Online Appendix: "Asymmetries in Price-Setting Behavior: New Microeconometric Evidence from Switzerland"

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1. ADDITIONAL TABLES AND FIGURES

Table 1: Sectoral descriptive statistics

Description	Label	fpc^+	fpc^-	$\%fpc^+$	$size^+$	$size^-$	$\%size^+$	$\bar{\pi}_j$	Weight	Observ.
Non-durable goods										
Rice	A001	8.0	3.9	67.3	9.4	8.1	1.3	-0.1	0.041	12136
Flour	A002	5.2	5.7	47.5	10.1	7.1	3.0	-0.6	0.069	9859
Bread and pastries	A003	5.6	2.2	72.1	7.7	8.4	-0.7	0.4	1.476	145572
Pasta	A004	7.4	3.2	70.2	11.7	10.4	1.2	0.1	0.127	21086
Other cereal products	A005	6.6	3.2	67.3	9.9	7.8	2.1	0.1	0.179	26754
Beef	A006	19.3	13.5	58.8	10.5	8.8	1.7	1.4	0.516	47404
Veal	A007	24.3	17.6	58.0	8.9	7.7	1.2	1.9	0.234	31993
Pork	A008	22.0	18.5	54.3	12.9	9.7	3.3	1.4	0.533	42514
Lamb	A009	9.3	3.7	71.5	11.2	9.4	1.8	2.0	0.096	24109
Poultry	A010	10.4	3.6	74.4	11.7	10.1	1.6	0.8	0.306	30526
Other meat	A011	8.8	4.2	67.7	11.1	10.4	0.7	1.2	1.487	127699
Fish	A012	15.7	9.6	61.9	12.9	11.7	1.2	1.6	0.590	33550
Milk	A013	3.5	6.9	33.6	6.3	6.3	0.0	-1.3	0.976	29794
Cheese	A014	6.9	4.6	59.9	9.8	6.7	3.1	-0.1	0.454	113567
Other dairy products	A015	4.7	3.7	56.3	10.7	8.7	2.0	-0.5	0.196	58462
Cream	A016	4.9	7.8	38.6	8.0	7.8	0.2	-2.5	0.224	29017
Eggs	A017	8.3	5.1	62.0	8.4	7.8	0.6	0.2	0.205	13361
Fats and edible oils	A018	8.3	5.9	58.7	8.0	7.1	0.9	-0.3	0.475	61611
Fruits	A019	18.0	14.1	56.1	23.6	23.8	-0.1	2.1	1.063	164700
Vegetables and potatoes	A020	28.3	24.0	54.1	25.3	25.5	-0.1	1.1	0.423	184709
Dried, frozen, tinned vegetables	A021	6.6	3.3	66.5	7.9	9.3	-1.4	-0.1	1.004	31678
Sugar, jam, honey/other sugary foods	A022	6.6	3.1	68.1	8.7	8.7	0.0	0.4	0.745	80924
Other food products	A023	6.4	2.6	70.7	7.3	8.8	-1.5	0.6	0.544	49932
Coffee, tea, cocoa and nutritional beverages	A024	8.5	5.3	61.6	10.4	8.3	2.1	0.4	0.287	55834
Mineral waters, soft drinks and juices	A025	5.7	2.9	66.0	7.2	8.8	-1.6	0.4	0.834	53191
Spirits	B001	6.5	4.6	58.8	5.3	10.6	-5.3	-0.7	0.177	38698
Wine	B002	7.9	3.7	68.1	6.9	8.4	-1.5	0.7	0.877	116664
Beer	B003	6.7	2.9	69.7	6.8	8.3	-1.5	0.3	0.183	19131
Tobacco	B004	22.2	1.0	95.5	4.4	4.3	0.1	4.7	0.691	6860
Products for housing maintenance and repair	D002	7.4	2.5	74.9	8.2	9.8	-1.5	1.3	0.159	14409
Electricity	D003	3.4	3.3	50.9	7.9	8.6	-0.6	0.2	1.933	12585
Natural gas	D004	7.5	3.0	71.5	17.4	17.0	0.4	3.3	0.444	11181
Heating oil	D005	56.5	40.5	58.3	10.2	8.7	1.5	7.3	1.046	23184
Goods for routine household maintenance	E012	6.7	3.8	63.7	8.4	9.3	-0.9	0.7	0.817	108521
Medicines and first-aid material	F001	7.3	2.6	73.7	4.7	14.8	-10.2	-0.9	1.885	26684
Fuels	G005	43.2	41.6	50.9	4.7	3.1	1.5	2.9	2.375	12038
Plants and flowers	I007	8.1	5.9	57.9	15.6	17.7	-2.1	1.0	0.749	58166
Pets and related products	I008	5.5	2.9	65.5	7.3	9.3	-1.9	0.2	0.429	19617
Daily newspapers and periodicals	I010	10.4	1.0	91.6	5.5	9.7	-4.2	2.0	1.035	10351

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Table 1 – *continued from previous page*

Description	Label	fpc^+	fpc^-	$\%fpc^+$	$size^+$	$size^-$	$\%size^+$	$\bar{\pi}_j$	Weight	Observ.
Writing and drawing materials	I011	7.5	3.2	69.9	7.4	10.1	-2.8	0.8	0.225	47004
Articles for personal hygiene	I014	6.5	2.5	72.2	8.6	8.8	-0.2	0.6	1.259	189742
Semi-durable goods										
Clothing	C001	5.8	2.7	68.4	15.1	13.4	1.7	0.2	1.303	91598
Other articles of clothing/fabrics	C002	5.1	1.3	79.2	9.8	12.8	-2.9	0.6	0.330	23540
Household textiles	E007	3.6	1.7	68.0	8.5	13.5	-5.0	0.0	0.417	32588
Smaller electric household appliances	E009	5.5	3.9	58.5	6.6	9.0	-2.4	-1.4	0.300	24727
Glassware, tableware and household utensils	E010	7.4	2.1	77.9	7.0	10.6	-3.6	0.8	0.401	54359
Spare parts	G003	16.2	7.8	67.5	4.6	8.4	-3.8	0.2	0.310	59703
Tires and accessories	G004	15.1	15.4	49.5	5.0	7.2	-2.2	-1.2	0.110	25988
Recording media	I004	4.6	5.0	47.7	8.9	12.9	-4.1	-2.7	0.385	40896
Games, toys and hobbies	I005	6.4	4.1	60.8	8.5	13.6	-5.2	-0.1	0.442	23171
Equipment for sport, camping and open-air recreation	I006	4.7	3.6	56.9	9.8	10.6	-0.8	0.1	0.416	59993
Personal care appliances, electric	I013	5.4	2.4	69.2	9.4	9.5	0.0	0.0	0.086	33244
Durable goods										
Furniture, furnishings, floor coverings and carpets	E006	6.5	2.1	75.7	5.8	9.3	-3.5	0.5	2.090	110362
Major electric household appliances	E008	13.4	4.8	73.4	3.2	5.9	-2.7	-0.5	0.273	28978
Tools, equipment and accessories for house and garden	E011	6.7	3.2	67.5	7.7	10.0	-2.3	0.9	0.546	37311
Medical products	F002	6.0	3.6	62.2	5.7	8.9	-3.2	0.1	0.384	12091
New cars	G001	16.0	5.6	74.3	1.8	3.4	-1.6	0.5	2.350	11242
Motorcycles and bicycles	G002	6.3	4.3	59.3	6.5	8.5	-2.1	-0.3	0.391	46092
Television sets and audiovisual appliances	I001	5.9	9.0	39.7	8.5	14.0	-5.5	-5.4	0.589	41271
Photographic, cinematographic equipment and optical instruments	I002	7.1	14.2	33.4	10.6	13.6	-3.0	-5.9	0.123	23102
Personal computers and accessories	I003	11.6	27.5	29.8	8.2	12.7	-4.4	-15.2	0.382	31604
Watches and other personal effects	I015	5.9	2.2	73.0	10.4	10.9	-0.6	0.6	0.797	37590
Services										
Dry-cleaning and repair of garments and shoes	C003	4.4	0.9	83.2	9.1	12.0	-2.9	1.1	0.307	49982
Rental of garages, parking spaces	D001	4.7	2.9	61.6	2.7	2.2	0.5	1.3	0.744	6511
Health services	F003	6.5	1.8	78.4	5.5	16.4	-10.9	0.7	1.982	28954
Repair services and work	G006	16.4	6.4	72.0	3.6	5.6	-2.0	1.1	1.240	6650
Repair services and work	G007	4.5	1.0	82.3	9.4	13.6	-4.2	1.4	0.090	2575
Transport services	G008	8.8	0.8	91.6	6.4	9.1	-2.7	1.6	1.773	6830

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Table 1 – *continued from previous page*

Description	Label	fpc^+	fpc^-	$\%fpc^+$	$size^+$	$size^-$	$\%size^+$	$\bar{\pi}_j$	Weight	Observ.
Sports, leisure, cultural and other services	I009	5.8	1.5	79.4	9.2	11.6	-2.5	2.0	1.897	66900
Beverages in canteens	I012	4.5	0.7	87.4	10.9	15.8	-4.8	2.0	0.211	7053

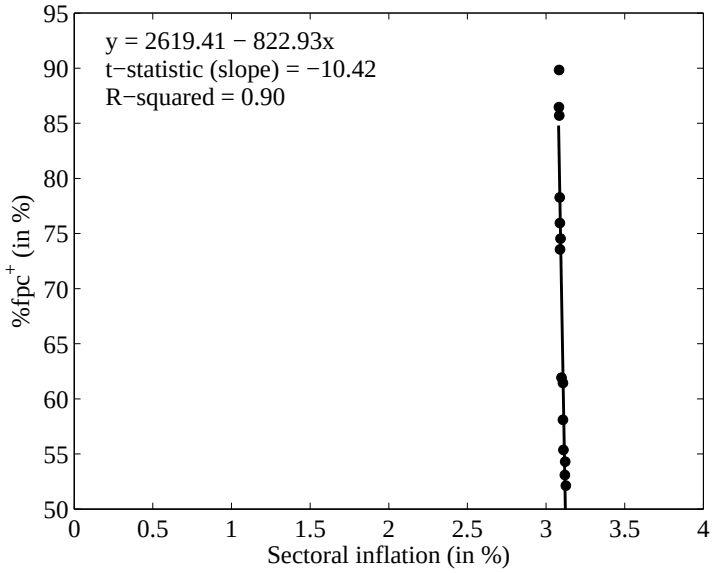
Note: The table gives descriptive statistics at the sectoral level. fpc^+: frequency of price increases; fpc^-: frequency of price decreases; $\%fpc^+$: relative $fpc^+ = 100 \times fpc^+/(fpc^+ + fpc^-)$; $size^+$: absolute size of positive price changes; $size^-$: absolute size of negative price changes; $\%size^+$: relative $size^+ = size^+ - size^-$; $\bar{\pi}_j$: average sectoral inflation.

