

APPENDIX FOR ONLINE PUBLICATION

A Appendix

A.1 *Contrat D’Avenir* Details

The Sarkozy government signed the *Contrat D’Avenir* in April 2009, at the time of the restaurant VAT reform we are analyzing. The contract was not binding and only involved unionized restaurants, which represent approximately 50 percent of the restaurant industry.

The goal of the contract was to give directives on how to allocate the surplus created by the reduction in the VAT rate. These directives involved four broad categories: employment; prices; investments and modernization of the restaurant sector; and work conditions and social dialogue.

The price directives depended on the type of restaurant:

- Sit-down restaurants were encouraged to reduce prices by 11.8% for 7 out of the 10 following items: appetizer, entree (meat or fish), daily special, dessert, appetizer-entree menu, entree-dessert menu, kid’s menu, soda or fruit juice, mineral water, coffee, tea or herbal tea. In case a restaurant did not sell at least seven of these products, it could also reduce prices by 11.8% for products that represent more than one third of total turnover, excluding alcoholic drinks.
- Although no tax reduction was enacted in take-out restaurants, the government instructed them to reduce price for their reference menus by 5%.
- Cafes and juice bars: a full incidence of the VAT reduction on the price.

The employment directives aimed to create 40,000 jobs over two years in addition to the 15,000 jobs that are created in the restaurant industry every year on average.

The work conditions and social dialogue directives aimed to broadly improve remuneration (for example, faster salary increases over the years), health coverage and training, and to reduce the use of illegal workers.

Finally, the modernization directive aimed at improving employee and customers’ safety (including better hygiene), increasing customers’ comfort (for example through the purchase of better tables and chairs), the acquisition of environmentally friendly equipment, the renewal of electronic equipment, and increasing the size of the restaurants.

A report by the *Ministere de l’Artisanat, du Commerce et du Tourisme*⁴³ attempts to analyze whether these directives were achieved. A significant issue they struggle with is that no clear measures were established ex-ante. For example, the price drops the directives suggest are not given a time frame making it hard to assess.

It is worth re-emphasizing that these measures were not binding and were not enforced by the government.

A.2 2004-2009 Payroll Tax Reductions

This government subsidy program, targeting the *Hotels Cafés et Restaurants* (HCR) industry, was implemented in 2004 as a temporary measure to help restaurants before the introduction of the VAT cut in 2009. The 2004-804 Law established that firms operating in the HCR sector are eligible for an employment subsidy, initially available for one year and a half. In addition, the 2004-1239 Decree approved on November 22, 2004 defined the criteria for the implementation of the subsidy.

⁴³Ministry of Craft, Commerce and Tourism.

Table 10: Maximum Monthly Subsidy per Full-Time Employee in 2008

	Employee Earning Reference Salary	Employee Earning More than Reference Salary	
		Existing Establishments	New Establishments
	(1)	(2)	(3)
Hotels and similar accommodation (55.10Z) ^(a)	114.4	114.4	28.6
Holiday and other short-stay accommodation (55.20Z)	114.4	114.4	57.2
Camping grounds and recreational vehicle parks (55.30Z)	114.4	114.4	28.6
Sit-down restaurants (56.10A)	180	180	180
Cafeterias and other self-service catering (56.10B)	180	180	180
Fast food restaurants (56.10C)	114.4	67.925	67.925
Event catering activities (56.21Z)	114.4	114.4	57.2
Beverage serving activities (56.30Z) ^(b)	114.4	90	90

Notes: Reference salary is defined as the minimum wage (SMIC) from 2004 to 2007 and the SMIC plus 3 percent after 2007. Existing establishments have been open for more than a year, while new establishments have operated for a year or less. All amounts are expressed in euros.

(a) Different amounts apply to the sub-category *Hôtels touristiques avec restaurant*. In this case a new firm hiring an employee earning more than the reference salary gets up to 90 euros.

