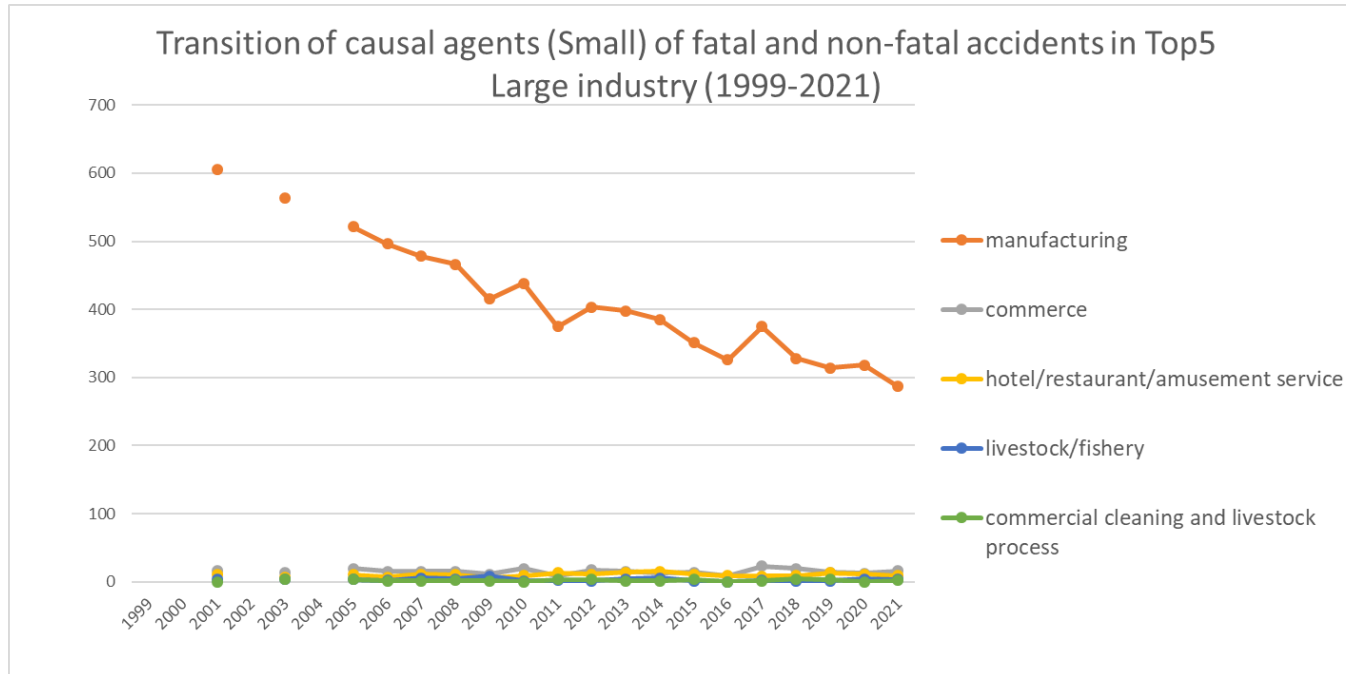