Table 2: Frequency and size of price changes (including sales prices)

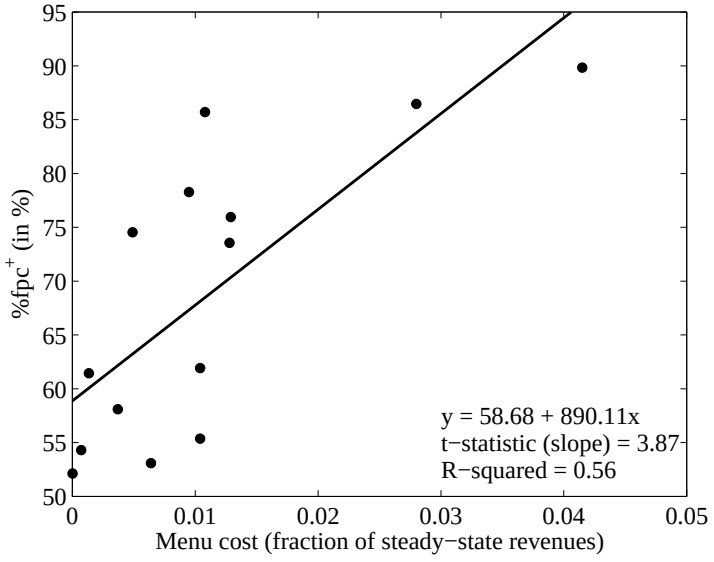
	fpc^+	fpc^-	$\%fpc^+$	$size^+$	$size^-$	$\%size^+$	$\bar{\pi}$
Total	12.5	8.4	61.9	9.0	12.5	-3.6	0.7
Non-durable	15.4	11.5	57.3	9.9	12.3	-2.4	0.9
Semi-durable	7.2	4.8	60.1	12.1	17.9	-5.8	0.0
Durable	10.1	6.1	62.4	6.3	10.7	-4.4	-0.5
Services	8.1	2.3	77.8	6.8	12.3	-5.5	1.6

Note: The table gives statistics on the frequency and size of price changes including sales. The statistics are calculated for 70 sectors and then aggregated using average CPI expenditure weights. fpc^+: frequency of price increases; fpc^-: frequency of price decreases; $\%fpc^+$: relative $fpc^+ = 100 \times fpc^+/(fpc^+ + fpc^-)$; $size^+$: absolute size of positive price changes; $size^-$: absolute size of negative price changes; $\%size^+$: relative $size^+ = size^+ - size^-$; $\bar{\pi}$: average inflation.

Figure 1: Simulated relative frequency of price increases, sectoral inflation and menu costs



(a) Correlation with sectoral inflation



(b) Correlation with menu costs

Note: The figures give scatter plots and regression lines of the relative frequency of price increases (%fpc$^+$) on inflation and sectoral menu costs. The data are simulated from the 14-sector menu-cost model by Nakamura and Steinsson (2010). Panel (a) shows a scatter plot of the sectoral %fpc$^+$and the sectoral average inflation rate. Panel (b) shows a scatter plot of the sectoral %fpc$^+$and the sectoral menu cost.

Table 3: Estimates sector level

	A001	A002	A003	A004	A005	A006	A007	A008	A009	A010
p^*_{it}										
$\sum \bar{\pi}_{jt}$	-0.01	0.71***	1.07***	0.00	0.04	1.59***	1.22***	0.82***	1.04***	1.65***
	[0.49]	[0.18]	[0.07]	[0.20]	[0.47]	[0.05]	[0.04]	[0.03]	[0.10]	[0.17]
$\sum \hat{\pi}_{jt}$	0.88***	2.01***	2.31***	1.20***	0.25	1.14***	1.16***	0.82***	1.36***	0.37*
	[0.12]	[0.32]	[0.14]	[0.15]	[0.29]	[0.04]	[0.05]	[0.03]	[0.25]	[0.21]
σ_ε										
	12.40***	11.41***	10.47***	18.51***	18.44***	18.06***	15.15***	17.17***	19.58***	19.72***
	[1.03]	[1.16]	[0.40]	[1.43]	[1.41]	[0.47]	[0.53]	[0.41]	[1.25]	[1.16]
θ^+_{it}										
$\bar{\pi}_{jt}$	7.70***	-5.66***	-3.04***	-3.84***	-4.30**	-4.99***	-1.96***	-2.14***	3.68***	0.15
	[2.47]	[1.53]	[0.38]	[0.91]	[2.19]	[0.41]	[0.31]	[0.24]	[1.24]	[1.39]
Q_2	-3.07***	4.13***	3.59***	1.78*	-2.10**	-0.66	-0.02	-10.13***	-0.54	-0.56
	[0.84]	[1.16]	[0.30]	[0.91]	[0.99]	[0.49]	[0.53]	[0.50]	[0.79]	[0.65]
Q_3	-2.49***	6.21***	4.59***	3.20***	-1.55	-4.18***	-6.76***	-2.69***	0.04	0.36
	[0.85]	[1.19]	[0.32]	[0.96]	[0.98]	[0.47]	[0.60]	[0.47]	[0.81]	[0.68]
Q_4	-2.21***	7.03***	2.89***	1.83**	-2.08**	-4.26***	-13.48***	1.29***	1.58**	0.31
	[0.86]	[1.26]	[0.28]	[0.89]	[0.97]	[0.45]	[0.74]	[0.46]	[0.79]	[0.68]
vat_{95}	-6.29***	-0.12	-6.00***	-10.93***	-21.94***	-19.91***	-8.36***	-7.93***	-10.39***	-6.60***
	[1.43]	[3.31]	[0.81]	[1.68]	[2.81]	[1.51]	[1.57]	[1.77]	[2.05]	[1.57]
vat_{99}	-4.06***	1.50	-3.10***	1.87	-6.38***	5.19***	1.22	2.38**	5.25**	0.49
	[1.33]	[2.07]	[0.44]	[1.71]	[1.72]	[1.26]	[1.52]	[1.18]	[2.26]	[1.79]
vat_{01}	9.55**	1.60	-1.73***	-0.34	-8.58***	-6.11***	-7.11***	-3.13**	-2.77	-12.44***
	[4.14]	[5.02]	[0.52]	[2.30]	[2.39]	[1.37]	[1.33]	[1.26]	[2.38]	[1.63]
θ^-_{it}										
$\bar{\pi}_{jt}$	3.32	-11.99***	-6.50***	-1.24	3.39	-3.95***	-3.53***	-3.00***	-4.66**	-1.38
	[3.27]	[1.90]	[0.58]	[1.65]	[2.81]	[0.43]	[0.38]	[0.26]	[1.97]	[2.72]
Q_2	-1.91	-3.27***	-1.87***	0.04	1.20	3.34***	-3.13***	-9.48***	2.02	4.36***
	[1.25]	[0.92]	[0.35]	[1.30]	[1.22]	[0.51]	[0.47]	[0.61]	[1.24]	[1.16]
Q_3	-1.60	-4.15***	-2.63***	-2.04	1.39	-2.89***	-10.50***	-0.42	2.27*	2.43**
	[1.23]	[1.00]	[0.39]	[1.40]	[1.18]	[0.58]	[0.71]	[0.46]	[1.27]	[1.20]
Q_4	-0.06	0.40	0.56*	-1.23	2.95**	-3.88***	-20.01***	3.55***	4.97***	3.87***
	[1.07]	[0.75]	[0.31]	[1.37]	[1.20]	[0.54]	[1.07]	[0.46]	[1.29]	[1.19]
vat_{95}	0.84	17.49***	12.25***	-5.16	2.79	-6.26***	-11.67***	-9.28***	7.85***	4.45*
	[1.77]	[4.25]	[1.31]	[3.26]	[2.97]	[1.37]	[1.59]	[1.50]	[3.00]	[2.40]
vat_{99}	-2.97	-9.08*	0.23	-1.54	4.05*	5.57***	3.36***	-0.59	13.00***	9.99***
	[3.39]	[5.02]	[0.93]	[3.14]	[2.41]	[0.96]	[1.04]	[0.95]	[2.38]	[2.57]
vat_{01}	2.62	-3.09	2.68*	4.91	-4.49	0.66	-2.68**	-6.34***	6.10	10.77***
	[4.29]	[3.06]	[1.37]	[5.12]	[5.09]	[1.47]	[1.29]	[1.85]	[3.94]	[3.06]
Avg. $\theta^+_{it} - \mu_i$	19.83	23.15	21.02	29.76	29.85	22.63	16.41	15.60	29.95	28.40
Avg. $\theta^-_{it} - \mu_i$	-27.82	-23.87	-32.05	-40.52	-38.95	-18.71	-14.08	-17.93	-38.53	-40.92
Estim. range	12	12	12	12	12	12	12	12	12	12
Observations	12136	9859	145572	21086	26754	47404	31993	42514	24109	30526