(b) Both existing and new bowling alleys and casinos receive 28.6 euros for each worker earning more than the reference salary, while both existing and new discos receive 71.5 euros for each worker earning more than the reference salary.

The subsidy was subsequently extended to the period 2006-2008 by the 2005-1719 Law (December 30, 2005), the 2006-1666 Law (December 21, 2006) and the 2007-1822 Law (December 24, 2007), with small changes relative to the original measures. In July 2009, the 2009-888 Law abolished the subsidy, as the VAT cut from 19.6 to 5.5 percent became effective.

Subsidies under this program could not be claimed for the following categories of workers:

- All young workers below 18 years old, who already receive a subsidy of 10-20 percent.
- Employees hired under one of these contracts: (a) *contrat jeune en entreprise*, (b) *contrat initiative emploi*, (c) *contrat d'apprentissage*, (d) *contrat d'insertion RMA*, (e) *contrat de l'aide dégressive à l'employeur (ADE)*, (f) *contrat d'accès à l'emploi dans les DOM*.
- Employees for which the employer claims the minimum wage (SMIC) in the hotel industry.
- Employees working in the following sub-industries: *hébergements non touristiques* (NAF 55.2 F), *cantines et restaurants d'entreprise* (code NAF 55.5A) and *restauration collective sous contrat* (NAF 55.5 C)

Notice that though these subsidies were industry-specific, restaurants also received government subsidies that applied to all industries, and that were not abolished in 2009. These included subsidies on contributions paid (*allègements de cotisations sociales*) established by the January 2003 Fillon law, which could be received on top of the industry specific subsidies, and subsidies for

firms operating in economically depressed geographic areas,⁴⁴ which a firm could not receive if it claimed the industry specific subsidies. Finally, subsidies received by each firm could not be larger than 200,000 euros over three years, as established by European rules on government subsidies.

A.3 Employment Contract types

Indeterminate Length Contract Indeterminate Length Contracts (*Contrats a Duree Indeterminee*) do not have a specific expiry date. Workers are employed for an undetermined length of time. Termination occurs if workers decide to quit, if they are fired or if they retire. If workers are fired, employers are expected to pay them a severance pay. This type of contract usually starts with a 4-month trial period during which the contract can be terminated at no cost.

Determinate Length Contract Determinate Length Contracts (*Contrats a Duree Determinee*) have a specific expiry date after which the contract is terminated unless it is renewed for an additional period of time or if the contract is transformed into an Indeterminate Length Contract. It is estimated that there were 2,250,002 such contracts in 2009.

⁴⁴These include the *Zones Franches Urbaines (ZFU)*, the *Zones de Revitalisation Rurale (ZRR)* and the *Zones de Redynamisation Urbaine (ZRU)*

A.4 Income and Payroll Tax Rates

Table 11: Marginal Income Tax Rates and Payroll Tax Rates

Income	τ	p
up to 9,690 euros	0%	50.85%
9,690 to 12,344 euros	14%	41.95%
12,344 to 26,764 euros	14%	21.28%
26,764 to 71,754 euros	30%	21.28%
71,754 to 151,956 euros	41%	21.28%
above 151,956 euros	45%	21.28%