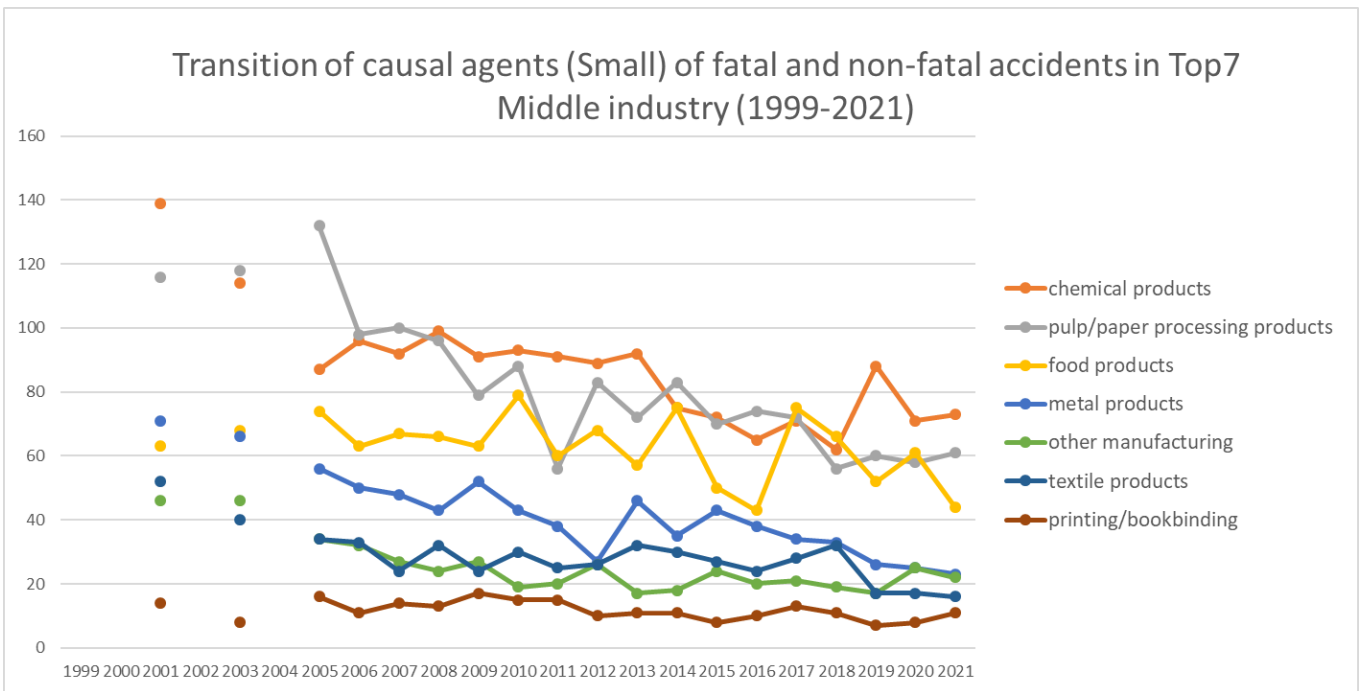