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Table 3 – *continued from previous page*

	A011	A012	A013	A014	A015	A016	A017	A018	A019	A020
p^*_{it}										
$\sum \bar{\pi}_{jt}$	1.16***	0.95***	0.86***	0.50***	0.90***	1.14***	0.07	0.72***	1.01***	1.25***
	[0.06]	[0.12]	[0.03]	[0.12]	[0.12]	[0.05]	[0.37]	[0.08]	[0.05]	[0.05]
$\sum \hat{\pi}_{jt}$	1.14***	1.60***	1.03***	2.19***	1.91***	1.39***	2.16***	1.66***	1.12***	0.92***
	[0.08]	[0.22]	[0.06]	[0.20]	[0.25]	[0.14]	[0.45]	[0.10]	[0.05]	[0.03]
σ_ε										
	21.24***	26.92***	4.94***	14.57***	15.44***	14.39***	14.20***	15.91***	35.59***	32.82***
	[0.65]	[1.06]	[0.35]	[0.51]	[0.99]	[0.90]	[1.08]	[0.63]	[0.43]	[0.31]
θ^+_{it}										
$\bar{\pi}_{jt}$	-3.57***	-2.89***	-1.21**	-4.74***	-8.11***	0.21	-0.28	-0.80**	-3.11***	-2.24***
	[0.39]	[0.74]	[0.53]	[0.59]	[1.22]	[1.10]	[1.87]	[0.39]	[0.44]	[0.36]
Q_2	0.61	0.78	-0.50	0.30	0.43	-1.96*	5.21***	-2.38***	-11.53***	0.79**
	[0.42]	[0.80]	[0.50]	[0.35]	[0.73]	[1.04]	[1.05]	[0.42]	[0.60]	[0.40]
Q_3	0.49	2.14***	0.01	0.29	0.77	-2.67**	7.39***	1.51***	-10.20***	12.44***
	[0.40]	[0.82]	[0.51]	[0.36]	[0.78]	[1.13]	[1.19]	[0.47]	[0.61]	[0.44]
Q_4	-1.23***	1.43*	-0.36	0.50	-0.08	-2.97***	-1.99**	1.09**	-0.05	11.91***
	[0.40]	[0.78]	[0.49]	[0.35]	[0.75]	[1.06]	[0.86]	[0.48]	[0.55]	[0.40]
vat_{95}	-16.15***	-14.27***	-8.06***	-13.76***	-12.34***	-26.23***	-13.14***	-17.63***	-10.28***	-3.52***
	[0.85]	[1.76]	[1.37]	[0.87]	[2.13]	[3.23]	[2.37]	[1.03]	[1.06]	[0.73]
vat_{99}	1.18	1.78	-3.21***	-4.23***	-4.73***	-11.13***	6.01**	-4.18***	7.09***	-1.64**
	[0.96]	[2.00]	[0.80]	[0.68]	[1.27]	[1.76]	[2.40]	[0.75]	[1.17]	[0.69]
vat_{01}	-6.48***	-1.36	-5.55***	-7.82***	-11.08***	-18.08***	-9.83***	-10.41***	-6.94***	-4.44***
	[0.96]	[2.01]	[1.01]	[0.79]	[1.79]	[2.58]	[2.33]	[1.21]	[1.37]	[1.07]
θ^-_{it}										
$\bar{\pi}_{jt}$	-3.55***	-3.04***	-1.72***	-9.99***	-6.44***	-2.17***	0.19	-9.70***	-0.72	-3.11***
	[0.62]	[0.92]	[0.28]	[0.77]	[1.04]	[0.73]	[2.25]	[0.71]	[0.50]	[0.38]
Q_2	3.34***	1.46	1.12***	3.80***	6.31***	5.07***	7.05***	-3.05***	6.73***	3.49***
	[0.57]	[0.99]	[0.20]	[0.44]	[0.67]	[0.63]	[1.20]	[0.60]	[0.70]	[0.49]
Q_3	1.85***	0.55	-2.44***	6.18***	1.96***	-1.12*	3.57***	1.24**	20.46***	15.06***
	[0.60]	[1.05]	[0.29]	[0.45]	[0.64]	[0.64]	[1.20]	[0.54]	[0.73]	[0.50]
Q_4	3.31***	0.75	-2.99***	4.47***	-0.02	-3.62***	-0.79	2.24***	14.72***	17.08***
	[0.58]	[0.97]	[0.33]	[0.43]	[0.67]	[0.72]	[1.27]	[0.54]	[0.62]	[0.45]
vat_{95}	3.79***	-0.69	-1.76*	14.56***	7.91***	2.26	-5.73	-11.72***	-0.60	2.16**
	[1.18]	[2.48]	[0.99]	[1.15]	[2.15]	[2.07]	[3.83]	[1.38]	[1.39]	[0.94]
vat_{99}	7.82***	3.79	-2.84***	3.77***	2.65*	-1.71	-9.47**	-1.04	6.24***	-4.26***
	[1.15]	[2.34]	[0.81]	[0.96]	[1.44]	[1.45]	[4.28]	[1.34]	[1.22]	[0.98]
vat_{01}	6.61***	-0.17	-1.99	7.64***	8.23***	0.98	0.19	-1.51	-0.84	1.79
	[1.93]	[2.88]	[1.69]	[1.49]	[2.68]	[2.60]	[3.67]	[2.49]	[1.96]	[1.34]
Avg. $\theta^+_{it} - \mu_i$	36.20	30.10	10.00	23.40	28.23	20.99	21.63	23.48	41.90	17.99
Avg. $\theta^-_{it} - \mu_i$	-40.32	-40.33	-14.55	-29.46	-35.40	-32.21	-30.39	-30.34	-43.11	-34.35
Estim. range	12	12	12	12	12	12	12	12	12	12
Observations	127699	33550	29794	113567	58462	29017	13361	61611	164700	184709

Continued on next page

Table 3 – *continued from previous page*

	A021	A022	A023	A024	A025	B001	B002	B003	B004	D002
p^*_{it}										
$\sum \bar{\pi}_{jt}$	2.48***	0.96***	0.97***	0.58***	1.02***	0.32***	0.94***	1.29***	0.91***	0.44**
	[0.50]	[0.10]	[0.11]	[0.05]	[0.14]	[0.12]	[0.08]	[0.22]	[0.02]	[0.17]
$\sum \hat{\pi}_{jt}$	0.24	1.32***	-0.13	0.76***	0.75***	1.05***	1.30***	-0.48	0.80***	0.82***
	[0.25]	[0.09]	[0.17]	[0.03]	[0.14]	[0.10]	[0.12]	[0.48]	[0.06]	[0.22]
σ_ε										
	15.88***	12.30***	10.11***	12.30***	11.17***	13.02***	12.42***	10.73***	3.78***	12.77***
	[1.16]	[0.44]	[0.47]	[0.42]	[0.54]	[0.63]	[0.32]	[0.73]	[0.30]	[0.99]
θ^+_{it}										
$\bar{\pi}_{jt}$	-10.62***	-4.42***	-4.48***	0.24	-2.02***	-3.78***	-2.15***	-4.30***	-0.13	6.03***
	[3.17]	[0.49]	[0.63]	[0.19]	[0.58]	[0.67]	[0.51]	[1.22]	[0.19]	[1.30]
Q_2	3.59***	-1.92***	0.65*	-1.41***	-0.42	0.37	-2.04***	3.03***	0.80***	1.79**
	[0.68]	[0.34]	[0.36]	[0.40]	[0.40]	[0.52]	[0.27]	[0.59]	[0.21]	[0.76]
Q_3	4.28***	-0.93***	1.28***	-2.02***	1.14***	1.18**	-1.31***	4.66***	1.03***	2.94***
	[0.72]	[0.36]	[0.36]	[0.41]	[0.43]	[0.54]	[0.26]	[0.66]	[0.22]	[0.77]
Q_4	4.01***	0.46	1.67***	-0.84**	0.51	2.22***	-0.55**	5.34***	1.66***	3.77***
	[0.69]	[0.37]	[0.37]	[0.42]	[0.42]	[0.56]	[0.27]	[0.74]	[0.25]	[0.90]
vat_{95}	-21.19***	-9.60***	-14.31***	-9.70***	-11.04***	1.21	-5.46***	-5.01***	-2.68***	-4.85***
	[2.18]	[0.69]	[1.13]	[0.75]	[0.78]	[1.56]	[0.52]	[1.29]	[0.57]	[1.69]
vat_{99}	-4.57**	-2.78***	-6.07***	-5.37***	-5.69***	-10.84***	-10.24***	-3.82***	-7.92***	-8.78***
	[1.80]	[0.72]	[0.89]	[0.72]	[0.83]	[1.13]	[0.49]	[1.08]	[1.10]	[1.66]
vat_{01}	-6.22***	-5.77***	-5.59***	-4.42***	-6.88***	-1.29	-7.22***	-6.21***	-5.38***	-3.99*
	[1.18]	[0.77]	[0.65]	[1.03]	[0.88]	[1.22]	[0.61]	[1.24]	[0.61]	[2.41]
θ^-_{it}										
$\bar{\pi}_{jt}$	-13.67***	0.36	-1.43	-1.71***	-0.45	-5.43***	1.50**	-2.15	-1.10	-3.87**
	[4.45]	[0.71]	[0.94]	[0.27]	[0.93]	[0.82]	[0.72]	[1.76]	[1.02]	[1.85]
Q_2	-0.06	-0.45	-0.87*	0.08	-0.39	1.55**	0.30	-0.97	3.55***	-2.44**
	[0.85]	[0.46]	[0.49]	[0.42]	[0.51]	[0.67]	[0.37]	[0.84]	[1.19]	[1.22]
Q_3	-1.46	-0.28	-1.67***	-1.17***	-0.78	4.19***	0.07	-0.17	-1.00	-1.67
	[0.90]	[0.46]	[0.50]	[0.44]	[0.52]	[0.64]	[0.36]	[0.84]	[1.41]	[1.18]
Q_4	-0.94	-0.18	-1.30***	1.18***	-0.57	4.31***	0.39	-1.03	0.35	-3.80***
	[0.90]	[0.43]	[0.48]	[0.39]	[0.53]	[0.66]	[0.36]	[0.87]	[1.37]	[1.26]
vat_{95}	-1.14	2.08**	0.27	-2.03	0.50	10.09***	3.60***	2.80	1.96	-9.93**
	[2.97]	[0.97]	[2.66]	[1.50]	[1.11]	[2.07]	[0.69]	[1.92]	[1.63]	[4.70]
vat_{99}	2.93	0.59	0.06	-1.04	-0.26	0.76	0.47	3.14*	-30.05***	-2.77
	[3.29]	[1.11]	[1.92]	[1.06]	[1.29]	[1.88]	[0.83]	[1.86]	[2.77]	[3.66]
vat_{01}	1.29	-0.05	-1.83	4.37***	-1.31	7.14***	0.66	2.40	-1.96	-10.26**
	[2.31]	[1.61]	[1.35]	[1.37]	[1.88]	[1.96]	[1.12]	[2.37]	[2.81]	[4.92]
Avg. $\theta^+_{it} - \mu_i$	26.36	21.37	19.45	18.33	21.55	25.48	20.63	18.63	11.28	20.44
Avg. $\theta^-_{it} - \mu_i$	-36.51	-30.52	-27.09	-28.46	-26.91	-25.76	-27.84	-27.29	-13.09	-36.67
Estim. range	12	12	12	12	12	12	12	12	12	12
Observations	31678	80924	49932	55834	53191	38698	116664	19131	6860	14409