Table 12: Payroll Taxes

Monthly Salary	Employee Share of Payroll Taxes					Total
	Sickness	Old Age	Family	Unemployment	Retirement	
0 to 1.3 min. wage	0.75%	6.75%	0%	2.40%	3.80%	13.70%
1.3 min. wage to 3,086	0.75%	6.75%	0%	2.40%	3.80%	13.70%
3,086 to 9,258	0.75%	0.10%	0%	2.40%	8.90%	12.15%
9,259 to 12,344	0.75%	0.10%	0%	2.40%	0%	3.25%
12,344 to 24,688	0.75%	0.10%	0%	0.00%	0.33%	1.18%
more than 24,988	0.75%	0.10%	0%	0.00%	0.33%	1.18%
Monthly Salary	Employer Share of Payroll Taxes					Total
	Sickness	Old Age	Family	Unemployment	Retirement	
0 to min. wage	13.10%	8.40%	5.40%	4.30%	6.22%	37.42%
min. wage to 1.3 min. wage	13.10%	8.40%	5.40%	4.30%	6.22%	37.42%
1.3 to 1.6 min. wage	13.10%	8.40%	5.40%	4.30%	6.22%	37.42%
1.6 min. wage to 3,086	13.10%	8.40%	5.40%	4.30%	6.22%	37.42%
3,086 to 9,258	13.10%	1.60%	5.40%	4.30%	14.30%	38.70%
9,259 to 12,344	13.10%	1.60%	5.40%	4.30%	14.30%	38.70%
12,344 to 24,688	13.10%	1.60%	5.40%	0%	0%	20.10%
more than 24,988	13.10%	1.60%	5.40%	0%	0%	20.10%

Notes: This Table reports the share of payroll taxes paid by employers and employees as well as the total payroll taxes paid.

B Data Appendix

B.1 Definition of Market Services

Following level 1 of the French NAF Rev.2 industry classification and the official definition from the French National Institute of Statistics and Economic Studies (INSEE), this group includes: wholesale and retail trade, repair of motor vehicles and motorcycles (section G), accommodation service activities (division 55 in section I), information and communication (section J), financial and insurance activities (section K), real estate activities (section L), professional, scientific and technical activities (section M) and administrative and support service activities (section N).

Market services does not include services that are either non-marketable or subsidized by the government such as transportation and storage (section H), public administration and defense, compulsory social security (section O), education (section P), human health and social work activities (section Q), arts, entertainment and recreation (section R), and other services (section S).

B.2 Goods Produced in Market Services

Table 13: Services Included in Price Index for Market Services

COICOP Code	Description
03.1.4	Cleaning, repair and hire of clothing
04.1.1/2	Actual rentals paid by tenants including other actual rentals
04.3.2	Services for the maintenance and repair of the dwelling
04.4.2	Refuse collection
04.4.3	Sewage collection
04.4.4	Other services relating to the dwelling n.e.c.
05.1.3	Repair of furniture, furnishings and floor coverings
05.3.3	Repair of household appliances
05.6.2	Domestic services and household services
08.1.0	Postal services
08.2/3.0	Telephone and telefax equipment and telephone and telefax services
09.1.5	Repair of audio-visual, photographic and information processing equipment
11.2.0	Accommodation services
12.5.2	Insurance connected with the dwelling
12.5.3	Insurance connected with health
12.5.4	Insurance connected with transport
12.5.5	Other insurance
12.6.2	Other financial services n.e.c.
12.7.0	Other services n.e.c.

Notes: This Table reports COICOP codes used by Eurostat to describe price categories included in the service sector and categorized as market services by the INSEE.

Table 14: Services Excluded from Price Index for Market Services

COICOP Code	Description
06.2.1/3	Medical and paramedical services
06.2.2	Dental services
06.3.0	Hospital services
07.2.3	Maintenance and repair of personal transport equipment
07.2.4	Other services in respect of personal transport equipment
07.3.1	Passenger transport by railway
07.3.2	Passenger transport by road
07.3.3	Passenger transport by air
07.3.4	Passenger transport by sea and inland waterway
07.3.5	Combined passenger transport
07.3.6	Other purchased transport services
09.2.3	Maintenance and repair of other major durables for recreation and culture
09.4.1	Recreational and sporting services
09.4.2	Cultural services
09.6.0	Package holidays
10.X.0	Pre-primary and primary, secondary, post-secondary non-tertiary, tertiary education, and education not definable by level
11.1.1	Restaurants, cafes and the like
11.1.2	Canteens
12.1.1	Hairdressing salons and personal grooming establishments
12.4.0	Social protection

Notes: This Table reports COICOP codes used by Eurostat to describe price categories included in the service sector but excluded from the market services definition used by INSEE.

