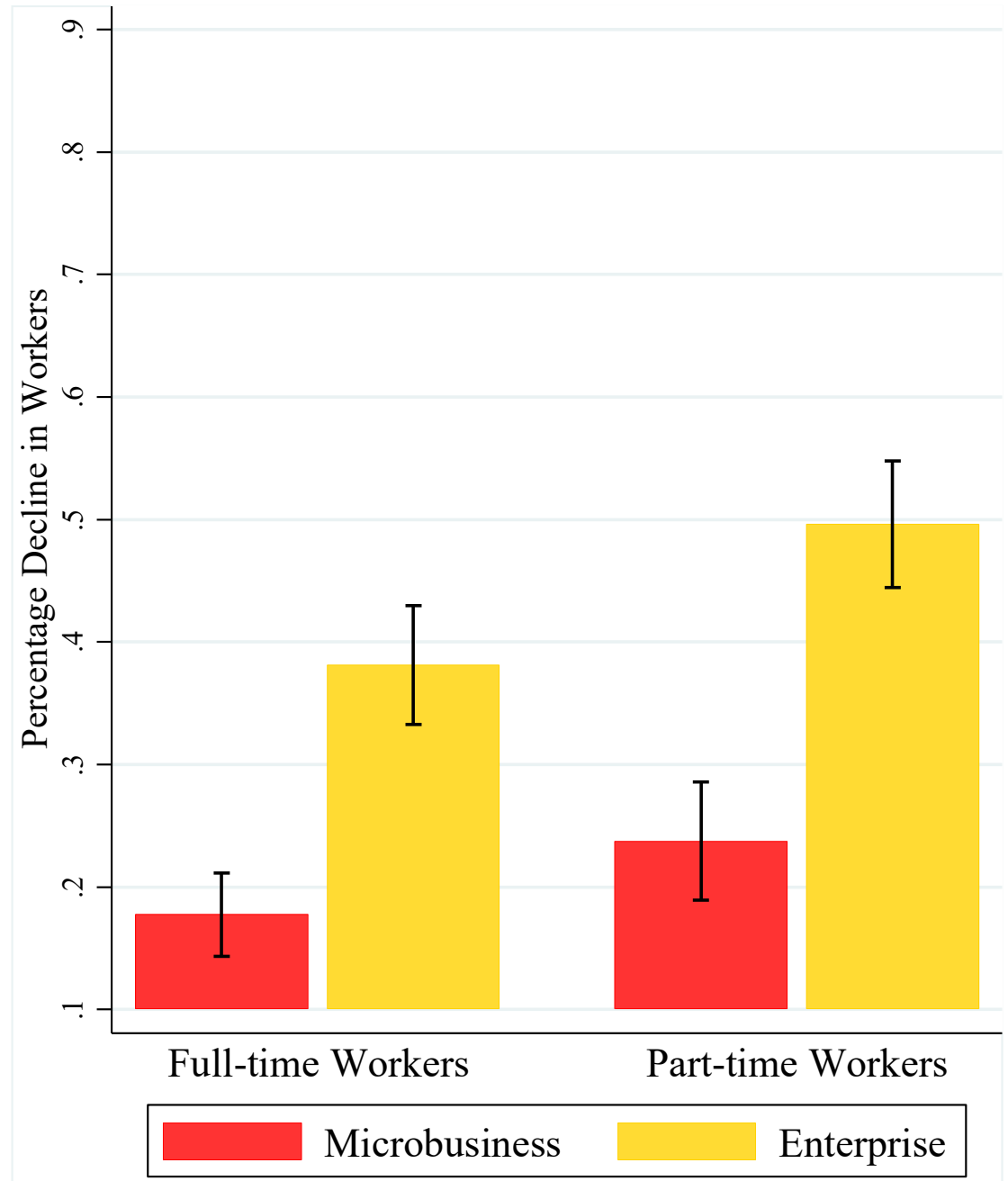
LABOR FLEXIBILITY RESULTS: Homebase Oakland