Transition of causal agents (Small) of fatal and non-fatal accidents as code no. 163 roll machine (except printingroll machine) (1999-2021)

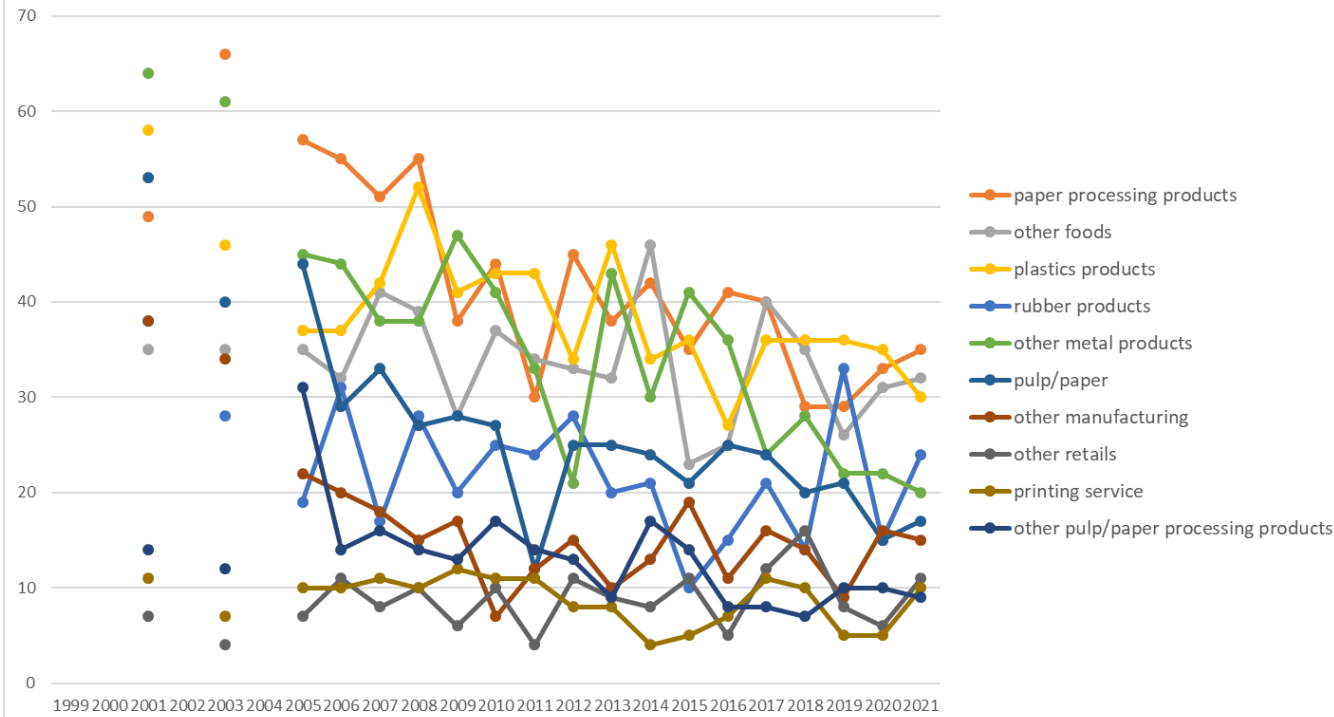


Transition of causal agents (Small) of fatal and non-fatal accidents as code no. 163 roll machine (except printingroll machine) in Large industry (1999-2021)



Transition of causal agents (Small) of fatal and non-fatal accidents as code no. 163 roll machine (except printingroll machine) in Middle Industry (1999-2021)

Transition of causal agents (Small) of fatal and non-fatal accidents in Top10 Small industry (1999-2021)



Transition of causal agents (Small) of fatal and non-fatal accidents as code no. 163 roll machine (except printingroll machine) in Small Industry (1999-2021)

Transition of causal agents (Small) of fatal and non-fatal accidents as code no. 163 roll machine (except printingroll machine) in Large industry (1999-2021)

code	Large industry	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Large industry
01	manufacturing			606		564		521	496	478	466	415	438	375	403	398	385	351	326	375	328	314	318	287	7,844	manufacturing
08	commerce			16		14		19	15	15	15	11	19	9	17	15	12	14	8	23	19	14	12	16	283	commerce
14	hotel/restaurant/amusement service			11		6		10	7	11	10	5	9	13	11	14	15	11	9	8	9	13	11	9	192	hotel/restaurant/amusement service
07	livestock/fishery			3		3		3	2	5	4	8	1	2	1	4	5	1		2	1	1	4	3	53	livestock/fishery
15	commercial cleaning and livestock process					3		3	1	1	2	1		3	3	1	1	3		1	4	3		2	32	commercial cleaning and livestock process
03	construction			2		2		3	4	8	3	1	5	6	1	2	1	2	1	1	2	3	1	1	49	construction

04	transportation service			1		3			4	8	3	4	1	1	1	1	2		1	1		1	2	1	35	transportation service
13	health and hygiene service			1				1	1	1	2		3			2		1	2	2	1	2		1	20	health and hygiene service
12	education/research service			1				1	1				1	1	1				1			1	3	1	12	education/research service
17	others			3		7		3	1	2	4		2	4		3	2	2		1	1	3	2		40	others
05	cargo handling service			1				1						1								2	1		7	cargo handling service
06	agriculture			1										1	1						2		1		6	agriculture
02	mining							1																	1	mining
09	financial business/advertisement																								1	financial business/advertisement
10	movie/play service												1												1	movie/play service
11	telecommunication service																									telecommunication service
16	public office																									public office
	total			646		602		566	532	529	509	446	479	416	439	440	424	385	348	417	365	358	354	321	8,576	total

