Construction Accident Statistics

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Construction accident statistics

- Japan, South Korea, Singapore, Taiwan, Hong Kong
- Mid-1990s to mid-2000s
- UK as comparative data
- Chosen because of close vicinity and comparable performance in economy

Estimated population and nominal GDP per capita

	Estimated population in 2006/07 (million)	Nominal GDP in 2007 (US$ per capita)
Japan	127.8	40,044
South Korea	48.2	16,797
Singapore	4.7	29,475
Taiwan	23	16,243
Hong Kong	7	29,296
UK	60.6	40,674

Source: www.en.wikipedia.org/wiki

Japan

- 5.6 million construction workers in 2006
- Representing about 12% of the entire industrial workforce of 63.8 million people
- 26,872 accidents and 508 fatalities
- Accounting for 22% of all industrial accidents and 35% of fatal cases

Japan
Accident rates 1997 - 2006

Accident rate per 1,000 workers

- No. of casualties per 1,000 workers in a year, involving 4 days of absence or longer

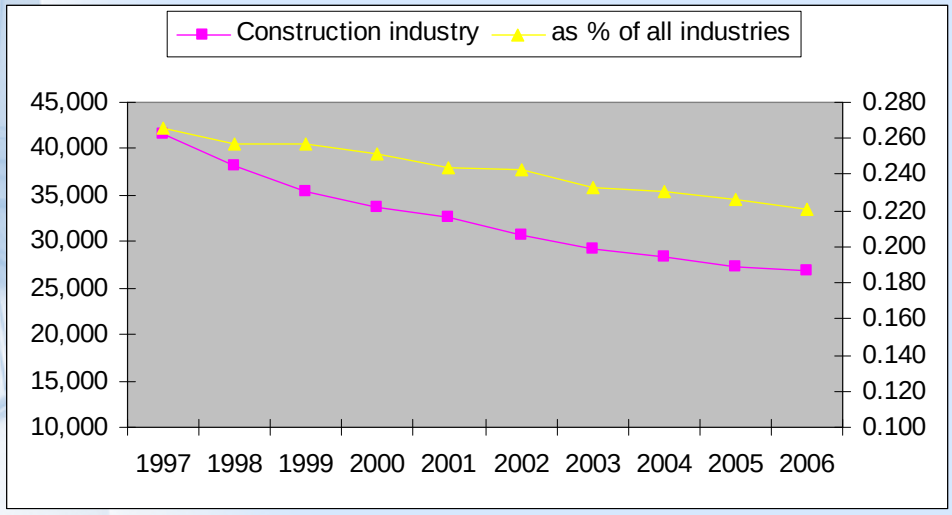
	1997	1998	1999	2000	2001
Construction industry	41,688	38,117	35,310	33,599	32,608
	(0.266)	(0.257)	(0.257)	(0.251)	(0.244)
All industries	156,726	148,248	137,316	133,948	133,598

	2002	2003	2004	2005	2006
Construction industry	30,650	29,263	28,414	27,193	26,872
	(0.243)	(0.233)	(0.231)	(0.226)	(0.221)
All industries	125,918	125,750	122,804	120,354	121,378

Figures in brackets -
Ratio of no. of construction accidents to no. of accidents in all industries

Source: Statistics of occupational accidents in the construction industry 2007, Japan Construction Occupational Safety and Health Association (www.kensaibou.or.jp)