- Post decline of -0.42 percentage change in Oakland (-0.50 in national estimations)
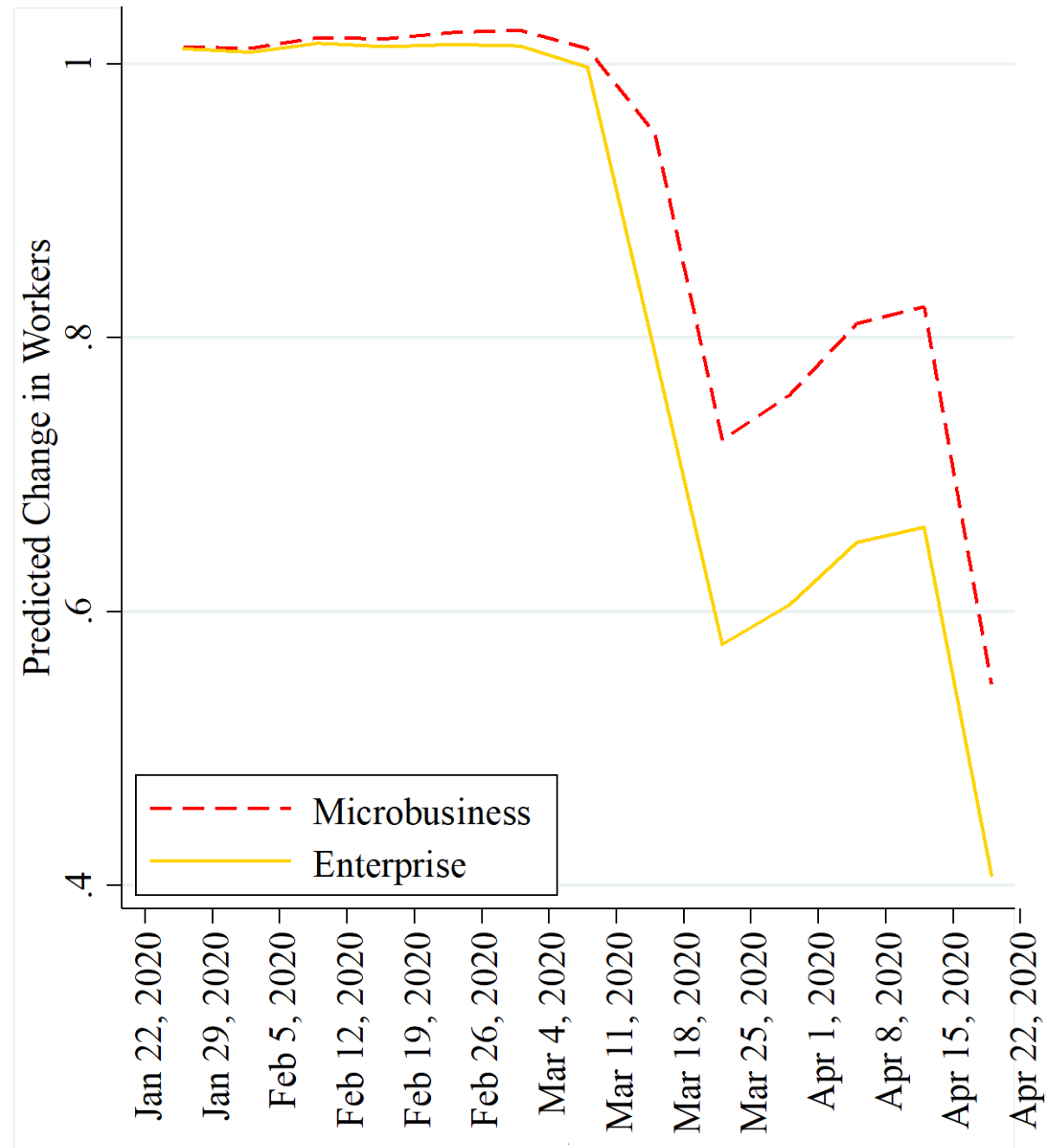
- Small businesses with more pre-crisis workers experience larger decreases in workers
  - Post-period shock to the elasticity of labor to firm size = -0.28

Dependent Variable:	Log Workers, Oakland Area Sample		
Post	-0.443*** [0.0609]	-0.416*** [0.0708]	-0.429*** [0.126]
Post * LogWorkersPre	-0.289*** [0.0269]	-0.288*** [0.0271]	-0.279*** [0.0725]
Log Foot Traffic	0.0486*** [0.0126]	0.0538*** [0.0132]	-0.0149 [0.0292]
Post * Log Foot Traffic		-0.00981 [0.0166]	-0.0421 [0.0395]
LogWorkersPre * Log Foot Traffic			0.0358** [0.0171]
Post*LogWorkers*LogFootTraffic			0.016 [0.0230]
Firm Fixed Effects	Yes	Yes	Yes
Day Fixed Effects	Yes	Yes	Yes
Observations	16,760	16,760	16,760
# of Businesses	1,428	1,428	1,428
R-squared	0.836	0.836	0.837

