

ISIC	:	Model	Value Added				Gross Sales			
			: Constant	: $b_{w1}$	: $b_{w2}$	: R	: Constant	: $b_{w1}^*$	: $b_{w2}^*$	: R
30	I	1.418 (0.190)	1.533 (0.379)			R = 0.788	2.334 (0.186)	1.325 (0.372)		R = 0.747
	II	0.513 (0.180)		1.726 (0.208)		R = 0.935	1.502 (0.172)		1.560 (0.198)	R = 0.928
31	I	2.210 (0.143)	1.477 (0.461)			R = 0.664	3.402 (0.178)	0.874 (0.575)		R = 0.388
	II	1.093 (0.366)		1.324 (0.336)		R = 0.738	2.906 (0.515)		0.624 (0.473)	R = 0.344
33	I	1.686 (0.211)	0.104 (0.230)			R = 0.129	2.268 (0.184)	0.081 (0.201)		R = 0.115
	II	0.225 (0.244)		2.035 (0.309)		R = 0.885	1.035 (0.240)		1.711 (0.304)	R = 0.851
34	I	1.495 (0.174)	0.485 (0.336)			R = 0.434	2.468 (0.156)	0.255 (0.300)		R = 0.273
	II	0.587 (0.342)		1.362 (0.409)		R = 0.743	1.796 (0.334)		0.955 (0.399)	R = 0.624
35	I	1.253 (0.234)	1.578 (0.614)			R = 0.596	2.208 (0.359)	1.395 (0.944)		R = 0.392
	II	1.102 (0.510)		0.875 (0.626)		R = 0.374	2.188 (0.723)		0.631 (0.888)	R = 0.201
36	I	1.288 (0.332)	0.848 (1.009)			R = 0.257	1.810 (0.341)	0.423 (1.034)		R = 0.128
	II	0.380 (0.517)		1.488 (0.644)		R = 0.590	1.234 (0.597)		0.903 (0.744)	R = 0.359
37	I	1.671 (0.168)	0.395 (0.502)			R = 0.213	2.451 (0.192)	0.064 (0.572)		R = 0.031
	II	0.870 (0.330)		1.216 (0.432)		R = 0.616	1.772 (0.420)		0.959 (0.550)	R = 0.436
38	I	1.572 (0.130)	0.453 (0.195)			R = 0.558	2.347 (0.204)	0.794 (0.307)		R = 0.598
	II	1.070 (0.324)		0.674 (0.313)		R = 0.528	1.488 (0.518)		1.158 (0.500)	R = 0.556

Note: Standard errors in parentheses.

Model I: regressions involving  $W_1$  (Equations 5.1 and 5.2)

Model II: regressions involving  $W_2$  (Equations 5.3 and 5.4)

Appendix Table 6. C.E.S. PRODUCTION FUNCTIONS  
(Based on Sampled Observations)