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Table 3 – *continued from previous page*

	D003	D004	D005	E012	F001	G005	I007	I008	I010	I011
p^*_{it}										
$\sum \bar{\pi}_{jt}$	1.05***	0.58***	1.06***	1.87***	-0.06	1.05***	1.02***	3.48***	1.17***	1.30***
	[0.08]	[0.07]	[0.01]	[0.13]	[0.12]	[0.01]	[0.18]	[0.68]	[0.13]	[0.15]
$\sum \hat{\pi}_{jt}$	1.47***	1.50***	0.97***	1.40***	3.97***	1.06***	0.14	0.22	0.51	3.37***
	[0.10]	[0.10]	[0.01]	[0.23]	[0.36]	[0.01]	[0.68]	[0.65]	[0.65]	[0.50]
σ_ε										
	5.15***	11.47***	4.11***	14.13***	13.04***	2.47***	27.49***	11.92***	8.91***	14.85***
	[0.36]	[0.72]	[0.10]	[0.44]	[0.97]	[0.07]	[0.91]	[1.01]	[1.81]	[0.79]
θ^+_{it}										
$\bar{\pi}_{jt}$	-3.01***	-5.45***	-0.22***	-5.89***	-5.33***	-0.24***	-5.58**	-5.23	-1.54	-14.13***
	[0.56]	[0.65]	[0.03]	[0.88]	[0.89]	[0.05]	[2.66]	[3.72]	[3.73]	[1.25]
Q_2	4.12***	10.68***	-0.13	0.42	-10.38***	-3.08***	4.80***	0.45	9.72***	1.19**
	[1.10]	[1.64]	[0.13]	[0.32]	[1.15]	[0.11]	[0.84]	[0.72]	[2.01]	[0.51]
Q_3	9.98***	13.26***	-2.10***	0.92***	-7.11***	-2.84***	8.53***	0.93	11.21***	3.88***
	[1.52]	[1.81]	[0.13]	[0.33]	[0.99]	[0.13]	[0.91]	[0.76]	[2.42]	[0.57]
Q_4	-1.89**	-1.60	-1.87***	2.02***	-9.13***	-1.29***	2.63***	2.12***	13.34***	4.55***
	[0.74]	[1.06]	[0.13]	[0.35]	[1.07]	[0.09]	[0.80]	[0.79]	[2.83]	[0.59]
vat_{95}	1.23	-22.68***		-7.64***	-21.38***		-9.52***	-8.57***	-3.65	6.40***
	[2.49]	[3.94]		[0.69]	[1.99]		[1.93]	[2.57]	[2.23]	[1.32]
vat_{99}	-4.09***	-2.19		-9.66***	-31.98***		-1.71	-6.62***	-4.10***	-5.81***
	[1.14]	[3.43]		[0.62]	[2.65]		[1.85]	[1.46]	[1.21]	[1.01]
vat_{01}	52.08***	-3.09*		-3.91***	-9.01***		0.83	-4.21***	-2.54**	4.19***
	[3.67]	[1.71]		[0.77]	[1.76]		[1.70]	[1.50]	[1.21]	[1.05]
θ^-_{it}										
$\bar{\pi}_{jt}$	-2.09***	-1.75***	-0.18***	-1.61	-3.07*	0.03	0.83	-12.48***	-31.48***	-3.58**
	[0.55]	[0.44]	[0.03]	[1.19]	[1.68]	[0.04]	[3.12]	[4.75]	[8.40]	[1.45]
Q_2	-1.49**	-8.48***	-0.61***	0.14	3.73***	-3.92***	6.41***	2.83***	-8.37***	-0.49
	[0.59]	[1.66]	[0.12]	[0.40]	[1.34]	[0.14]	[0.96]	[0.99]	[3.01]	[0.72]
Q_3	-3.43***	-14.49***	-2.09***	0.04	3.33**	-2.96***	4.60***	1.16	-1.68	-0.23
	[0.91]	[2.34]	[0.12]	[0.42]	[1.31]	[0.11]	[0.97]	[1.04]	[1.90]	[0.70]
Q_4	3.98***	1.85*	-2.24***	-0.95**	7.83***	-0.86***	-5.11***	1.41	-11.56***	-1.16
	[0.48]	[1.04]	[0.13]	[0.43]	[1.47]	[0.08]	[1.04]	[1.01]	[3.76]	[0.71]
vat_{95}	6.02**	-5.72		2.93***	2.83		2.28	13.12***	23.37***	-11.44***
	[2.40]	[5.16]		[0.95]	[4.44]		[2.50]	[3.51]	[6.27]	[3.33]
vat_{99}	-42.24***	2.62		2.65**	13.00***		0.31	4.79**	3.07	1.51
	[3.40]	[2.09]		[1.10]	[2.30]		[2.53]	[2.18]	[2.83]	[1.71]
vat_{01}	-47.81***	-0.84		1.18	-18.66*		3.59	1.53	5.64	0.25
	[3.40]	[7.65]		[1.47]	[9.69]		[2.26]	[2.65]	[4.06]	[1.96]
Avg. $\theta^+_{it} - \mu_i$	23.16	26.50	5.37	28.25	26.19	0.67	47.12	24.22	24.03	26.96
Avg. $\theta^-_{it} - \mu_i$	-19.39	-42.12	4.89	-29.01	-34.58	-0.82	-50.30	-29.10	-27.70	-32.98
Estim. range	12	12	12	12	12	12	12	12	12	12
Observations	12585	11181	23184	108521	26684	12038	58166	19617	10351	47004

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Table 3 – *continued from previous page*