Japan
Accident rates 1997 - 2006



Japan
Frequency of accidents per million working hours 1997 - 2006

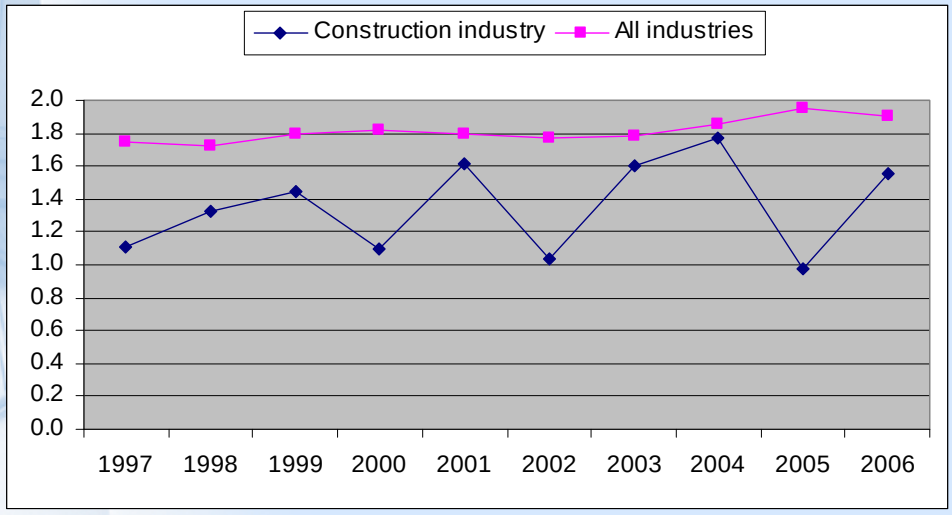
Frequency of accidents

- No. of workers killed or injured by accidents per million working hours
- Dividing the no. of casualties (multiplied by 1,000,000) in accidents by the total no. of working hours of all workers

	97	98	99	00	01	02	03	04	05	06
Construction industry	1.11	1.32	1.44	1.1	1.61	1.04	1.6	1.77	0.97	1.55
All industries	1.75	1.72	1.8	1.82	1.79	1.77	1.78	1.85	1.95	1.9

Source: Statistics of occupational accidents in the construction industry 2007, Japan Construction Occupational Safety and Health Association (www.kensaibou.or.jp)

Japan
Frequency of accidents per million working hours 1997 - 2006



Japan
Degree of disability and lost working days

Serious accidents

- Those involving death, injury or disease affecting 3 or more workers

Degree of disability	1-3	4	5	6	7	8
Lost working days	7,500	5,500	4,000	3,000	2,200	1,500

Degree of disability	9	10	11	12	13	14
Lost working days	1,000	600	400	200	100	50

Source: Statistics of occupational accidents in the construction industry 2007, Japan Construction Occupational Safety and Health Association (www.kensaibou.or.jp)

Lost working days for death cases = 7,500 days

For cases involving no disability

- Working days lost = No. of days absent from work x (300/365)

Japan
Severity rates of accidents 1997 - 2006

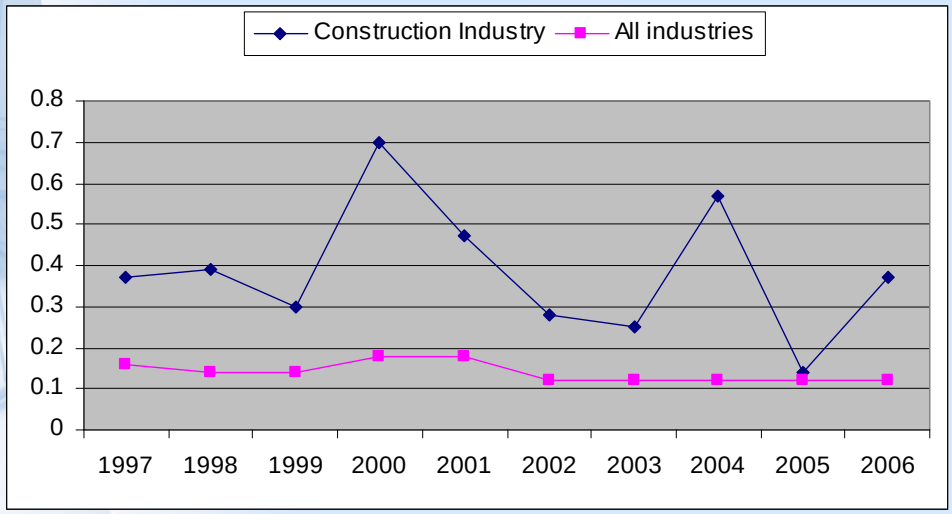
Severity rate

- No. of lost working days per 1,000 working hours
- Dividing the no. of lost working days (multiplied by 1,000) by the total no. of working hours of all workers

	97	98	99	00	01	02	03	04	05	06
Construction Industry	0.37	0.39	0.3	0.7	0.47	0.28	0.25	0.57	0.14	0.37
All industries	0.16	0.14	0.14	0.18	0.18	0.12	0.12	0.12	0.12	0.12

Source: Statistics of occupational accidents in the construction industry 2007, Japan Construction Occupational Safety and Health Association (www.kensaibou.or.jp)