ISIC	Model	Value Added			Gross Sales				
		Constant	$b_{w1}$	$b_{w2}$	R	Constant	$b_{w1}^*$	$b_{w2}^*$	R
20	I	1.552 (0.209)	1.413 (0.442)		R = 0.649	2.524 (0.141)	1.369 (0.300)		R = 0.774
	II	0.674 (0.218)		1.709 (0.264)	R = 0.866	1.851 (0.175)		1.396 (0.211)	R = 0.870
21	I	2.531 (0.170)	0.953 (0.165)		R = 0.848	3.116 (0.120)	0.763 (0.117)		R = 0.875
	II	1.206 (0.249)		1.146 (0.226)	R = 0.815	2.142 (0.224)		0.809 (0.203)	R = 0.741
22	I	1.340 (0.208)	1.528 (0.406)		R = 0.722	2.350 (0.194)	1.697 (0.377)		R = 0.780
	II	0.666 (0.177)		1.564 (0.318)	R = 0.806	1.618 (0.170)		1.662 (0.306)	R = 0.834
23	I	1.145 (0.206)	-0.027 (0.322)		R = 0.022	2.232 (0.206)	0.046 (0.322)		R = 0.038
	II	1.041 (0.223)		0.360 (0.381)	R = 0.245	2.089 (0.220)		0.444 (0.375)	R = 0.301
24	I	0.904 (0.113)	0.536 (0.234)		R = 0.569	1.888 (0.141)	0.641 (0.291)		R = 0.553
	II	0.735 (0.098)		0.591 (0.192)	R = 0.679	1.695 (0.132)		0.635 (0.260)	R = 0.594
25	I	1.002 (0.217)	0.899 (0.220)		R = 0.750	1.752 (0.191)	0.688 (0.193)		R = 0.702
	II	0.618 (0.110)		1.166 (0.117)	R = 0.940	1.456 (0.120)		0.903 (0.128)	R = 0.890
26	I	0.911 (0.177)	1.235 (0.269)		R = 0.837	1.539 (0.191)	1.372 (0.291)		R = 0.844
	II	0.451 (0.145)		1.307 (0.177)	R = 0.926	1.026 (0.150)		1.453 (0.183)	R = 0.935
27	I	2.225 (0.372)	0.565 (0.482)		R = 0.364	3.084 (0.310)	0.875 (0.402)		R = 0.587
	II	1.287 (0.396)		1.184 (0.336)	R = 0.761	2.140 (0.290)		1.297 (0.247)	R = 0.868
28	I	1.033 (0.205)	0.818 (0.217)		R = 0.722	1.724 (0.253)	0.741 (0.269)		R = 0.607
	II	0.752 (0.623)		0.910 (0.600)	R = 0.387	0.948 (0.618)		1.341 (0.595)	R = 0.530
29	I	1.452 (0.144)	1.218 (0.410)		R = 0.772	2.477 (0.110)	1.105 (0.312)		R = 0.822
	II	1.223 (0.378)		0.361 (0.738)	R = 0.196	2.174 (0.307)		0.556 (0.600)	R = 0.354

Appendix Table 6. C.E.S. PRODUCTION FUNCTIONS  
(Based on Sampled Observations)

ISIC	:	Model	Value Added			Gross Sales			R	
			: Constant :	$b_{w1}$ :	$b_{w2}$ :	R	: Constant :	$b_{w1}^*$ :	$b_{w2}^*$ :	
30	I	1.392 (0.234)	1.559 (0.592)			R = 0.640	2.328 (0.208)	1.519 (0.525)		R = 0.675
	II	0.423 (0.216)		1.798 (0.272)	R = 0.902	1.478 (0.225)			1.609 (0.284)	R = 0.873
31	I	2.346 (0.224)	0.326 (0.322)			R = 0.271	3.304 (0.241)	0.346 (0.346)		R = 0.267
	II	0.701 (0.464)		1.500 (0.400)	R = 0.721	2.501 (0.681)			0.726 (0.588)	R = 0.324
33	I	1.293 (0.176)	1.191 (0.256)			R = 0.803	1.961 (0.185)	0.939 (0.269)		R = 0.709
	II	0.710 (0.211)		1.249 (0.235)	R = 0.838	1.514 (0.237)			0.964 (0.264)	R = 0.725
34	I	1.888 (0.138)	-0.055 (0.182)			R = 0.101	2.759 (0.149)	-0.034 (0.197)		R = 0.057
	II	0.985 (0.667)		0.974 (0.723)	R = 0.410	2.312 (0.778)			0.481 (0.842)	R = 0.187
35	I	1.242 (0.379)	0.810 (0.753)			R = 0.296	2.180 (0.370)	0.715 (0.734)		R = 0.271
	II	0.267 (0.470)		1.827 (0.612)	R = 0.652	1.282 (0.474)			1.664 (0.617)	R = 0.614
36	I	0.990 (0.284)	1.143 (0.706)			R = 0.456	1.441 (0.306)	1.060 (0.762)		R = 0.403
	II	0.500 (0.452)		1.045 (0.522)	R = 0.534	1.163 (0.522)			0.746 (0.604)	R = 0.364
37	I	1.666 (0.175)	0.492 (0.384)			R = 0.335	2.320 (0.218)	0.441 (0.477)		R = 0.249
	II	1.143 (0.490)		0.796 (0.590)	R = 0.350	1.766 (0.603)			0.821 (0.727)	R = 0.299
38	I	1.635 (0.156)	0.171 (0.213)			R = 0.226	2.418 (0.231)	0.206 (0.316)		R = 0.185
	II	1.194 (0.333)		0.608 (0.321)	R = 0.480	1.666 (0.499)			0.838 (0.481)	R = 0.450

Note: Standard errors in parentheses.