	I014	C001	C002	E007	E009	E010	G003	G004	I004	I005
p^*_{it}										
$\sum \bar{\pi}_{jt}$	1.27***	1.38***	0.60***	-0.88	0.13	1.56***	1.94***	1.24***	0.40***	0.15
	[0.07]	[0.23]	[0.16]	[0.61]	[0.17]	[0.12]	[0.25]	[0.08]	[0.11]	[0.43]
$\sum \hat{\pi}_{jt}$	1.00***	1.48***	0.69***	2.59***	1.85***	0.62**	1.15***	0.80***	0.41*	1.08***
	[0.17]	[0.18]	[0.19]	[0.55]	[0.30]	[0.27]	[0.19]	[0.30]	[0.24]	[0.30]
σ_ε										
	13.38***	16.77***	12.77***	12.67***	15.80***	10.51***	21.91***	16.43***	22.33***	17.83***
	[0.38]	[0.63]	[1.56]	[0.82]	[1.13]	[0.47]	[0.79]	[0.50]	[1.61]	[1.26]
θ^+_{it}										
$\bar{\pi}_{jt}$	-1.20***	4.93***	0.73	-12.60***	-13.42***	1.02	0.69	-5.80***	3.75	-0.27
	[0.44]	[1.00]	[0.88]	[3.98]	[3.40]	[1.01]	[1.13]	[0.65]	[4.69]	[2.18]
Q_2	-1.55***	-4.86***	-2.81***	6.10***	8.05***	-0.38	-4.46***	-6.00***	-1.05	-0.46
	[0.23]	[0.51]	[0.86]	[0.88]	[0.90]	[0.29]	[0.55]	[0.67]	[1.00]	[0.87]
Q_3	0.11	1.11**	-0.54	2.09***	8.58***	2.87***	1.18**	0.05	-2.58***	3.56***
	[0.24]	[0.52]	[0.82]	[0.72]	[0.92]	[0.38]	[0.53]	[0.67]	[1.00]	[0.92]
Q_4	0.40*	-7.99***	-3.65***	5.25***	7.72***	4.14***	2.30***	-5.68***	-0.00	1.52*
	[0.24]	[0.55]	[0.90]	[0.87]	[0.95]	[0.42]	[0.53]	[0.66]	[1.00]	[0.89]
vat_{95}	-6.70***	-8.48***	-10.83***	-2.65*	1.64	-3.73***	-27.42***	5.66***	-4.47*	-0.89
	[0.47]	[0.92]	[1.77]	[1.56]	[2.14]	[0.53]	[1.89]	[1.95]	[2.30]	[2.74]
vat_{99}	-10.72***	-3.58***	-11.60***	-9.18***	-5.24***	-2.25***	-28.04***	-9.40***	-5.93***	-5.48***
	[0.49]	[0.95]	[1.82]	[1.35]	[1.55]	[0.63]	[1.49]	[1.36]	[2.04]	[1.74]
vat_{01}	-1.62***	2.78	-5.93***	-3.00**	-0.55	-5.33***	-19.46***	-17.49***	-5.13**	-2.58
	[0.57]	[1.71]	[1.84]	[1.40]	[1.59]	[0.70]	[1.43]	[1.41]	[2.13]	[1.84]
θ^-_{it}										
$\bar{\pi}_{jt}$	0.56	-6.78***	-1.01	-12.48**	-9.53**	-3.44*	-6.92***	-2.85***	0.31	-2.62
	[0.78]	[1.65]	[1.53]	[6.18]	[4.35]	[1.91]	[1.32]	[0.66]	[4.98]	[2.94]
Q_2	0.66*	5.72***	2.91**	-3.63***	-0.96	-0.80	7.21***	9.82***	1.16	1.47
	[0.35]	[0.71]	[1.31]	[1.13]	[0.95]	[0.58]	[0.67]	[0.75]	[0.95]	[1.10]
Q_3	0.21	1.29*	-0.83	1.93**	-3.32***	-1.63***	-0.68	0.05	0.30	-0.33
	[0.36]	[0.75]	[1.47]	[0.98]	[0.94]	[0.59]	[0.68]	[0.73]	[0.98]	[1.14]
Q_4	-0.10	7.02***	0.55	-3.44***	-1.25	-3.13***	2.91***	8.46***	1.70*	1.43
	[0.36]	[0.71]	[1.41]	[1.15]	[0.89]	[0.64]	[0.69]	[0.67]	[0.92]	[1.09]
vat_{95}	0.83	2.27	4.85	-2.03	4.51*	0.69	8.03***	5.53**	-9.09***	-5.85
	[0.85]	[1.63]	[3.05]	[4.05]	[2.35]	[1.19]	[2.18]	[2.34]	[3.53]	[3.81]
vat_{99}	3.27***	1.45	1.64	-0.60	1.35	-2.59	12.32***	-3.76*	3.28	-0.80
	[0.80]	[1.59]	[2.86]	[2.94]	[2.77]	[1.82]	[1.48]	[2.10]	[2.27]	[3.43]
vat_{01}	-2.68**	2.63	1.62	2.77	0.07	-0.84	11.59***	-1.42	3.35	4.55*
	[1.22]	[2.92]	[3.98]	[1.98]	[2.58]	[1.64]	[1.63]	[1.77]	[2.39]	[2.42]
Avg. $\theta^+_{it} - \mu_i$	24.81	31.26	25.95	33.55	28.90	20.31	25.24	20.89	42.98	32.33
Avg. $\theta^-_{it} - \mu_i$	-30.96	-41.42	-38.22	-36.46	-34.94	-27.66	-35.33	-18.49	-44.32	-38.53
Estim. range	12	12	12	12	12	12	12	12	12	12
Observations	189742	91598	23540	32588	24727	54359	59703	25988	40896	23171

Continued on next page

Table 3 – *continued from previous page*

	I006	I013	E006	E008	E011	F002	G001	G002	I001	I002
p^*_{it}										
$\sum \bar{\pi}_{jt}$	-1.81***	0.40	1.91***	-0.17	0.96***	1.43**	1.21***	1.33***	0.96***	0.71***
	[0.39]	[0.65]	[0.15]	[0.19]	[0.18]	[0.70]	[0.16]	[0.16]	[0.07]	[0.06]
$\sum \hat{\pi}_{jt}$	1.94***	-0.19	-0.58***	0.67***	-0.85	3.11***	0.93***	0.96***	0.29	1.20***
	[0.67]	[0.28]	[0.20]	[0.21]	[0.59]	[0.82]	[0.23]	[0.21]	[0.26]	[0.23]
σ_ε										
	13.48***	16.66***	10.89***	11.61***	13.66***	14.31***	4.25***	12.19***	27.77***	37.15***
	[0.47]	[1.21]	[0.40]	[0.58]	[0.77]	[1.13]	[0.41]	[0.53]	[1.22]	[1.88]
θ^+_{it}										
$\bar{\pi}_{jt}$	1.23	-10.69***	-6.66***	-3.78***	-1.09	-0.56	-4.52***	-12.53***	11.61***	-1.10
	[2.28]	[3.61]	[1.03]	[1.19]	[2.16]	[2.95]	[1.05]	[1.04]	[2.56]	[1.32]
Q_2	-1.17**	-0.39	1.48***	9.68***	-0.39	-9.16***	0.87***	0.86**	8.10***	3.36*
	[0.55]	[0.70]	[0.27]	[0.61]	[0.48]	[1.42]	[0.24]	[0.41]	[0.96]	[1.72]
Q_3	1.70***	1.75**	3.24***	14.30***	1.44***	-5.72***	0.72***	11.57***	11.03***	5.54***
	[0.58]	[0.76]	[0.30]	[0.81]	[0.51]	[1.29]	[0.21]	[0.70]	[1.09]	[1.65]
Q_4	-7.38***	1.23	6.90***	17.23***	2.27***	-1.27	1.51***	7.79***	12.80***	3.57**
	[0.56]	[0.77]	[0.40]	[1.01]	[0.54]	[1.38]	[0.27]	[0.60]	[1.06]	[1.64]
vat_{95}	0.87	-3.25*	-4.50***	-0.64	-3.28***	-8.83***	-3.05***	-6.98***	29.45***	14.85
	[1.53]	[1.80]	[0.46]	[1.66]	[1.20]	[2.92]	[0.69]	[1.16]	[6.53]	[9.10]
vat_{99}	-3.04**	-3.22*	-7.34***	-2.84***	-6.59***	-18.32***	-6.74***	-6.68***	1.00	12.67**
	[1.38]	[1.65]	[0.57]	[0.87]	[1.18]	[2.53]	[0.83]	[0.88]	[2.56]	[5.82]
vat_{01}	1.78	5.15**	-5.05***	-3.61***	-5.69***	-8.79***	-4.31***	-1.77**	14.34***	10.49**
	[1.48]	[2.11]	[0.55]	[0.99]	[1.09]	[2.39]	[0.66]	[0.82]	[2.44]	[4.30]
θ^-_{it}										
$\bar{\pi}_{jt}$	-0.87	-11.39**	5.83***	-9.02***	4.57	-8.38**	-5.05***	-2.97**	-8.67***	-3.44***
	[2.59]	[4.70]	[1.70]	[1.65]	[3.00]	[4.11]	[1.83]	[1.16]	[2.61]	[1.14]
Q_2	1.70***	-0.71	-0.43	0.17	-0.37	4.94***	0.09	-2.85***	9.08***	3.92***
	[0.60]	[1.05]	[0.44]	[0.56]	[0.71]	[1.34]	[0.32]	[0.44]	[0.99]	[1.27]
Q_3	-1.14*	-0.36	1.00**	-1.70***	-0.68	2.67**	-0.78**	-12.89***	4.31***	-0.84
	[0.64]	[1.05]	[0.44]	[0.57]	[0.70]	[1.32]	[0.36]	[0.86]	[0.94]	[1.25]
Q_4	6.57***	1.69*	-1.89***	-4.60***	-2.44***	-2.77*	-0.71**	-8.97***	5.36***	3.77***
	[0.57]	[1.02]	[0.48]	[0.70]	[0.76]	[1.55]	[0.33]	[0.66]	[0.94]	[1.29]
vat_{95}	-2.74	4.79	2.72***	13.15***	1.34	-14.78*	2.44***	-4.52***	-7.65**	-7.99
	[1.78]	[3.09]	[0.86]	[2.31]	[1.59]	[7.89]	[0.79]	[1.38]	[3.33]	[5.33]
vat_{99}	1.46	-3.57	-2.68*	-6.97***	-0.33	0.97	0.44	-4.09***	6.87***	-7.49
	[1.65]	[4.06]	[1.40]	[2.38]	[2.35]	[3.15]	[0.71]	[1.34]	[2.10]	[5.11]
vat_{01}	-0.64	0.40	3.77***	8.48***	-3.06	4.10	0.32	-2.97**	-0.75	-5.03
	[1.57]	[3.05]	[0.93]	[1.33]	[2.38]	[3.62]	[1.15]	[1.40]	[2.46]	[3.21]
Avg. $\theta^+_{it} - \mu_i$	28.79	29.09	22.58	15.22	27.27	30.81	5.69	22.22	42.46	53.18
Avg. $\theta^-_{it} - \mu_i$	-32.42	-42.15	-28.26	-25.78	-30.83	-29.90	-7.90	-30.06	-49.44	-51.59
Estim. range	12	12	12	12	12	12	12	12	12	12
Observations	59993	33244	110362	28978	37311	12091	11242	46092	41271	23102