Japan
Severity rates of accidents 1997 - 2006



Japan
Construction accidents and deaths 1997 - 2006

	1997	1998	1999	2000	2001
No. of labour accidents	41,688	38,117	35,310	33,599	32,608
No. of deaths	848	725	794	731	644
No. of workers (10,000)	563	548	544	533*	526*
No. of accidents per 1,000 workers	6.7	6.3	6.5	6.3	6.2
Accidents per million working hours	1.11	1.32	1.44	1.1	1.61
No. of deaths per 10,000 workers	1.5	1.3	1.5	1.8	1.9

* estimates

Source: Statistics of occupational accidents in the construction industry 2007, Japan Construction Occupational Safety and Health Association (www.kensaibou.or.jp)

Japan
Construction accidents and deaths 1997 - 2006

	2002	2003	2004	2005	2006
No. of labour accidents	30,650	29,263	28,414	27,193	26,872
No. of deaths	607	548	594	497	508
No. of workers (10,000)	503*	488*	498*	n/a	n/a
No. of accidents per 1,000 workers	6.1	6	6	5.8	n/a
Accidents per million working hours	1.04	1.61	n/a	n/a	n/a
No. of deaths per 10,000 workers	1.8	1.5	1.3	n/a	n/a

n/a not available
* estimates
Source: Statistics of occupational accidents in the construction industry 2007, Japan Construction Occupational Safety and Health Association (www.kensaibou.or.jp)

Japan
Categorization of construction accident deaths 1997, 2003 and 2006

	Number in 1997	Rank In 1997	Number in 2003	Rank In 2003	Number in 2006	Rank In 2006
Fall from height	359 (42.3 %)	1	236 (43.1%)	1	190 (37.4%)	1
Construction machinery, etc.	127 (15.0 %)	2	76 (13.9%)	2	70 (13.8%)	2
Automobiles, etc.	117 (13.8 %)	3	75 (13.7%)	3	67 (13.2%)	3
Flying and falling objects	56 (6.6 %)	4	26 (4.7%)	6	35 (6.9%)	4
Collapsing of soil	35 (4.1%)	5	32(5.8%)	4	20(3.9%)	6
Construction of temporary works and facilities	30 (3.5 %)	6	31 (5.7%)	5	30 (5.9%)	5
Electricity	26 (3.1 %)	7	4 (0.7%)	7	4 (0.8%)	7
Others	97 (11.4%)		68 (12.4%)		90 (17.7%)	
Total	848 (100%)		548 (100%)		508 (100%)	
No. of deaths per 10,000 employees/ workers	1.5		1.5		n/a	

Source: Statistics of occupational accidents in the construction industry 2007, Japan Construction Occupational Safety and Health Association (www.kensaibou.or.jp)

South Korea

- No. of construction workers about 2.1 million in 2005
- 15,918 accidents and 609 fatalities
- Representing 18.6% of accidents and 24.4% of fatalities of all industries
- Accident –
  Which causes an injury to a worker who requires more than 3 days absence from work

South Korea
Construction accidents and deaths 1996 – 2005

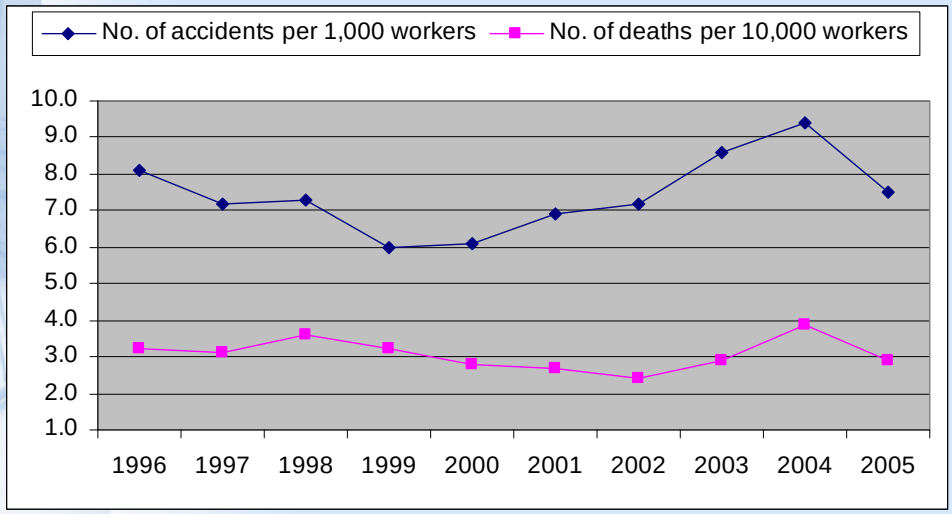
	1996	1997	1998	1999	2000
No. of labour accidents	19,762	18,291	13,172	10,955	13,359*
No. of deaths	789	798	650	583	614
No. of workers (10,000)	245	254	179	181	219*
No. of accidents per 1,000 workers	8.1	7.2	7.3	6	6.1
No. of deaths per 10,000 workers	3.2	3.1	3.6	3.2	2.8