C Technical Appendix

In equilibrium, total after-tax firm revenue equals total income, that is:

$$(1 - \tau)(p_x X - c_x M_x) = w_x L_x + r_x K_x$$

By the envelope theorem, we have:

$$(1 - \tau)p_x dX = w_x dL_x + (1 - \tau)c_x dM_x + r_x dK_x$$

In this case the first order effect of the tax is given by:

$$Xd(\tau p_x) - c_x M_x d\tau - \tau M_x dc_x = Xdp_x + L_x(-dw_x) + K_x(-dr_x) + M_x(-dc_x)$$

from which:

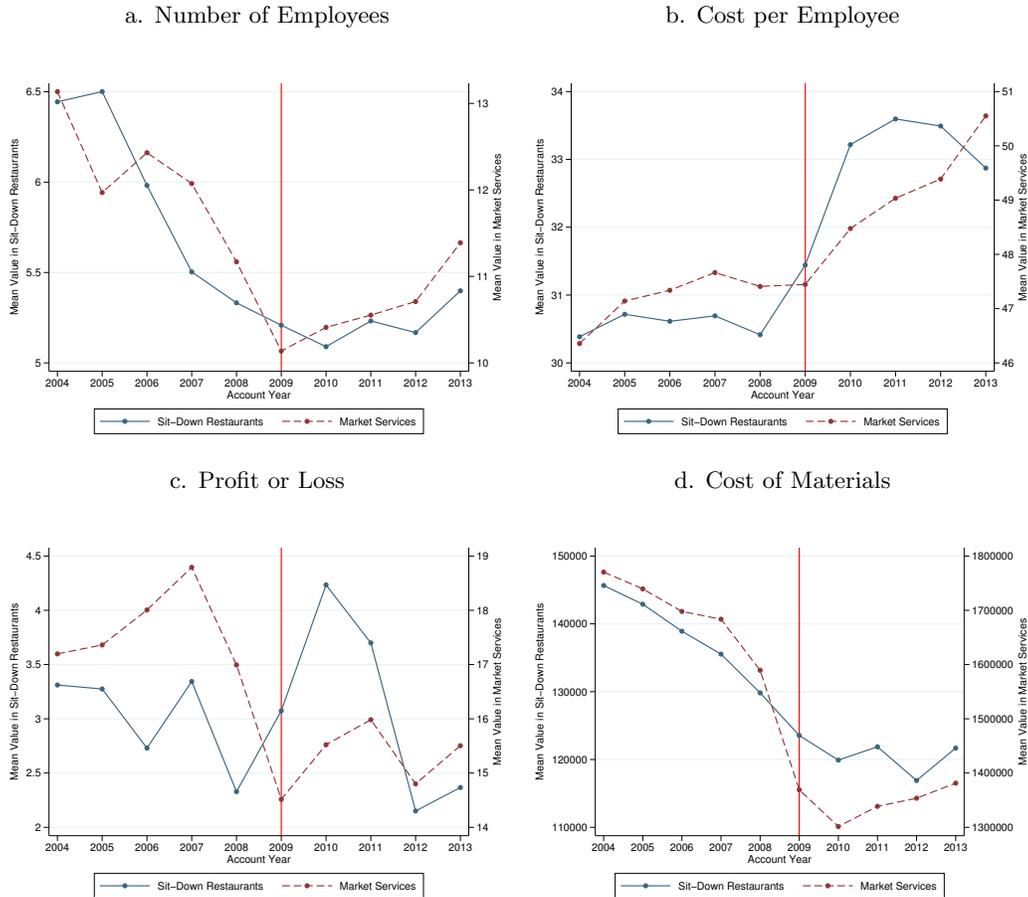
$$\frac{Xdp_x}{Xd(\tau p_x) - c_x M_x d\tau - \tau M_x dc_x} - \frac{L_x dw_x}{Xd(\tau p_x) - c_x M_x d\tau - \tau M_x dc_x} - \frac{K_x dr_x}{Xd(\tau p_x) - c_x M_x d\tau - \tau M_x dc_x} - \frac{M_x dc_x}{Xd(\tau p_x) - c_x M_x d\tau - \tau M_x dc_x} = 1$$