Continued on next page

Table 3 – *continued from previous page*

	I003	I015	C003	D001	F003	G006	G007	G008	I009	I012
p^*_{it}										
$\sum \bar{\pi}_{jt}$	0.57***	3.12***	1.34***	0.56***	1.39***	0.75***	0.91**	1.01***	0.96***	1.53***
	[0.03]	[0.31]	[0.09]	[0.21]	[0.17]	[0.14]	[0.37]	[0.08]	[0.05]	[0.13]
$\sum \hat{\pi}_{jt}$	-0.06	1.62***	0.59***	0.75**	2.57***	3.33***	-0.46	0.80***	1.15***	1.96***
	[0.16]	[0.51]	[0.21]	[0.37]	[0.81]	[0.36]	[0.44]	[0.16]	[0.23]	[0.32]
σ_ε										
	30.96***	14.40***	9.16***	5.32***	10.35***	9.94***	10.22***	4.93***	9.89***	5.82***
	[1.16]	[0.81]	[0.66]	[1.08]	[2.44]	[0.59]	[3.82]	[0.71]	[0.45]	[0.82]
θ^+_{it}										
$\bar{\pi}_{jt}$	-5.05***	-22.37***	-1.83**	-2.50	-11.52**	-3.92***	-3.01	-2.48***	-6.06***	0.02
	[0.76]	[3.63]	[0.87]	[2.32]	[4.77]	[1.46]	[8.70]	[0.48]	[0.59]	[0.83]
Q_2	10.33***	-0.26	1.29***	-0.82	0.71	1.17*	4.91	2.68***	-1.43**	-2.48***
	[1.03]	[0.56]	[0.37]	[0.74]	[0.47]	[0.69]	[3.37]	[0.55]	[0.56]	[0.75]
Q_3	8.05***	4.46***	4.24***	0.74	8.05***	6.71***	4.47	3.84***	-10.20***	-0.17
	[0.97]	[0.68]	[0.55]	[0.68]	[2.19]	[0.85]	[3.02]	[0.72]	[0.70]	[0.60]
Q_4	2.26**	1.28**	3.79***	-1.61*	5.27***	6.39***	7.58**	1.56***	-4.74***	4.54***
	[0.93]	[0.58]	[0.50]	[0.94]	[1.46]	[0.95]	[3.49]	[0.51]	[0.58]	[1.28]
vat_{95}	-14.67***	-3.55***	-4.97***	-2.72	-0.68	1.53	-2.11		-1.99**	-9.31***
	[4.10]	[1.15]	[0.99]	[1.73]	[0.93]	[2.32]	[5.21]		[0.94]	[2.68]
vat_{99}	2.03	-1.71	-8.00***	2.10	-3.70***	-2.90*	-9.77**		-0.97	-2.63**
	[4.19]	[1.24]	[0.85]	[2.08]	[1.21]	[1.52]	[4.28]		[1.16]	[1.13]
vat_{01}	0.64	-1.70	-2.47***	-2.99	-2.08**	-4.35***	1.47		-3.10***	1.68
	[3.08]	[1.35]	[0.72]	[2.00]	[0.85]	[1.38]	[3.95]		[0.88]	[3.01]
θ^-_{it}										
$\bar{\pi}_{jt}$	-3.33***	4.82	-5.96***	-8.88***	43.61***	6.33***	12.92	-0.71	-4.11***	3.21
	[0.62]	[6.49]	[1.89]	[2.51]	[15.72]	[2.16]	[8.20]	[1.07]	[1.43]	[3.24]
Q_2	-2.78***	3.60***	0.90	0.25	13.65***	1.06	2.73	-3.93***	3.00***	2.41
	[0.73]	[1.00]	[0.83]	[0.78]	[3.92]	[0.86]	[5.47]	[1.34]	[0.91]	[1.86]
Q_3	-2.13***	-1.32	-2.08**	0.68	8.65***	-7.21***	5.19	-2.85**	9.70***	-3.35*
	[0.72]	[1.09]	[1.03]	[0.73]	[2.91]	[1.43]	[5.57]	[1.24]	[0.91]	[2.03]
Q_4	-5.04***	1.41	-1.34	0.42	11.38***	0.69	7.59	-1.58	2.41***	-4.00*
	[0.79]	[1.01]	[0.90]	[0.95]	[3.39]	[0.83]	[5.76]	[1.37]	[0.92]	[2.33]
vat_{95}	-12.04***	-2.38	5.78**	-0.98	15.37***	-22.52***	-85.49***		2.42	-52.20***
	[3.18]	[2.09]	[2.83]	[2.32]	[5.29]	[5.93]	[30.56]		[1.95]	[9.77]
vat_{99}	6.23**	-6.78**	2.32	0.85	26.17***	16.11***	-78.77***		-9.81*	-46.21***
	[2.74]	[3.18]	[2.06]	[2.02]	[7.29]	[1.89]	[29.47]		[5.15]	[6.53]
vat_{01}	0.85	-3.31	0.68	4.06**	11.89**	11.72***	-66.41**		6.21***	-49.15***
	[2.57]	[3.20]	[2.96]	[1.74]	[4.99]	[2.28]	[26.21]		[1.78]	[6.79]
Avg. $\theta^+_{it} - \mu_i$	35.08	32.75	24.07	18.82	32.83	13.00	23.80	11.11	29.93	28.89
Avg. $\theta^-_{it} - \mu_i$	-28.93	-34.25	-33.76	-14.84	-29.10	-27.30	-42.18	-31.36	-34.57	-24.34
Estim. range	12	12	12	12	12	12	12	12	12	12
Observations	31604	37590	49982	6511	28954	6650	2575	6830	66900	7053

Note: Standard errors in brackets. ***, **, * significant at the 1%, 5% and 10% level.

Table 4: Estimation results (more tests of hypotheses)

		Product types			
	Total	Non-durable	Semi-durable	Durable	Services
$\Sigma\bar{\pi}_{jt}$ (sectoral price trend)					
Avg. $\beta_1 \vert \beta_1 > 0$	1.17	1.13	1.00	1.54	1.04
	(0.91)	(0.91)	(0.63)	(0.97)	(1.00)
Avg. $\beta_1 \vert \beta_1 > 1$	1.39	1.30	1.49	1.73	1.24
	(0.38)	(0.38)	(0.47)	(0.41)	(0.30)
Avg. $\beta_1 \vert \beta_1 < 0$	-0.42	-0.06	-1.34	-0.17	–
	(0.01)	(0.00)	(0.09)	(0.00)	(0.00)
$\Sigma\hat{\pi}_{jt}$ (sector-specific shocks)					
Avg. $\beta_2 \vert \beta_2 > 0$	1.39	1.35	1.34	1.13	1.71
	(0.84)	(0.85)	(0.98)	(0.54)	(0.99)
Avg. $\beta_2 \vert \beta_2 > 1$	1.78	1.66	1.63	2.02	2.22
	(0.46)	(0.60)	(0.45)	(0.05)	(0.42)
Avg. $\beta_2 \vert \beta_2 < 0$	-0.49	-0.22	-0.19	-0.56	-0.46
	(0.04)	(0.00)	(0.00)	(0.26)	(0.00)
$\bar{\pi}_{jt}$ (sectoral inflation trend upper threshold)					
Avg. $\delta_1^+ \vert \delta_1^+ > 0$	3.53	1.60	2.94	11.61	0.02
	(0.05)	(0.01)	(0.29)	(0.07)	(0.00)
Avg. $\delta_1^+ \vert \delta_1^+ < 0$	-4.50	-3.24	-8.08	-6.98	-5.76
	(0.62)	(0.60)	(0.20)	(0.76)	(0.75)
$\bar{\pi}_{jt}$ (sectoral inflation trend lower threshold)					
Avg. $\delta_1^- \vert \delta_1^- > 0$	8.61	0.59	0.31	5.40	27.28
	(0.13)	(0.03)	(0.00)	(0.26)	(0.39)
Avg. $\delta_1^- \vert \delta_1^- < 0$	-5.05	-5.09	-5.73	-5.68	-3.71
	(0.56)	(0.60)	(0.65)	(0.57)	(0.36)
Avg. σ_ε	12.47	13.13	16.09	12.35	8.40
Avg. $\theta_{it}^+ - \mu_i$	22.88	22.11	30.12	21.60	22.72
Avg. $\theta_{it}^- - \mu_i$	-27.84	-26.60	-37.24	-25.05	-29.48
Sectors	70	41	11	10	8
Observations	3,219,722	2,194,817	469,807	379,643	175,455

Note: The table summarizes the estimation results for 70 sectoral models. The first panel gives the estimates for the desired price equation ($p_{it}^* = \mu_i + \beta_1\Sigma\bar{\pi}_{jt} + \beta_2\Sigma\hat{\pi}_{jt} + \varepsilon_{it}$). The second panel gives the estimates on the sectoral inflation trend in the threshold equations ($\theta_{it}^{+/-} = \delta_1^{+/-}\bar{\pi}_{jt} + \ldots$). All explanatory variables are measured in logarithms multiplied by 100. For each model, we perform tests for which the alternative hypothesis is given in the first column. We then report averages of the coefficients, weighted by the average CPI expenditure weights, conditional on this alternative hypothesis. We report in brackets the share of sectors where we reject the null hypothesis at the 5% level. The third panel gives averages of the estimated standard deviation of the idiosyncratic errors and the average thresholds.