Model I: regressions involving  $W_1$  (Equations 5.1 and 5.2)

Model II: regressions involving  $W_2$  (Equations 5.3 and 5.4)

Appendix Table 7. GENERALIZED C.E.S. PRODUCTION FUNCTIONS  
(Data Based on Simple Aggregation)

ISIC	Model	Value Added					Gross Sales				
		Constant	b <sub>w1</sub>	b <sub>w2</sub>	g	R	Constant	b <sub>w1</sub> <sup>*</sup>	b <sub>w2</sub> <sup>*</sup>	g <sup>*</sup>	R
20	I	1.211	1.248		0.467	0.944	2.245	0.243		0.487	0.86
	II	(0.177)	(0.208)		(0.104)	(0.104)	(0.177)	(0.208)		(0.104)	
21	I	0.554		1.172	0.444	0.898	2.077		0.433	0.427	0.88
	II	(0.225)		(0.307)	(0.148)	(0.148)	(0.154)		(0.210)	(0.101)	
22	I	2.671	1.701		-0.085	0.959	2.406	0.880		0.420	0.97
	II	(0.288)	(0.197)		(0.164)	(0.164)	(0.188)	(0.128)		(0.107)	
23	I	0.462		1.094	0.476	0.910	1.258		0.593	0.698	0.95
	II	(0.254)		(0.209)	(0.188)	(0.188)	(0.136)		(0.112)	(0.100)	
24	I	1.040	0.808		0.375	0.798	2.033	1.188		0.201	0.86
	II	(0.201)	(0.540)		(0.182)	(0.182)	(0.146)	(0.394)		(0.133)	
25	I	0.777		0.980	0.278	0.830	1.671		1.172	0.136	0.88
	II	(0.159)		(0.454)	(0.180)	(0.180)	(0.117)		(0.332)	(0.132)	
26	I	1.373	-0.187		-0.012	0.204	2.186	-0.343		0.166	0.40
	II	(0.242)	(0.255)		(0.131)	(0.131)	(0.225)	(0.236)		(0.121)	
27	I	1.436		-0.305	0.032	0.153	2.296		-0.526	0.241	0.39
	II	(0.260)		(0.570)	(0.164)	(0.164)	(0.249)		(0.545)	(0.157)	
28	I	0.916	0.436		0.111	0.541	1.762	-0.309		0.443	0.2
	II	(0.131)	(0.336)		(0.198)	(0.198)	(0.304)	(0.779)		(0.460)	
29	I	0.836		0.570	-0.058	0.622	1.867		0.742	-0.069	0.4
	II	(0.098)		(0.306)	(0.228)	(0.228)	(0.233)		(0.731)	(0.544)	
30	I	1.757	0.310		-0.394	0.636	2.626	-0.002		-0.389	0.5
	II	(0.196)	(0.288)		(0.138)	(0.138)	(0.267)	(0.392)		(0.188)	
31	I	1.390		0.728	-0.363	0.714	2.474		0.332	-0.398	0.5
	II	(0.242)		(0.366)	(0.118)	(0.118)	(0.358)		(0.541)	(0.175)	
32	I	0.956	1.453		-0.057	0.897	1.642	1.943		-0.124	0.9
	II	(0.136)	(0.301)		(0.161)	(0.161)	(0.151)	(0.335)		(0.180)	
33	I	0.501		1.281	-0.030	0.953	1.038		1.683	-0.078	0.9
	II	(0.090)		(0.166)	(0.105)	(0.105)	(0.094)		(0.173)	(0.109)	
34	I	2.470	0.466		-0.152	0.275	3.471	0.478		-0.207	0.3
	II	(0.699)	(0.584)		(0.353)	(0.353)	(0.580)	(0.485)		(0.293)	
35	I	0.544		3.078	-0.490	0.847	1.767		2.656	-0.468	0.8
	II	(0.505)		(0.685)	(0.187)	(0.187)	(0.404)		(0.549)	(0.150)	
36	I	1.175	0.624		0.119	0.557	1.902	0.460		0.132	0.4
	II	(0.313)	(0.272)		(0.172)	(0.172)	(0.290)	(0.251)		(0.159)	
37	I	1.588		0.151	-0.049	0.100	1.841		0.469	0.027	0.1
	II	(0.949)		(0.900)	(0.190)	(0.190)	(0.817)		(0.774)	(0.164)	
38	I	1.268	0.911		0.096	0.765	2.238	0.860		0.202	0.9
	II	(0.340)	(0.696)		(0.282)	(0.282)	(0.190)	(0.389)		(0.158)	
39	I	1.024		-0.449	0.463	0.687	1.962		-0.231	0.518	0.8
	II	(0.307)		(0.840)	(0.233)	(0.233)	(0.211)		(0.577)	(0.160)	