Given the Cobb-Douglas production function, we have $\gamma = \frac{w_x L_x}{p_x X}$, $\delta = \frac{c_x M_x}{p_x X}$ and $(1 - \gamma - \delta) = \frac{r_x K_x}{p_x X}$. It follows that:

$$\underbrace{\frac{d \ln p_x}{d\tau(1 - \delta) + \tau(d \ln p_x - \delta d \ln c_x)}}_{\text{Share on Consumers}} - \gamma \underbrace{\frac{d \ln w_x}{d\tau(1 - \delta) + \tau(d \ln p_x - \delta d \ln c_x)}}_{\text{Share on Employees}} - (1 - \gamma - \delta) \underbrace{\frac{d \ln r_x}{d\tau(1 - \delta) + \tau(d \ln p_x - \delta d \ln c_x)}}_{\text{Share on Capital Owners}} - \delta \underbrace{\frac{d \ln c_x}{d\tau(1 - \delta) + \tau(d \ln p_x - \delta d \ln c_x)}}_{\text{Share on Sellers of Material Goods}} = 1$$

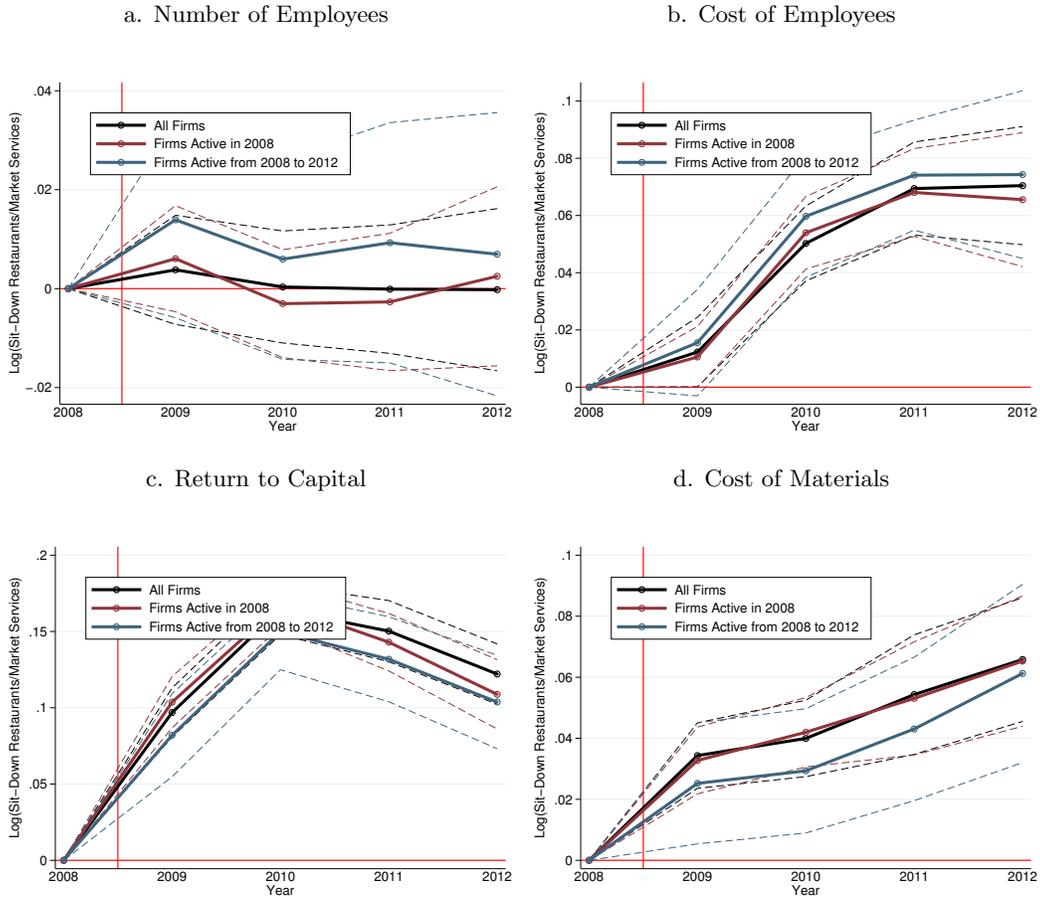
D Appendix Figures

Figure A.1: Unconditional Means: Sit-Down Restaurants vs. Market Services



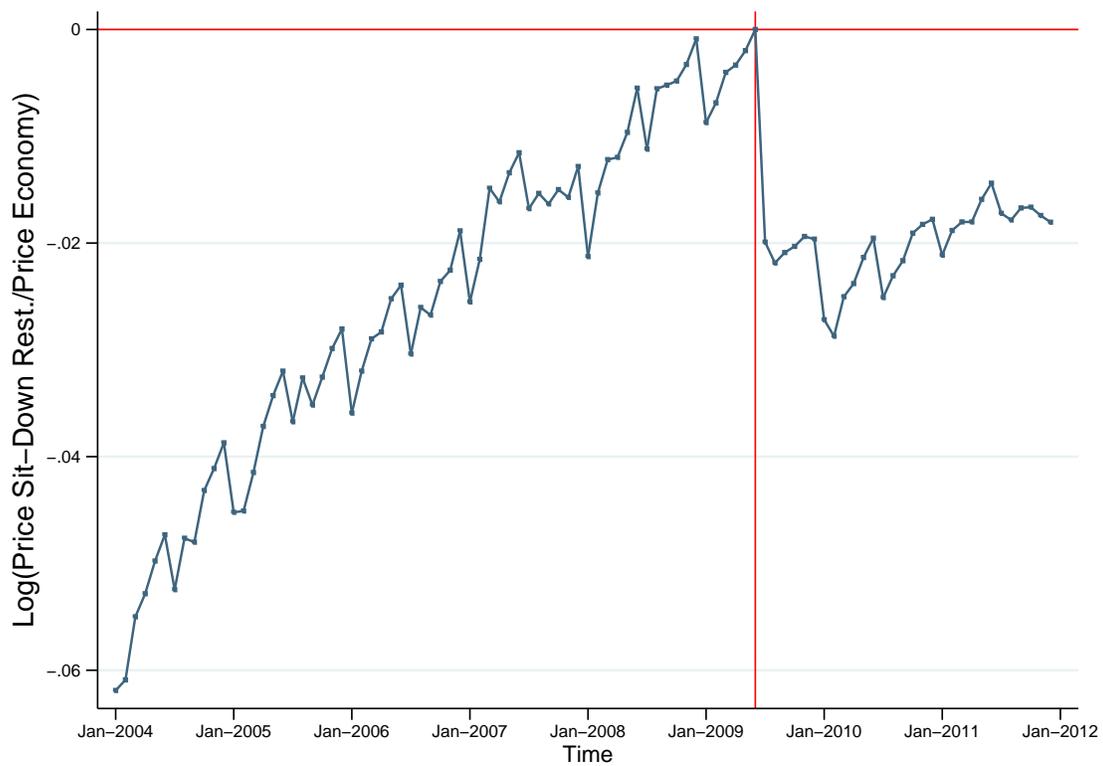
Notes: Computed using data on French sit-down restaurants from AMADEUS. All amounts are expressed in 2012 euros. The treatment group includes French sit-down restaurants, while the control group includes all firms in non-restaurant market service sectors (see the data appendix for details). Information is taken from restaurants' unconsolidated balance sheets. The top 1 percent and the bottom 1 percent of the profit-loss distribution are excluded from both the treatment and the control group.