Transition of causal agents (Small) of fatal and non-fatal accidents as code no. 163 roll machine (except printingroll machine) in Middle industry (1999-2021)

code	Middle industry	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Middle industry
0108	chemical products			139		114		87	96	92	99	91	93	91	89	92	75	72	65	71	62	88	71	73	1,660	chemical products
0106	pulp/paper processing products			116		118		132	98	100	96	79	88	56	83	72	83	70	74	72	56	60	58	61	1,572	pulp/paper processing products
0101	food products			63		68		74	63	67	66	63	79	60	68	57	75	50	43	75	66	52	61	44	1,194	food products
0112	metal products			71		66		56	50	48	43	52	43	38	27	46	35	43	38	34	33	26	25	23	797	metal products
0117	other manufacturing			46		46		34	32	27	24	27	19	20	26	17	18	24	20	21	19	17	25	22	484	other manufacturing
0102	textile products			52		40		34	33	24	32	24	30	25	26	32	30	27	24	28	32	17	17	16	543	textile products
0107	printing/bookbinding			14		8		16	11	14	13	17	15	15	10	11	11	8	10	13	11	7	8	11	223	printing/bookbinding
0802	retail			8		9		10	12	9	11	8	11	4	13	10	8	12	5	12	16	8	6	11	183	retail
0104	wood products			17		19		21	28	14	18	16	18	8	14	9	10	8	12	9	8	5	9	9	252	wood products

1402	restaurant			11	6	8	7	10	8	5	9	12	10	14	14	8	8	6	9	13	9	9	176	restaurant
0110	steel making			18	14	9	12	19	13	11	9	11	10	8	10	7	7	7	8	10	5	6	194	steel making
0113	machine products			12	14	13	14	9	7	5	6	8	14	6	6	10	8	8	9	6	8	6	169	machine products
0103	fiber products			9	6	7	3	8	4	1	3	4	4	6	3	2	2	5	2	3	3	5	80	fiber products
0801	wholesale			7	2	6	2	5	3	3	7	5	2	4	4	2	2	10	3	6	4	4	81	wholesale
0111	nonferrous metal making			11	12	14	11	9	11	9	8	6	7	8	5	10	6	7	4	2	7	3	150	nonferrous metal making
0114	electrical equipment products			4	12	3	10	12	9	6	10	8	7	7	5	4	5	9	6	3	3	3	126	electrical equipment products
0702	fishery			2	3	3	2	5	3	8		2	1	4	4	1		1	1	1	4	3	48	fishery
0115	transport equipment products			9	11	8	12	14	10	4	3	8	9	9	6	8	3	8	4	7	6	2	141	transport equipment products
0105	furniture			13	10	7	8	8	11	5	5	11	3	7	8	3	3	2	4	4	4	2	118	furniture
1501	commercial cleaning and livestock process				3	3	1	1	2	1		3	3	1	1	3		1	4	3		2	32	commercial cleaning and livestock process
0109	sand and stone products			12	6	6	15	13	10	5	9	6	6	11	5	5	5	6	4	7	7	1	139	sand and stone products
0403	road cargo transportation service			1	3		3	8	3	4	1	1	1	1	2		1	1		1	2	1	34	road cargo transportation service
0302	construction work			2	1	1	2	5	2	1	1			2		1	1		2		1	1	23	construction work
0804	other commerce			1	3	3	1	1	1		1		2	1			1	1			2	1	19	other commerce
1302	social welfare facility					1		1	2		3			2		1	2	2	1	2		1	18	social welfare facility
1201	education/research service			1		1	1				1	1	1				1			1	3	1	12	education/research service
1702	others			2	4	3	1	2	4		2	3		3	2	1		1		3	2		33	others
0303	other construction works				1	2	1	3	1		4	5	1					1		3			22	other construction works

1401	hotel						1			2			1				3		2		2		11	hotel		
1701	dispatch service			1		3							1				1		1				7	dispatch service		
0501	land cargo handling service			1			1						1								2	1		6	land cargo handling service	
0601	agriculture			1									1	1							2	1		6	agriculture	
0701	livestock			1						1		1									1			5	livestock	
1403	other amusement service						1		1				1				1							5	other amusement service	
0301	civil engineering work							1					1				1	1						4	civil engineering work	
0116	electric/gas/water service																	1					1	2	electric/gas/water service	
0202	quarrying						1																	1	quarrying	
0404	other transportation service																							1	other transportation service	
0502	harbor transportation service																							1	harbor transportation service	
0902	advertisement and mediator																							1	advertisement and mediator	
1001	movie/play service										1													1	movie/play service	
1301	medical treatment service			1																				1	medical treatment service	
1303	other health and hygiene service																							1	other health and hygiene service	
0201	coal mining																									coal mining
0203	other mining																									other mining
0401	railroad/water transportation/airline service																									railroad/water transportation/airline service