	2001	2002	2003	2004	2005
No. of labour accidents	16,771	19,925	22,680	18,896	15,918
No. of deaths	659	667	762	779	609
No. of workers (10,000)	244	277	263	201	213
No. of accidents per 1,000 workers	6.9	7.2	8.6	9.4	7.5
No. of deaths per 10,000 workers	2.7	2.4	2.9	3.9	2.9

* estimates

Sources: Statistics on industrial accidents and occupational diseases, Korea Occupational Safety and Health Agency (www.kosha.or.kr); Lee, 2000; Lee, 2005; Jung, 2005; Kim, 2003

South Korea
Construction accidents and deaths 1996 – 2005



South Korea
Categorization of construction accident victims and deaths 2003

	Accidents in 2003	Rank	Deaths in 2003	Rank
Fall from height	7,117 (31.4 %)	1	386 (50.6%)	1
Turnover	3,928 (17.3 %)	2	20 (2.6%)	5
Falling and flying objects	3,421 (15.1 %)	3	48 (6.3%)	3
Caught in	2,597 (11.5 %)	4	16 (2.1%)	6
Collision	2,506 (11.0 %)	5	13 (1.7%)	7
Collapse and destruction	442 (1.9 %)	6	47 (6.2%)	4
Occupational disease	398 (1.7%)	7	124 (16.3%)	2
Electric shock	291 (1.3%)	8	47 (6.2%)	4
Others	1,981 (8.8%)		61 (8.0%)	
Total	22,680 (100%)		762 (100%)	
No. of accidents per 1,000 workers/No. of deaths per 10,000 workers	8.6		2.9	

Source: Lee (2005)

Singapore

- About 254,500 construction workers in 2006, 10% of the nation's labour force
- 2,415 persons injured or killed
- Accident –
  Which causes loss of life to a person, or disables a person from work for more than 3 days, or causes an injury to a person resulting in the person being detained in a hospital for at least 24 hours for observation or treatment

Singapore
Accident frequency rates per million manhours 1997 – 2006

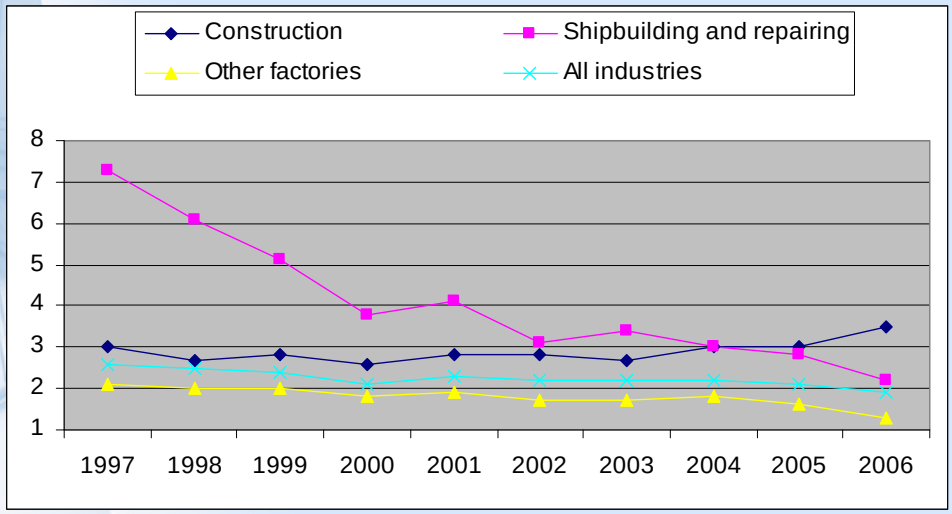
Frequency rate

- Dividing the total no. of accidents (multiplied by 1,000,000) by the total no. of manhours worked

	97	98	99	00	01	02	03	04	05	06
Construction	3	2.7	2.8	2.6	2.8	2.8	2.7	3	3	3.5
Shipbuilding and repairing	7.3	6.1	5.1	3.8	4.1	3.1	3.4	3	2.8	2.2
Other factories	2.1	2	2	1.8	1.9	1.7	1.7	1.8	1.6	1.3
All industries	2.6	2.5	2.4	2.1	2.3	2.2	2.2	2.2	2.1	1.9

Source: Annual Report 2006, Occupational Safety and Health Division, Ministry of Manpower, Singapore (www.mom.gov.sg).