2. ROBUSTNESS TESTS

Table 5: Estimation results (including sales)

		Product types			
	Total	Non-durable	Semi-durable	Durable	Services
$\Sigma\bar{\pi}_{jt}$ (sectoral price trend)					
Avg. $\beta_1 \vert \beta_1 > 0$	1.11	1.10	0.91	1.35	1.02
	(0.92)	(0.92)	(0.70)	(0.97)	(1.00)
Avg. $\beta_1 \vert \beta_1 > 1$	1.34	1.31	1.28	1.51	1.24
	(0.30)	(0.31)	(0.18)	(0.36)	(0.30)
Avg. $\beta_1 \vert \beta_1 < 0$	-0.35	-0.06	-1.06	-0.18	–
	(0.01)	(0.00)	(0.09)	(0.00)	(0.00)
$\Sigma\hat{\pi}_{jt}$ (sector-specific shocks)					
Avg. $\beta_2 \vert \beta_2 > 0$	1.40	1.32	1.81	0.93	1.83
	(0.87)	(0.91)	(0.98)	(0.54)	(0.99)
Avg. $\beta_2 \vert \beta_2 > 1$	1.88	1.64	2.21	2.14	2.38
	(0.49)	(0.61)	(0.25)	(0.05)	(0.65)
Avg. $\beta_2 \vert \beta_2 < 0$	-0.41	-0.42	-0.15	-0.43	-0.44
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
$\bar{\pi}_{jt}$ (sectoral inflation trend upper threshold)					
Avg. $\delta_1^+ \vert \delta_1^+ > 0$	2.29	0.49	2.54	11.75	0.02
	(0.05)	(0.01)	(0.36)	(0.07)	(0.00)
Avg. $\delta_1^+ \vert \delta_1^+ < 0$	-4.75	-3.23	-7.62	-8.11	-5.62
	(0.65)	(0.69)	(0.04)	(0.76)	(0.75)
$\bar{\pi}_{jt}$ (sectoral inflation trend lower threshold)					
Avg. $\delta_1^- \vert \delta_1^- > 0$	8.38	0.64	0.37	2.94	26.79
	(0.18)	(0.12)	(0.00)	(0.26)	(0.39)
Avg. $\delta_1^- \vert \delta_1^- < 0$	-4.41	-4.02	-4.50	-6.60	-3.67
	(0.58)	(0.66)	(0.49)	(0.57)	(0.36)
Avg. σ_ε	11.79	11.59	17.15	13.04	8.35
Avg. $\theta_{it}^+ - \mu_i$	21.44	19.45	31.30	21.88	22.27
Avg. $\theta_{it}^- - \mu_i$	-25.29	-22.17	-36.13	-25.23	-29.76
Sectors	70	41	11	10	8
Observations	3,219,722	2,194,817	469,807	379,643	175,455

Note: See Table 4. The specification uses the data set including sales.

Table 6: Estimation results (full sample range)

		Product types			
	Total	Non-durable	Semi-durable	Durable	Services
$\Sigma\bar{\pi}_{jt}$ (sectoral price trend)					
Avg. $\beta_1 \vert \beta_1 > 0$	1.20	1.20	1.09	1.51	0.92
	(0.93)	(0.97)	(0.55)	(0.97)	(1.00)
Avg. $\beta_1 \vert \beta_1 > 1$	1.48	1.46	1.66	1.66	1.12
	(0.45)	(0.57)	(0.36)	(0.46)	(0.06)
Avg. $\beta_1 \vert \beta_1 < 0$	-1.19	-0.05	-1.19	-1.98	–
	(0.02)	(0.00)	(0.19)	(0.03)	(0.00)
$\Sigma\hat{\pi}_{jt}$ (sector-specific shocks)					
Avg. $\beta_2 \vert \beta_2 > 0$	1.68	1.55	1.76	1.30	2.29
	(0.81)	(0.84)	(0.89)	(0.54)	(0.90)
Avg. $\beta_2 \vert \beta_2 > 1$	1.99	1.95	2.14	1.46	2.29
	(0.47)	(0.59)	(0.61)	(0.06)	(0.41)
Avg. $\beta_2 \vert \beta_2 < 0$	-0.43	-0.48	-0.12	-0.43	-0.31
	(0.01)	(0.00)	(0.00)	(0.05)	(0.00)
$\bar{\pi}_{jt}$ (sectoral inflation trend upper threshold)					
Avg. $\delta_1^+ \vert \delta_1^+ > 0$	4.67	5.57	4.76	4.36	1.19
	(0.04)	(0.01)	(0.38)	(0.00)	(0.00)
Avg. $\delta_1^+ \vert \delta_1^+ < 0$	-8.26	-5.47	-10.55	-11.53	-14.02
	(0.71)	(0.69)	(0.27)	(0.76)	(0.96)
$\bar{\pi}_{jt}$ (sectoral inflation trend lower threshold)					
Avg. $\delta_1^- \vert \delta_1^- > 0$	12.16	1.44	1.50	5.74	36.94
	(0.18)	(0.11)	(0.00)	(0.26)	(0.40)
Avg. $\delta_1^- \vert \delta_1^- < 0$	-6.97	-6.44	-9.26	-8.51	-5.63
	(0.58)	(0.58)	(0.56)	(0.57)	(0.57)
Avg. σ_ε	19.67	19.27	24.24	18.97	19.14
Avg. $\theta_{it}^+ - \mu_i$	32.51	30.50	41.30	30.96	35.87
Avg. $\theta_{it}^- - \mu_i$	-39.98	-36.42	-50.84	-35.64	-50.03
Sectors	70	41	11	10	8
Observations	3,219,722	2,194,817	469,807	379,643	175,455

Note: See Table 4. The specification uses observations over the full sample range instead of only observations within a range of 12 quarters.

Table 7: Estimation results (aggregate price level and personal consumption)

		Product types			
	Total	Non-durable	Semi-durable	Durable	Services
$\Sigma\bar{\pi}_{jt}$ (sectoral price trend)					
Avg. $\beta_1 \vert \beta_1 > 0$	0.89	1.03	0.66	0.75	0.65
	(0.68)	(0.85)	(0.49)	(0.43)	(0.47)
Avg. $\beta_1 \vert \beta_1 > 1$	1.40	1.46	1.56	1.21	1.15
	(0.18)	(0.30)	(0.09)	(0.00)	(0.00)
Avg. $\beta_1 \vert \beta_1 < 0$	-0.43	-0.14	-0.94	-0.87	-0.28
	(0.02)	(0.01)	(0.16)	(0.03)	(0.00)
$\Sigma\hat{\pi}_{jt}$ (sector-specific shocks)					
Avg. $\beta_2 \vert \beta_2 > 0$	1.32	1.20	1.18	1.07	1.91
	(0.83)	(0.85)	(0.81)	(0.62)	(0.99)
Avg. $\beta_2 \vert \beta_2 > 1$	1.92	1.73	1.58	1.86	2.58
	(0.26)	(0.29)	(0.23)	(0.05)	(0.39)
Avg. $\beta_2 \vert \beta_2 < 0$	-0.32	-0.08	-0.16	-0.40	0.00
	(0.01)	(0.00)	(0.00)	(0.07)	(0.00)
$\Sigma\pi_t$ (aggregate price level)					
Avg. $\beta_3 \vert \beta_3 > 0$	0.81	0.85	0.75	0.58	0.89
	(0.28)	(0.29)	(0.36)	(0.14)	(0.35)
Avg. $\beta_3 \vert \beta_3 > 1$	1.88	2.17	1.62	1.51	1.70
	(0.10)	(0.09)	(0.07)	(0.03)	(0.22)
Avg. $\beta_3 \vert \beta_3 < 0$	-0.91	-1.09	-0.75	-0.42	-0.93
	(0.23)	(0.29)	(0.09)	(0.10)	(0.24)
Σc_t (personal consumption expenditures)					
Avg. $\beta_4 \vert \beta_4 > 0$	0.59	0.67	0.51	0.49	0.51
	(0.63)	(0.62)	(0.56)	(0.78)	(0.53)
Avg. $\beta_4 \vert \beta_4 > 1$	1.21	1.19	1.22	1.32	0.00
	(0.02)	(0.04)	(0.00)	(0.00)	(0.00)
Avg. $\beta_4 \vert \beta_4 < 0$	-0.67	-0.63	-0.90	-1.64	-0.34
	(0.20)	(0.24)	(0.07)	(0.12)	(0.22)
$\bar{\pi}_{jt}$ (sectoral inflation trend upper threshold)					
Avg. $\delta_1^+ \vert \delta_1^+ > 0$	2.65	2.10	2.39	3.65	0.43
	(0.06)	(0.01)	(0.45)	(0.07)	(0.00)
Avg. $\delta_1^+ \vert \delta_1^+ < 0$	-4.22	-3.30	-7.22	-6.91	-4.52
	(0.67)	(0.70)	(0.20)	(0.71)	(0.76)
$\bar{\pi}_{jt}$ (sectoral inflation trend lower threshold)					
Avg. $\delta_1^- \vert \delta_1^- > 0$	12.19	0.89	0.00	5.56	30.42
	(0.14)	(0.03)	(0.00)	(0.33)	(0.40)
Avg. $\delta_1^- \vert \delta_1^- < 0$	-4.81	-4.57	-6.60	-5.41	-3.74
	(0.59)	(0.69)	(0.56)	(0.52)	(0.36)
π_t (aggregate inflation upper threshold)					
Avg. $\delta_1^+ \vert \delta_1^+ > 0$	1.57	2.13	0.96	2.75	1.04
	(0.06)	(0.05)	(0.00)	(0.05)	(0.15)
Avg. $\delta_1^+ \vert \delta_1^+ < 0$	-2.58	-2.49	-3.57	-2.98	-1.81
	(0.56)	(0.71)	(0.52)	(0.33)	(0.31)
π_t (aggregate inflation lower threshold)					
Avg. $\delta_1^- \vert \delta_1^- > 0$	2.89	3.62	3.55	0.93	1.81
	(0.30)	(0.40)	(0.52)	(0.08)	(0.07)
Avg. $\delta_1^- \vert \delta_1^- < 0$	-3.22	-2.56	-0.72	-1.87	-5.82
	(0.27)	(0.32)	(0.00)	(0.30)	(0.24)
Avg. σ_ε	12.34	13.03	15.68	12.24	8.32
Avg. $\theta_{it}^+ - \mu_i$	23.48	22.87	31.47	21.86	22.70
Avg. $\theta_{it}^- - \mu_i$	-26.82	-25.54	-34.58	-24.42	-29.17
Sectors	70	41	11	10	8
Observations	3,219,722	2,194,817	469,807	379,643	175,455

Note: See Table 4. The specification includes aggregate CPI inflation as well as aggregate personal consumption expenditure as additional explanatory variables.