0402	road passenger transport service																									road passenger transport service
0602	forestry																									forestry
0803	haircut/beauty salon																									haircut/beauty salon
0901	financial business																									financial business
1101	telecommunication service																									telecommunication service
1601	public office																									public office
	total			646		602		566	532	529	509	446	479	416	439	440	424	385	348	417	365	358	354	321	8,576	total

Transition of causal agents (Small) of fatal and non-fatal accidents as code no. 163 roll machine (except printingroll machine) in Small industry (1999-2021)

code	Small industry	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	total	Small industry
010602	paper processing products			49		66		57	55	51	55	38	44	30	45	38	42	35	41	40	29	29	33	35	812	paper processing products
010109	other foods			35		35		35	32	41	39	28	37	34	33	32	46	23	25	40	35	26	31	32	639	other foods
010805	plastics products			58		46		37	37	42	52	41	43	43	34	46	34	36	27	36	36	36	35	30	749	plastics products
010806	rubber products			38		28		19	31	17	28	20	25	24	28	20	21	10	15	21	14	33	15	24	431	rubber products
011209	other metal products			64		61		45	44	38	38	47	41	33	21	43	30	41	36	24	28	22	22	20	698	other metal products
010601	pulp/paper			53		40		44	29	33	27	28	27	12	25	25	24	21	25	24	20	21	15	17	510	pulp/paper
011709	other manufacturing			38		34		22	20	18	15	17	7	12	15	10	13	19	11	16	14	9	16	15	321	other manufacturing
080209	other retails			7		4		7	11	8	10	6	10	4	11	9	8	11	5	12	16	8	6	11	164	other retails
010701	printing service			11		7		10	10	11	10	12	11	11	8	8	4	5	7	11	10	5	5	10	166	printing service
010609	other pulp/paper processing products			14		12		31	14	16	14	13	17	14	13	9	17	14	8	8	7	10	10	9	250	other pulp/paper processing products
140201	general restaurant			11		6		8	7	10	6	5	9	12	10	13	14	7	7	6	9	10	9	9	168	general restaurant
010104	bread/cake products			20		25		27	22	22	19	16	25	14	24	16	24	16	14	20	23	14	20	8	369	bread/cake products
010204	dyeing			20		20		15	11	7	6	8	15	5	11	17	8	9	7	11	11	7	3	7	198	dyeing

011703	cleaning			8		12		11	12	8	9	10	12	8	10	5	5	5	9	5	3	7	8	7	154	cleaning
010409	other lumber and wood products			8		9		4	14	6	3	9	6	3	5	5	4	4	8	3	2	1	1	6	101	other lumber and wood products
010801	non organic or organic chemical products			8		5		5	3	7	4	9	6	1	6	5	4	2	2	1	2	4	2	6	82	non organic or organic chemical products
011301	machine products			11		13		10	12	9	5	4	5	7	13	5	6	9	7	6	9	4	6	5	146	machine products
010209	other textile products			18		13		10	14	9	17	11	10	12	8	6	17	12	10	15	15	7	9	4	217	other textile products
010899	other chemical products			14		15		17	11	9	8	8	5	14	11	6	6	11	10	2	3	6	11	4	171	other chemical products
011001	steel/iron/rolling products			10		9		3	6	12	7	9	4	6	5	2	4	5	6	5	4	7	4	4	112	steel/iron/rolling products
010309	other fiber products			8		6		7	3	7	4		3	2	4	5	3	2	2	5	2	3	2	4	72	other fiber products
010802	chemical fiber			9		4		4	8	3	5	2	3	2	6	3	3	3	3	3	1	3	6	4	72	chemical fiber
010402	plywood			9		9		15	11	8	12	7	10	4	6	3	6	3	3	4	6	3	6	3	128	plywood
010102	fishery products			5		4		8	5	4	3	13	7	6	9	4	3	3	3	6	5	6	7	3	104	fishery products
080109	other wholesale			5		2		6	2	5	1	3	7	5	2	4	4	2	2	10	3	6	4	3	76	other wholesale
010203	weaving			7		4		6	6	4	4	4	3	5	2	4	4	3	5		2	2	3	3	71	weaving
070201	fishery			2		3		3	2	4	3	8		2		3	3	1		1	1	1	3	3	43	fishery
011502	auto mobile products			8		10		8	12	13	8	4	2	8	8	6	4	5	3	6	4	7	6	2	124	auto mobile products
011101	nonferrous metals/rolling products			7		7		7	4	9	5	6	1	4	1	2	4	5	3	5	2	2	6	2	82	nonferrous metals/rolling products
011009	other steel products			8		4		6	6	7	5	2	5	5	5	6	6	2	1	2	4	3	1	2	80	other steel products
010807	leather products			7		8		4	3	4	4	2	7	2	3	2	4	6	4	3	3	2		2	70	leather products
010501	wood furniture			8		2		5	3	7	3	1	1	6	1	5	4	2	2	2	3	2	3	2	62	wood furniture
011403	electronics equipment and telecommunications apparatus			1		2		2	4	3	3	3	5	3	1	1	2	4		2	4		1	2	40	electronics equipment and telecommunications apparatus
011201	western tableware/cutting tool products			2				2		1		1			2	1				1	2	1		2	15	western tableware/cutting tool products