GRAPHIC LABOR FLEXIBILITY RESULTS: Homebase in Oakland

- Enterprises cut back labor by 50.1%

- Microbusinesses cut back labor by 26.7%

- Microbusinesses (the tacqueria) use labor flexibility half as much as enterprises (pizza restaurant)

  - Almost identical relative magnitude in Oakland survey and Homebase

National Homebase Data: **Workers**

National Homebase Data: **Wages**

Left panel y-axis: Predicted Change in Workers

Left panel legend:
- Microbusiness
- Enterprise

Right panel y-axis: Predicted Change in Wages

Right panel legend:
- Microbusiness
- Enterprise

X-axis (both panels): Jan 22, 2020 — Jan 29, 2020 — Feb 5, 2020 — Feb 12, 2020 — Feb 19, 2020 — Feb 26, 2020 — Mar 4, 2020 — Mar 11, 2020 — Mar 18, 2020 — Mar 25, 2020 — Apr 1, 2020 — Apr 8, 2020 — Apr 15, 2020 — Apr 22, 2020

OUTCOME 3: COMMITTED COSTS

DATA & RESULTS

Business Closing Risk

How concerned are you about your business closing?

Answers:	Obs	Percentage	Cumulative Percentage
Not Concerned	40	0.039	0.039
Somewhat Concerned	233	0.230	0.269
Very Concerned	741	0.731	1.000
	1,014	1.000	

- Do not observe committed costs directly
- Take guidance from our framework:
  - Once heterogeneities of revenue resiliency and labor flexibility removed,
  - The residual must contain the role of committed costs in survival.
- **Therefore, use residual closure risk as a proxy for committed costs**

OUTCOMES: COMMITTED COSTS

Estimating Equation:

$$Ordered\ Logit(\ Closure\ Risk\ Concern_i)\ =\ \beta_1 LogWorkers_i^{Pre} + \beta_2 RevLossIndex_i$$

$$+\ \beta_3 \% \triangle Decline\ Workers + \sum\nolimits_{k=1}^{K} \xi_k InterimOucome_{ik} + \mu^{declining} + \mu^{mainstreet}$$

$$+\ \mu_{industry} + \varepsilon_i.$$

	Model:	Ordered Logit		
Dependent Variable:		**Closure Risk: Not Concerned < Somewhat Concerned < Very Concerned**		
Log Workers		0.251***	0.195	0.212**	0.165*
		[0.0910]	[0.128]	[0.105]	[0.0975]
odds ratio:		1.285	1.215	1.236	1.179
Nonemployer			-0.192		
			[0.305]		
Revenue Loss Index		0.323***	0.326***	0.322***	0.318***
		[0.0947]	[0.0952]	[0.117]	[0.0949]
Jobs Lost % Change		0.774*	0.765	0.735**	0.668
		[0.462]	[0.469]	[0.307]	[0.467]
Interim Outcomes:					
Trying		0.519**	0.530**	0.364	0.125
		[0.261]	[0.263]	[0.400]	[0.288]
Temporarily Closed		0.987***	0.986***	0.878*	0.679**
		[0.275]	[0.275]	[0.469]	[0.312]
Permanently Closed		0.561**	0.557**	0.442*	0.248
		[0.245]	[0.245]	[0.251]	[0.263]
Declining		0.879***	0.884***	0.851***	0.807***
		[0.187]	[0.187]	[0.195]	[0.190]
Main Street		0.447**	0.447**	0.452**	0.0565
		[0.218]	[0.218]	[0.214]	[1.240]
Industry Effects				random	fixed
Observations		736	736	736	736
R-squared		0.086	0.087	n/a	0.107

GRAPHIC COMMITTED COSTS RESULTS

- Plotted: marginal effects of size, taking other variables at mean

Enterprises have:

- An 11% greater outlook of "very concerned" compared to microbusinesses and

- A 22% greater relative to nonemployers.

- Interpret: relative to microbusinesses and nonemployers, enterprises face a respective 11% and 22% higher closure risk due to committed costs.