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Appendix Table 7. GENERALIZED C.E.S. PRODUCTION FUNCTIONS  
(Based on Simple Aggregation)

SIC:	Model:	Value Added				Gross Sales					
		Constant	b <sub>w1</sub>	b <sub>w2</sub>	g	R	Constant	b <sup>*</sup> <sub>w1</sub>	b <sup>*</sup> <sub>w2</sub>	g <sup>*</sup>	R
30	I	1.251	1.349		0.148	0.798	2.191	1.168		0.126	0.757
	II	(0.332)	(0.491)		(0.238)	(0.238)	(0.328)	(0.485)		(0.235)	
31	I	0.455		1.631	0.090	0.938	1.471		1.508	0.049	0.929
	II	(0.202)		(0.254)	(0.130)	(0.130)	(0.197)		(0.247)	(0.126)	
33	I	2.292	1.462		-0.038	0.665	4.078	0.753		-0.319	0.447
	II	(0.662)	(0.493)		(0.305)	(0.305)	(0.802)	(0.598)		(0.370)	
34	I	1.816		1.388	-0.386	0.788	3.837		0.707	-0.497	0.493
	II	(0.577)		(0.321)	(0.246)	(0.246)	(0.826)		(0.460)	(0.352)	
35	I	0.719	0.012		0.519	0.703	1.506	0.008		0.408	0.632
	II	(0.339)	(0.174)		(0.161)	(0.161)	(0.323)	(0.166)		(0.153)	
36	I	0.058		1.641	0.235	0.924	0.923		1.447	0.158	0.876
	II	(0.221)		(0.314)	(0.101)	(0.101)	(0.244)		(0.347)	(0.112)	
37	I	1.520	0.548		-0.034	0.445	2.453	0.217		0.020	0.282
	II	(0.200)	(0.406)		(0.108)	(0.108)	(0.179)	(0.364)		(0.097)	
38	I	0.488		1.662	-0.097	0.796	1.757		1.073	-0.038	0.630
	II	(0.337)		(0.453)	(0.073)	(0.073)	(0.358)		(0.481)	(0.078)	
39	I	1.162	1.411		0.098	0.612	2.192	1.365		0.018	0.394
	II	(0.287)	(0.693)		(0.169)	(0.169)	(0.448)	(1.082)		(0.264)	
40	I	1.171		0.521	0.140	0.406	2.220		0.465	0.066	0.200
	II	(0.539)		(0.896)	(0.247)	(0.247)	(0.774)		(1.288)	(0.355)	
41	I	0.782	1.028		0.323	0.511	1.308	0.601		0.321	0.450
	II	(0.452)	(0.953)		(0.209)	(0.209)	(0.467)	(0.985)		(0.216)	
42	I	-0.485		1.838	0.422	0.817	0.437		1.226	0.389	0.630
	II	(0.488)		(0.500)	(0.144)	(0.144)	(0.655)		(0.670)	(0.193)	
43	I	1.292	0.269		0.360	0.739	2.013	-0.081		0.417	0.730
	II	(0.159)	(0.362)		(0.099)	(0.099)	(0.178)	(0.406)		(0.111)	
44	I	0.900		0.733	0.285	0.798	1.811		0.316	0.379	0.740
	II	(0.263)		(0.382)	(0.098)	(0.098)	(0.324)		(0.470)	(0.120)	
45	I	1.904	0.355		-0.230	0.656	2.384	0.783		-0.026	0.590
	II	(0.250)	(0.196)		(0.151)	(0.151)	(0.434)	(0.339)		(0.262)	
46	I	1.506		0.609	-0.287	0.697	1.738		1.121	-0.164	0.570
	II	(0.353)		(0.278)	(0.136)	(0.136)	(0.656)		(0.516)	(0.253)	

Note: Standard errors in parentheses.