011409	other electrical equipment			3		7		2	7	7	3	2	3	4	4	5	3		4	3	2	1	1	1	62	other electrical equipment	
011203	metal press products			5		5		6	4	6	4	3	2	2	3	1	4		1	6	3	2	3	1	61	metal press products	
010202	cotton-spinning			5		3		3	1	4	5	1	2	1	3	5	1	2	1	2	3	1	1	1	45	cotton-spinning	
010709	other printing and bookbinding			2		1		5	1	2	3	3	3	2	1	1	5	3	2	1	1		3	1	40	other printing and bookbinding	
010103	agricultural food products			1		3			2		3	4	5		2	2	1	3		5	2	1	2	1	37	agricultural food products	
010803	pharmaceuticals			1		3		1	2	4		2		2	3	4	1	1		3	1	2		1	31	pharmaceuticals	
040301	general truck transportation service			1		2			2	8	3	3	1		1	1			1	1			2	1	27	general truck transportation service	
010901	cement products			4				2	4	1	2		1	1		2		1	1	1	1	3	1	1	26	cement products	
010808	painting products			2		3		1	3			1	2	1		1	1	2	2		2	1	1	1	24	painting products	
130201	social welfare facility							1		1	2		3			2		1	2	2	1	2		1	18	social welfare facility	
010809	chemical fertilizer products			1		1		2	1			2	1	1	1	1	1		2	1		1		1	17	chemical fertilizer products	
011305	other precision machine products			1				2			2	1		1		1		1		2		1	2	1	15	other precision machine products	
150102	industrial waste management service					1		1			1	1		3	2		1	2			1			1	14	industrial waste management service	
010201	silk-reeling			2					1					2	2			1	1		1		1	1	12	silk-reeling	
120109	other education/research service			1				1	1				1	1	1			1				1	3	1	12	other education/research service	
080409	other commerce			1		1		2	1				1			1		1					1	1	10	other commerce	
010301	over/under wear			1						1		1		2		1							1	1	8	over/under wear	
030201	steel frame/reinforced concrete house construction work			2							1													1	4	steel frame/reinforced concrete house construction work	
150101	building maintenance service					1				1					1									1	4	building maintenance service	
	nonferrous metals casting																										nonferrous metals casting