- Intuitive: larger establishments face a greater role of capital (and thus debt) and property costs
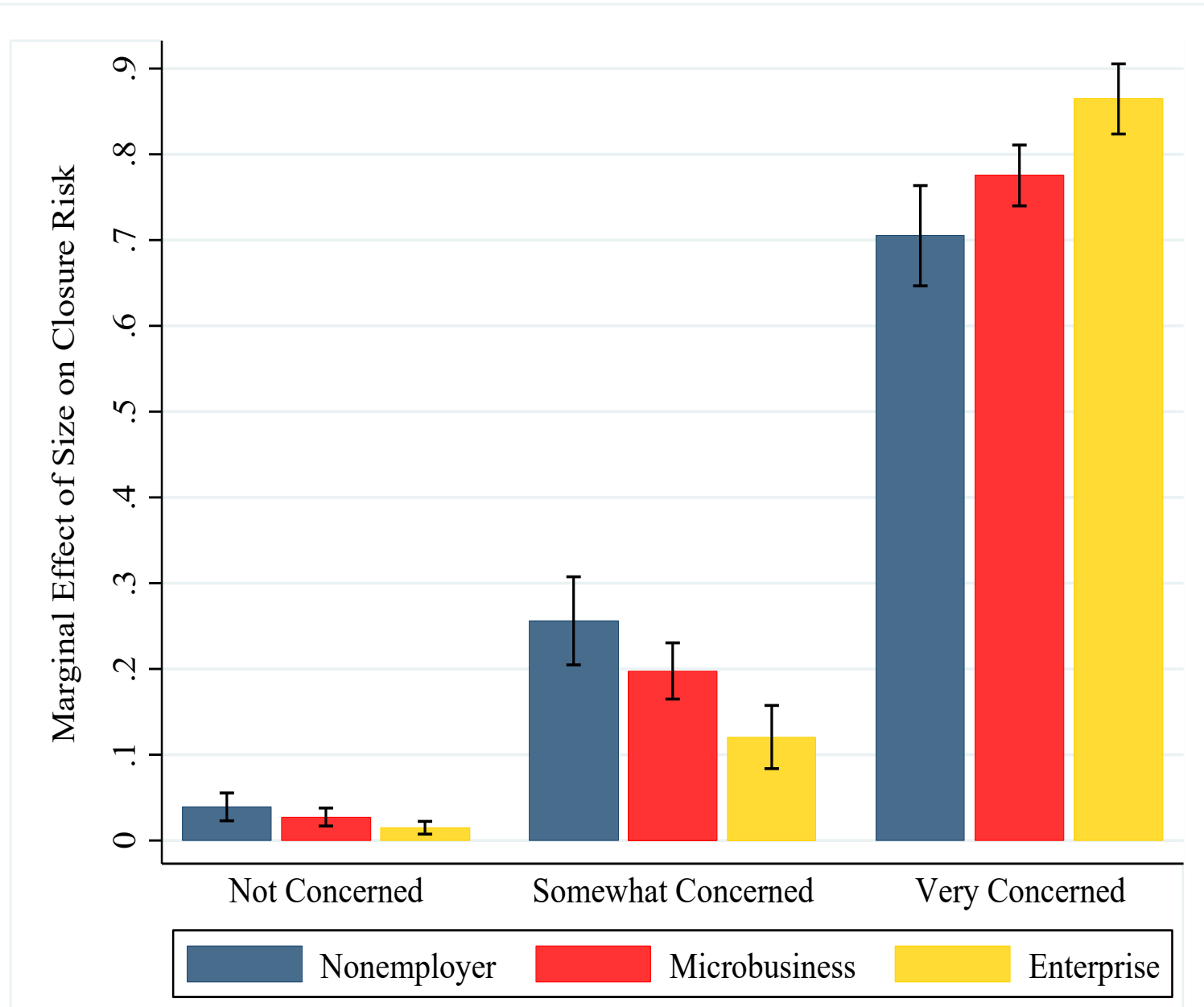
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Mapping of Survival Capabilities to Policy Programs in Times of Business Downturns

	Nonemployer	Microbusiness	Enterprise
Survival Capability:	Feasibility of Strategy		
Exhibit Revenue Resiliency	Moderate	High	Moderate
Exercise Labor Costs Flexibility	Low	Low	High
Rely on Low/Flexible Committed Costs	High	High	Low
	Nonemployer	Microbusiness	Enterprise
Small Business Assistance Program:	Compatibility of Program		
Subsidized Working Capital Loans	X-to-✔	✔	X-to-✔
Labor Cost Grants and Subsidies	✔	✔	X
Lease or Debt Payment Restructuring Subsidies	X	X	✔