Model I: regressions involving  $W_1$  (Equations 5.9 and 5.10)

Model II: regressions involving  $W_2$  (Equations 5.11 and 5.12)

Appendix Table 8. GENERALIZED C.E.S. PRODUCTION FUNCTIONS  
(Based on Sampled Observations)

SIC:	Model:	Value Added					Gross Sales				
		Constant	b <sub>w1</sub>	b <sub>w2</sub>	g	R	Constant	b <sub>w1</sub> *	b <sub>w2</sub> *	g*	R
20	I	1.262	0.720		0.367	0.878	2.351	0.956		0.219	0.887
	II	(0.151)	(0.328)		(0.082)	(0.082)	(0.118)	(0.257)		(0.065)	
21	I	0.813		1.106	0.231	0.914	1.918		1.104	0.112	0.887
	II	(0.191)		(0.321)	(0.089)	(0.089)	(0.177)		(0.297)	(0.082)	
22	I	2.670	1.014		-0.092	0.854	2.962	0.696		0.102	0.887
	II	(0.279)	(0.194)		(0.145)	(0.145)	(0.193)	(0.134)		(0.100)	
23	I	1.106		1.097	0.114	0.825	1.921		0.701	0.252	0.837
	II	(0.282)		(0.237)	(0.142)	(0.142)	(0.216)		(0.182)	(0.109)	
24	I	1.288	1.480		0.080	0.729	2.317	1.666		0.051	0.787
	II	(0.237)	(0.428)		(0.155)	(0.155)	(0.222)	(0.400)		(0.145)	
25	I	0.594		1.534	0.148	0.829	1.556		1.635	0.130	0.857
	II	(0.184)		(0.314)	(0.124)	(0.124)	(0.178)		(0.304)	(0.120)	
26	I	0.716	-0.112		0.281	0.344	2.022	0.004		0.137	0.177
	II	(0.382)	(0.321)		(0.213)	(0.213)	(0.401)	(0.337)		(0.224)	
27	I	0.748		0.227	0.226	0.362	2.002		0.404	0.067	0.317
	II	(0.360)		(0.401)	(0.219)	(0.219)	(0.367)		(0.409)	(0.223)	
28	I	0.930	0.597		-0.082	0.584	1.897	0.662		-0.028	0.557
	II	(0.127)	(0.269)		(0.158)	(0.158)	(0.160)	(0.339)		(0.199)	
29	I	0.739		0.602	-0.026	0.681	1.690		0.618	0.041	0.597
	II	(0.104)		(0.208)	(0.132)	(0.132)	(0.140)		(0.281)	(0.178)	
30	I	0.964	0.844		0.061	0.753	1.654	0.547		0.158	0.737
	II	(0.250)	(0.279)		(0.180)	(0.180)	(0.212)	(0.236)		(0.153)	
31	I	0.631		1.207	-0.046	0.941	1.438		0.842	0.068	0.897
	II	(0.116)		(0.146)	(0.091)	(0.091)	(0.126)		(0.158)	(0.099)	
32	I	0.757	1.054		0.130	0.845	1.229	1.008		0.262	0.877
	II	(0.310)	(0.405)		(0.211)	(0.211)	(0.314)	(0.411)		(0.214)	
33	I	0.459		1.322	-0.012	0.926	0.947		1.300	0.111	0.937
	II	(0.189)		(0.283)	(0.154)	(0.154)	(0.189)		(0.284)	(0.155)	
34	I	3.134	0.564		-0.323	0.439	4.327	0.873		-0.442	0.687
	II	(1.234)	(0.493)		(0.417)	(0.417)	(0.963)	(0.385)		(0.326)	
35	I	1.763		1.152	-0.158	0.770	2.936		1.244	-0.265	0.897
	II	(0.993)		(0.356)	(0.301)	(0.301)	(0.673)		(0.241)	(0.204)	
36	I	1.030	0.819		0.002	0.722	1.489	0.855		0.135	0.647
	II	(0.295)	(0.247)		(0.117)	(0.117)	(0.352)	(0.295)		(0.140)	
37	I	0.992		0.789	-0.110	0.435	0.837		1.397	0.051	0.537
	II	(0.707)		(0.630)	(0.144)	(0.144)	(0.714)		(0.636)	(0.146)	
38	I	1.449	1.216		0.002	0.772	2.220	0.874		0.199	0.897
	II	(0.292)	(0.500)		(0.190)	(0.190)	(0.176)	(0.301)		(0.115)	
39	I	1.084		0.145	0.189	0.351	1.935		0.185	0.324	0.687
	II	(0.443)		(0.832)	(0.271)	(0.271)	(0.294)		(0.552)	(0.180)	