011102	products					1																1	2	products		
080102	furniture/fittings wholesale																					1	1	furniture/fittings wholesale		
011109	other nonferrous metal products			4		4		7	7		6	3	7	2	6	6	1	5	3	2	2		1	66	other nonferrous metal products	
010909	other sand and stone products			5				1	7	4	2	4	3	2	2	5	2	3	1	4	3	2	5	55	other sand and stone products	
010902	glass products					4		1	3	5	5	1	3	2	1	4	2	1	3	1				36	glass products	
010101	meat/dairy products							2			2	2	5	5		2	1	5	1	3	1	5		34	meat/dairy products	
170209	others			2		4		3	1	2	4		2	3		3	2	1			3	1		31	others	
010509	other furniture			1		6			4	1	3	4	2	2	2	1					1	1	1		29	other furniture
010503	fittings			4		2		2	1		4		2	3		4	1				1			24	fittings	
010401	lumbering					1		2	3		3		2	1	3	1		1	1	2		1	2	23	lumbering	
010702	bookbinding			1				1		1		2	1	2	1	2	2		1	1		2		17	bookbinding	
011402	electrical appliance					2			1	1	2		2	1	2	1			1	2		1	1	17	electrical appliance	
080201	all kinds of retail			1		4		2	1			2	1		2	1		1						15	all kinds of retail	
011509	other transport equipment products			1						1	2		1		1	2	1	3		2				14	other transport equipment products	
010804	petroleum/coal products			1		1		1	1	1		1	2		1	1		1		1		1		13	petroleum/coal products	
010903	pottery products			2		1		1		1			2	1	3						2			13	pottery products	
011204	metal plating products							1	1	2	1	1		3			1	2						12	metal plating products	
011202	screw products							2	1	1					1	1			1	3		1		11	screw products	
030309	other construction works							1	1	1			3	4							1			11	other construction works	
140101	hotel							1			2			1				3		2		2		11	hotel	
030203	building facility construction work					1		1	1	1	1					1			1		2		1	10	building facility construction work	
030209	other building construction								1	4		1	1			1		1						9	other building construction	

	work																							work
080401	warehousing				2		1		1	1				2				1			1		9	warehousing
150109	other cleaning and livestock process service								1		1				1		1		1	3	1		9	other cleaning and livestock process service
030302	machinery/apparatus setting work				1		1			2			1		1				1		1		8	machinery/apparatus setting work
140209	other restaurants													1		1	1				3		8	other restaurants
010106	soft drinks			1		1		2	2													1	7	soft drinks
011401	heavy electrical equipment					1		1											2		1		7	heavy electrical equipment
011702	machine repair							1		1						1	1				2	1	7	machine repair
170101	dispatch service			1		3								1				1			1		7	dispatch service
010905	other ceramic products			1					1	2	1											1	6	other ceramic products
011302	measuring instruments					1			1				1		1			1				1	6	measuring instruments
050101	land cargo handling service			1				1						1							2	1	6	land cargo handling service
060101	agriculture			1										1	1						2	1	6	agriculture
070101	livestock			1							1		1				1			1			5	livestock
070209	other fishery									1					1	1	1					1	5	other fishery
150103	other waste disposal service					1		2													2		5	other waste disposal service
010105	alcoholic drinks			1										1		1					1		4	alcoholic drinks
080101	all kinds of wholesale				2						2												4	all kinds of wholesale
010502	metal furniture														1			1					3	metal furniture
010904	fire resisting products					1		1										1					3	fire resisting products
011501	ship building					1										1	1						3	ship building
030301	electricity/telecommunication work																					1	3	electricity/telecommunication work
040303	cargo/ light automobile transportation service																2					1	3	cargo/ light automobile transportation service





030111	port/seaside construction work																					port/seaside construction work
030202	wooden house construction work																					wooden house construction work
040101	railroad service																					railroad service
040102	water transportation service																					water transportation service
040103	airline service																					airline service
040201	taxi service																					taxi service
040202	bus service																					bus service
040209	other passenger transport service																					other passenger transport service
050201	general harbor transportation service																					general harbor transportation service
050202	port cargo handling service																					port cargo handling service
060201	lumbering																					lumbering
060209	other forestry																					other forestry
080202	auto mobile retail																					auto mobile retail
080301	haircut																					haircut
080302	beauty salon																					beauty salon
090101	banking/trust business																					banking/trust business
090102	stock/commodity trade business																					stock/commodity trade business
090103	insurance business																					insurance business
090109	other financial business																					other financial business
090201	traveling service																					traveling service
100101	movie production and delivery service																					movie production and delivery service