OAKLAND SURVEY II: Small survey in June 2020 concerning
(i) PPP program usage and (ii) short term and expected medium-run survival

	Count	%	Cumul.
Total Oakland Survey Responses	278		
"If business disruption continues at the current rate, how soon will you be at risk of permanently closing your business?"			
0 to 1 month	26	9.4	9.4
1 to 3 months	85	30.6	39.9
3 to 6 months	71	25.5	65.5
6 to 12 months	55	19.8	85.3
Never	41	14.8	100.0
Short-Term Closing			
Ongoing Concern	250	89.9	
Closed Now or Projected Survival of 0-to-1 month	28	10.1	
Medium-Run Survival			
Surviving	96		
Closing	182		

OAKLAND SURVEY II: Small survey in June 2020 concerning (i) PPP program usage and (ii) short term and expected medium-run survival

Payroll Protection Program (PPP): March 2020

- $610 billion in forgivable small business loans intended to subsidize labor

- Original terms : loans could be forgiven entirely if a business spends at least 75% of loan proceeds to maintain pre-crisis payrolls in the first eight weeks following loan disbursement.

- Evidence:

  - First wave: Does not increase labor use -- Chetty, Friedman, Hendren, Sterner (2020) and Granja, Makridis, Yannelis, and Zwick (2020)

OAKLAND SURVEY II: Small survey in June 2020 concerning
(i) PPP program usage and (ii) short term and expected medium-run survival

|	Count	%	Cumula-tive %
Total Oakland Survey Responses	278		
Application Status of Payroll Protection Program (PPP)			
Successfully Applied	148	59.4	59.4
Unsuccessfully Applied	45	18.1	77.5
Not Applied	56	22.5	100.0
	Acceptance Rate		77%

METHODOLOGY

- **Selection Concern:** Small businesses may be experiencing differences in setting – in particular, differences in financial or economic distress – that would lead to participating in the PPP

- **Unique aspects of PPP:** (1) Almost no eligibility criteria and (2) Granja et al. (2020): Differences in success of getting a loan largely an artifact of banks

- **Assumption:** Application success is orthogonal to unobservable factors affecting medium-term survival

  - Thus….Include applied for variable and interpret off those who applied for but were unsuccessful

  - Also…. Do selection test on short-term condition variables and then include condition variables:

    - **Operating status variable**: fully open (7.2%), reduced (43.2%), closed(49.6%)

    - **Action taken variable** : "furloughing employees" (20.1%), "having employees work remotely" (18.0%), "no action" (13.3%), "reduced employees' hours" (10.4%), and "laid off employees" (7.9%).

Dependent Variable:	Short-term Closing		Medium-Run Surviving	
Model:	Logit Marginal Effects	Linear Probability	Logit Marginal Effects	
Applied PPP	0.0163	0.0161	-0.268***	-0.192*
	[0.0582]	[0.0629]	[0.104]	[0.0989]
Accept PPP	0.0606	0.053	0.473***	0.387***
	[0.0825]	[0.0797]	[0.142]	[0.144]
Accept PPP *				
LogWorkers	-0.0232	-0.0166	-0.139**	-0.129**
	[0.0435]	[0.0206]	[0.0561]	[0.0569]
LogWorkers	-0.0135	0.00343	0.158***	0.136***
	[0.0452]	[0.0139]	[0.0506]	[0.0508]
Nonemployers	-0.0501	-0.0369	0.224**	0.183*
	[0.0711]	[0.0626]	[0.101]	[0.105]
Fixed Effects Included:				
Industry	Yes	Yes	Yes	Yes
Gender Identity	Yes	Yes	Yes	Yes
Race/ Ethnicity	Yes	Yes	Yes	Yes
Status	--	--	--	Yes
Action Steps	--	--	--	Yes
Observations	238	278	278	278
Pseudo R-square	0.288	0.208	0.237	0.268

- PPP had no effect on short term closing (scarce)
- **PPP acceptance increased medium-run survival by 20.5%-to-27.0% relative to those who applied and were rejected**
- **This effect dissipates with firm size**