Table 8: Estimation results (H-P filter for calculating the trend)

		Product types			
	Total	Non-durable	Semi-durable	Durable	Services
$\Sigma\bar{\pi}_{jt}$ (sectoral price trend)					
Avg. $\beta_1 \vert \beta_1 > 0$	1.32	1.27	1.76	1.47	1.20
	(0.93)	(0.97)	(0.75)	(0.92)	(0.91)
Avg. $\beta_1 \vert \beta_1 > 1$	1.61	1.59	2.16	1.63	1.39
	(0.45)	(0.45)	(0.47)	(0.36)	(0.53)
Avg. $\beta_1 \vert \beta_1 < 0$	-2.42	0.00	-1.35	-4.26	0.00
	(0.01)	(0.00)	(0.09)	(0.03)	(0.00)
$\Sigma\hat{\pi}_{jt}$ (sector-specific shocks)					
Avg. $\beta_2 \vert \beta_2 > 0$	1.25	1.29	0.91	1.47	1.14
	(0.88)	(0.93)	(0.64)	(0.70)	(0.99)
Avg. $\beta_2 \vert \beta_2 > 1$	1.66	1.67	1.88	1.64	1.57
	(0.33)	(0.44)	(0.25)	(0.19)	(0.18)
Avg. $\beta_2 \vert \beta_2 < 0$	-0.38	0.00	-0.53	-0.33	-1.50
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
$\bar{\pi}_{jt}$ (sectoral inflation trend upper threshold)					
Avg. $\delta_1^+ \vert \delta_1^+ > 0$	7.18	5.80	11.18	26.11	1.39
	(0.23)	(0.34)	(0.18)	(0.09)	(0.04)
Avg. $\delta_1^+ \vert \delta_1^+ < 0$	-13.83	-7.19	-9.74	-25.00	-18.55
	(0.46)	(0.39)	(0.27)	(0.74)	(0.50)
$\bar{\pi}_{jt}$ (sectoral inflation trend lower threshold)					
Avg. $\delta_1^- \vert \delta_1^- > 0$	11.54	5.23	9.52	19.84	36.10
	(0.22)	(0.24)	(0.14)	(0.18)	(0.24)
Avg. $\delta_1^- \vert \delta_1^- < 0$	-16.08	-11.84	-21.69	-22.55	-18.41
	(0.57)	(0.52)	(0.67)	(0.63)	(0.60)
Avg. σ_ε	13.12	14.34	15.79	12.19	8.50
Avg. $\theta_{it}^+ - \mu_i$	24.32	22.46	31.10	21.84	29.15
Avg. $\theta_{it}^- - \mu_i$	-28.11	-27.23	-35.94	-25.17	-29.57
Sectors	70	41	11	10	8
Observations	3,219,722	2,194,817	469,807	379,643	175,455

Note: See Table 4. The specification uses a H-P filter to estimate the sectoral inflation trend.

Table 9: Estimation results (average price change instead of sectoral inflation)

		Product types			
	Total	Non-durable	Semi-durable	Durable	Services
$\Sigma\overline{\triangle p}_{ijt}$ (sectoral price trend)					
Avg. $\beta_1 \vert \beta_1 > 0$	1.05	0.99	1.02	0.90	1.39
	(0.98)	(1.00)	(1.00)	(0.95)	(0.91)
Avg. $\beta_1 \vert \beta_1 > 1$	1.34	1.27	1.48	1.32	1.39
	(0.27)	(0.20)	(0.22)	(0.09)	(0.67)
Avg. $\beta_1 \vert \beta_1 < 0$	-0.14	-0.14	–	–	–
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
$\overline{\triangle p}_{ijt}$ (sectoral price trend upper threshold)					
Avg. $\delta_1^+ \vert \delta_1^+ > 0$	1.89	1.12	–	–	1.96
	(0.04)	(0.01)	(0.00)	(0.00)	(0.24)
Avg. $\delta_1^+ \vert \delta_1^+ < 0$	-4.82	-4.35	-4.74	-6.43	-4.91
	(0.74)	(0.85)	(0.62)	(0.74)	(0.45)
$\overline{\triangle p}_{ijt}$ (sectoral price trend lower threshold)					
Avg. $\delta_1^- \vert \delta_1^- > 0$	2.44	1.95	0.19	3.47	3.68
	(0.06)	(0.00)	(0.00)	(0.10)	(0.26)
Avg. $\delta_1^- \vert \delta_1^- < 0$	-4.05	-4.02	-4.27	-4.05	-4.06
	(0.73)	(0.86)	(0.62)	(0.64)	(0.44)
$\overline{\triangle p}_{ijt}$ (difference in sectoral price trend in upper and lower threshold)					
Avg. $\delta_1^+ - \delta_1^- \vert \delta_1^+ - \delta_1^- > 0$	4.54	1.95	0.19	3.47	3.68
	(0.44)	(0.36)	(0.75)	(0.43)	(0.56)
Avg. $\delta_1^+ - \delta_1^- \vert \delta_1^+ - \delta_1^- < 0$	-3.03	-4.35	-4.74	-6.43	-4.91
	(0.32)	(0.30)	(0.19)	(0.34)	(0.40)
Avg. $\delta_1^+ - \delta_1^- \vert \delta_1^+ - \delta_1^- \neq 0$	1.18	1.12	0.00	0.00	1.96
	(0.74)	(0.66)	(0.77)	(0.78)	(0.96)
Avg. σ_ε	12.99	13.80	16.04	12.62	8.96
Avg. $\theta_{it}^+ - \mu_i$	23.64	23.59	30.80	21.76	21.71
Avg. $\theta_{it}^- - \mu_i$	-28.50	-26.70	-36.31	-25.58	-33.05
Sectors	70	41	11	10	8
Observations	3,219,722	2,194,817	469,807	379,643	175,455

Note: See Table 4. The specification uses the average price change observed in the sample as an estimate of the sectoral inflation trend.

Table 10: Counterfactual predictions (including sales)

	Data	Model	$\pi_t = 0$		
			All equations	Desired price	Thresholds
Total	61.9	61.5	55.0	58.3	58.3
Non-durable	57.3	57.3	53.0	55.2	55.4
Semi-durable	60.1	60.0	55.2	57.0	58.1
Durable	62.4	61.7	45.6	54.8	52.2
Services	77.8	76.4	70.7	72.4	74.0

Note: The table gives model predictions of the relative frequency of price increases (%fpc$^+$) for various paths of aggregate inflation. The first two columns give the actual %fpc$^+$ and the model predictions at actual sample values of the covariates, respectively. The third column assumes that aggregate inflation is zero by subtracting aggregate inflation from the sectoral inflation trend in the desired price equation ($\beta_1[\Sigma\bar{\pi}_{jt} - \Sigma\pi_t]$) and in the threshold equations ($\delta_1^+[\bar{\pi}_{jt} - \pi_t]$, $\delta_1^-[\bar{\pi}_{jt} - \pi_t]$). The fourth and fifth columns repeat the exercise by setting inflation to zero separately in the desired price equation or the threshold equations. The specification uses the data set including sales.

Table 11: Counterfactual predictions (full sample range)

	Data	Model	$\pi_t = 0$		
			All equations	Desired price	Thresholds
Total	63.6	63.5	56.8	61.0	59.4
Non-durable	58.9	59.0	55.1	57.6	56.7
Semi-durable	64.2	64.0	59.1	62.9	60.6
Durable	64.2	63.8	45.3	56.9	52.1
Services	78.2	78.0	72.0	75.2	75.1

Note: See Table 10. The specification uses observations over the full sample range instead of only observations within a range of 12 quarters.

Table 12: Counterfactual predictions (aggregate price level and personal consumption)

	Data	Model	$\pi_t = 0$		
			All equations	Desired price	Thresholds
Total	63.6	63.3	57.4	61.2	59.1
Non-durable	58.9	58.9	55.0	57.7	55.7
Semi-durable	64.2	63.8	59.8	62.8	60.7
Durable	64.2	63.8	50.9	60.5	53.9
Services	78.2	77.5	70.3	72.5	74.8

Note: See Table 10. The specification includes aggregate CPI inflation as well as aggregate personal consumption expenditure as additional explanatory variables.

Table 13: Counterfactual predictions (H-P filter for calculating the trend)

	Data	Model	$\pi_t = 0$		
			All equations	Desired price	Thresholds
Total	63.6	63.3	51.1	58.8	55.0
Non-durable	58.9	58.7	54.6	55.2	58.4
Semi-durable	64.2	64.1	54.7	59.9	57.5
Durable	64.2	63.6	29.8	57.3	32.9
Services	78.2	77.6	57.8	71.6	63.5

Note: See Table 10. The specification uses a H-P filter to estimate the sectoral inflation trend.

Table 14: Counterfactual predictions (average price change instead of sectoral inflation)

	Data	Model	$\pi_t = 0$		
			All equations	Desired price	Thresholds
Total	63.6	63.4	55.7	59.7	59.5
Non-durable	58.9	58.7	54.7	57.1	56.2
Semi-durable	64.2	63.8	54.0	58.5	60.1
Durable	64.2	64.4	50.2	58.3	55.3
Services	78.2	77.4	65.4	70.4	74.3

Note: See Table 10. The specification uses the average price change observed in the sample as an estimate of the sectoral inflation trend.

LITERATURE CITED

Nakamura, Emi and Jón Steinsson (2010) "Monetary Non-Neutrality in a Multisector Menu Cost Model." *The Quarterly Journal of Economics*, 125, 961–1013.