Figure A.2: Firm Entry and Exit



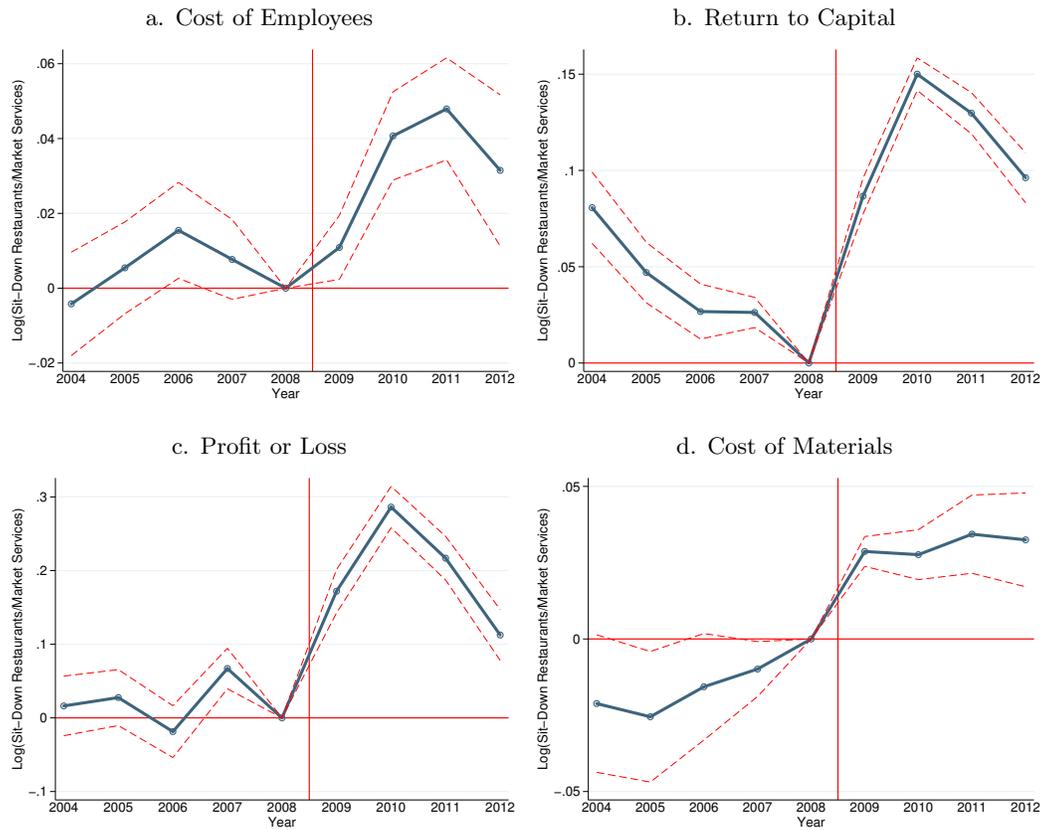
Notes: Figure shows coefficients estimated using equation (2) on the period 2008-2012. The treatment group includes sit-down restaurants, while the control group includes all firms in non-restaurant market services. The dashed lines represent 95 percent confidence intervals. *All firms* includes both firms which were active in 2008, and firms that entered the sample later on. *Firms active in 2008* only includes firms which were active in 2008 but not necessarily active in 2009-2012. Finally, *Firms active from 2008 to 2012* includes firms which were active in 2008 and did not exit the sample in period 2009-2012.

Figure A.3: Prices Event-Time Estimates: Sit-Down Restaurants vs. Non-Restaurant Firms



Source: INSEE and authors' computations on Eurostat data.

Figure A.4: Dynamic effects on Full-Sample: Sit-Down Restaurants vs. Market Services



Notes: The Figures show the dynamic effects of the reform estimated using equation (2), which includes year and firm fixed effects. The treatment group includes all sit-down restaurants, while the control group includes firms in non-restaurant market service sectors. The Figures consider the full sample of firms with unconsolidated balance sheets. The dashed lines represent 95 percent confidence intervals.