- Plot of marginal effect of PPP accept impact by size

- Note that in 2015 census data, 92.9% of businesses (excluding nonemployers) and 17% of employment are in businesses under 20 employees.
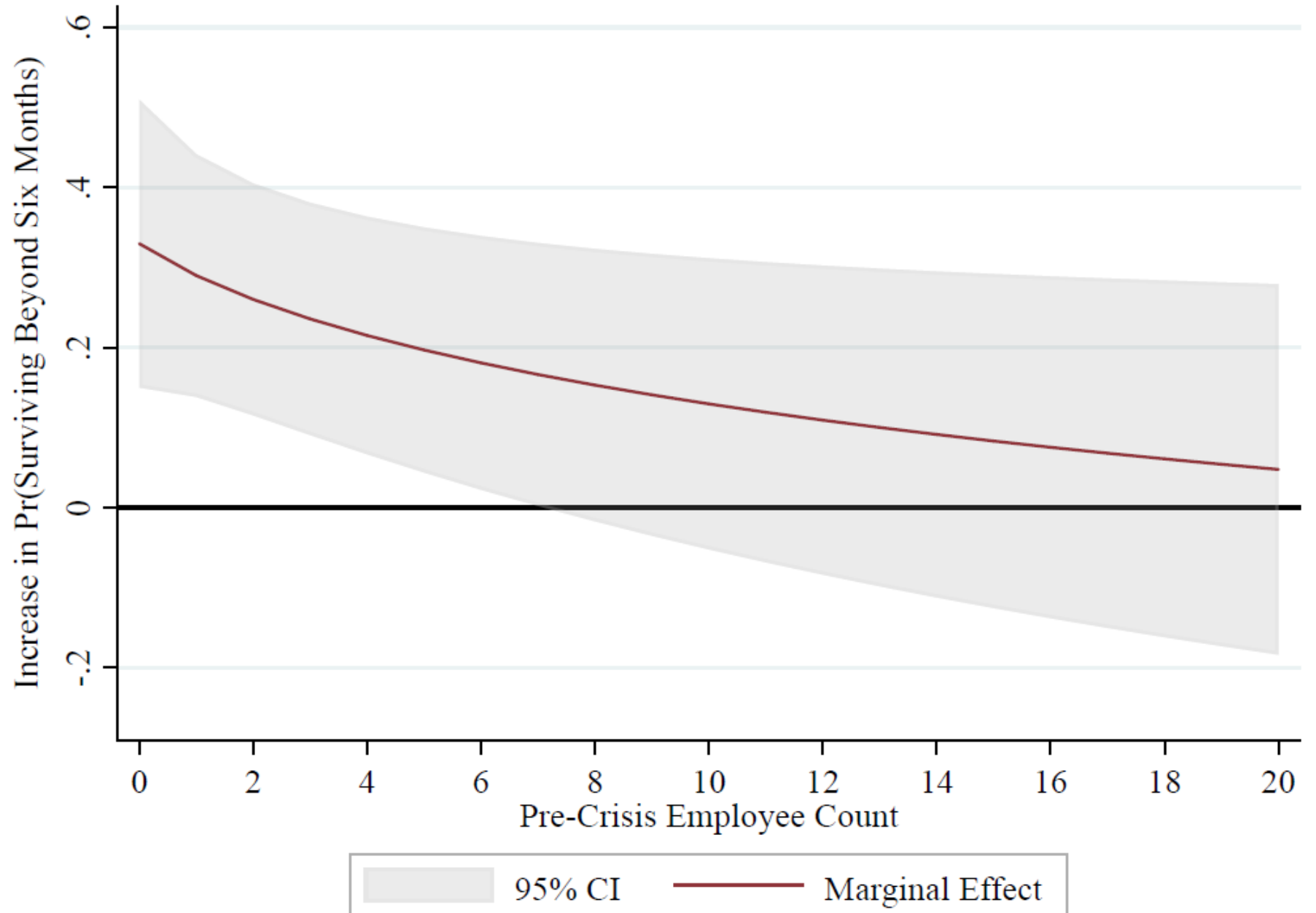
CONCLUSION

- Small business survival capabilities vary by firm size as a function of revenue resiliency, labor flexibility, and committed costs.

    - One size policy program suboptimal

- Nonemployer rely on low cost structures to survive 73% declines in own-store foot traffic.

- Microbusinesses depend on 14% greater revenue resiliency.

- Enterprises have twice-as-much labor flexibility, but face 11%-to-22% higher residual closure risk from committed costs.

- Inconsistent with the spirit of Chetty-Friedman-Hendren-Sterner (2020) and Granja-Makridis-Yannelis-Zwick (2020), PPP application success increased medium-run survival probability by 20.5%, but only for microbusinesses.

    - The return to labor-cost subsidies in downturns is highest for the smallest of small businesses.