Appendix Table 8. GENERALIZED C.E.S. PRODUCTION FUNCTIONS  
(Based on Sampled Observations)

SIC:	Model:	Value Added				Gross Sales					
		Constant	$b_{w1}$	$b_{w2}$	g	R	Constant	$b_{w1}^*$	$b_{w2}^*$	g*	R
30	I	1.264	1.411		0.102	0.650	2.273	1.456		0.044	0.677
	II	(0.381)	(0.703)		(0.232)		(0.341)	(0.629)		(0.208)	
31	I	0.443		1.833	-0.030	0.903	1.510		1.666	-0.048	0.875
	II	(0.243)		(0.325)	(0.131)		(0.253)		(0.338)	(0.136)	
33	I	2.260	0.307		0.066	0.284	3.232	0.330		0.056	0.276
	II	(0.356)	(0.339)		(0.208)		(0.385)	(0.365)		(0.224)	
34	I	0.645		1.819	-0.226	0.767	2.489		0.797	-0.050	0.1328
	II	(0.448)		(0.446)	(0.158)		(0.711)		(0.706)	(0.251)	
35	I	1.215	1.190		0.048	0.809	1.975	0.940		-0.008	0.710
	II	(0.224)	(0.263)		(0.082)		(0.239)	(0.281)		(0.088)	
36	I	0.706		1.248	0.002	0.838	1.575		0.982	-0.045	0.733
	II	(0.244)		(0.248)	(0.077)		(0.271)		(0.275)	(0.085)	
37	I	1.801	-0.079		0.053	0.196	2.661	-0.061		0.060	0.189
	II	(0.229)	(0.196)		(0.109)		(0.248)	(0.213)		(0.118)	
38	I	0.953		1.051	-0.021	0.414	2.356		0.376	0.029	0.202
	II	(0.726)		(0.864)	(0.111)		(0.846)		(1.007)	(0.129)	
39	I	0.784	0.581		0.390	0.722	1.671	0.460		0.434	0.804
	II	(0.321)	(0.574)		(0.124)		(0.267)	(0.477)		(0.103)	
40	I	0.489		0.986	0.271	0.740	1.594		0.484	0.381	0.797
	II	(0.454)		(0.748)	(0.157)		(0.395)		(0.650)	(0.136)	
41	I	0.436	1.578		0.260	0.562	0.885	1.496		0.261	0.512
	II	(0.539)	(0.781)		(0.217)		(0.588)	(0.851)		(0.236)	
42	I	-0.467		1.552	0.346	0.681	0.367		1.164	0.285	0.493
	II	(0.694)		(0.560)	(0.200)		(0.866)		(0.698)	(0.249)	
43	I	1.187	0.440		0.439	0.765	1.816	0.387		0.463	0.643
	II	(0.179)	(0.273)		(0.118)		(0.257)	(0.390)		(0.170)	
44	I	1.124		0.217	0.426	0.710	1.746		0.212	0.448	0.611
	II	(0.383)		(0.500)	(0.140)		(0.519)		(0.676)	(0.190)	
45	I	1.649	0.158		-0.013	0.231	2.302	0.315		0.110	0.311
	II	(0.186)	(0.238)		(0.085)		(0.266)	(0.341)		(0.122)	
46	I	1.120		0.598	-0.019	0.485	1.542		0.888	0.092	0.504
	II	(0.360)		(0.336)	(0.072)		(0.523)		(0.489)	(0.105)	

Note: Standard errors in parentheses.

Model I: regressions involving  $W_1$  (Equations 5.9 and 5.10)

Model II: regressions involving  $W_2$  (Equations 5.11 and 5.12)

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