Singapore
Accident frequency rates per million manhours 1997 – 2006



Singapore
Severity rates 1997 – 2006

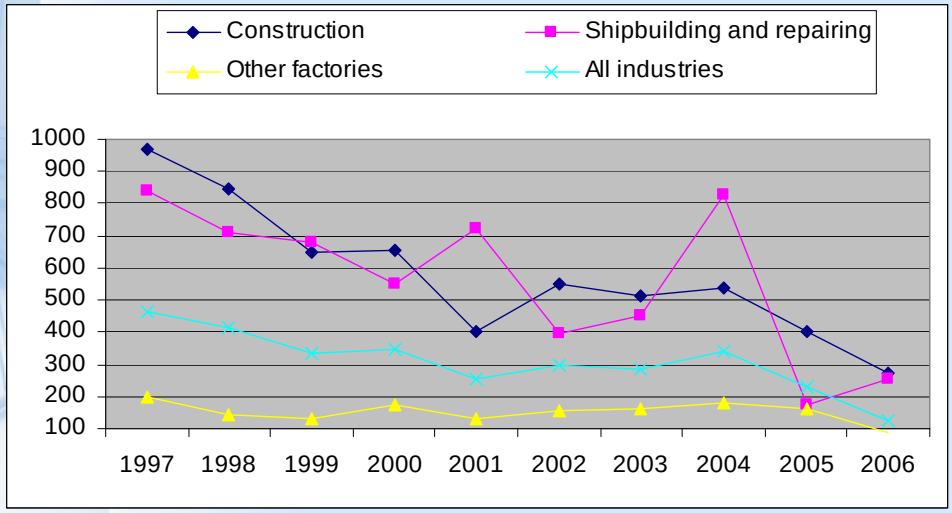
Severity rate

- Dividing the total mandays lost (multiplied by 1,000,000) by the total no. of manhours worked

	97	98	99	00	01	02	03	04	05	06
Construction	968	846	647	654	405	553	510	536	403	272
Shipbuilding and repairing	840	708	680	552	724	394	454	830	175	257
Other factories	196	141	131	176	129	156	163	183	161	86
All industries	466	416	337	349	256	299	288	340	227	125

Source: Annual Report 2006, Occupational Safety and Health Division, Ministry of Manpower, Singapore (www.mom.gov.sg).

Singapore
Severity rates 1997 – 2006



Singapore
Categorization of construction accidents 1997 - 2006

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006*
Temporary disablement	1,417	1,414	1,412	1,309	1,404	1,273	1,133	1,173	1,258	2,364
Permanent disablement	49	51	44	37	24	26	29	19	20	27
Fatal cases	72	67	48	49	27	38	31	24	22	24
Fatal no.	72	73	51	52	28	39	32	30	24	24
Total	1,538	1,532	1,504	1,395	1,455	1,337	1,193	1,216	1,300	2,415

* The figures are victim-based.
Source: Annual Report 2006, Occupational Safety and Health Division, Ministry of Manpower, Singapore (www.mom.gov.sg)

Singapore
Construction accidents and deaths 1997 – 2006

	1997	1998	1999	2000	2001
No. of labour accidents	1,538	1,532	1,504	1,395	1,455
No. of deaths/death cases	72/72	73/67	51/48	52/49	28/27
No. of workers (10,000)	21.4	21.3	19.7	20	18.4
Accidents per 1,000 workers	7.2	7.2	7.6	7	7.9
Accidents per million working hours	3	2.7	2.8	2.6	2.8
No. of deaths/death cases per 10,000 workers	3.4/3.4	3.4/3.1	2.6/2.4	2.6/2.5	1.5/1.5

	2002	2003	2004	2005	2006
No. of labour accidents	1,337	1,193	1,216	1,300	2,415*
No. of deaths/death cases	39/38	32/31	30/24	24/22	24/24
No. of workers (10,000)	17.2	15.6	14.8	18.4	25.5
Accidents per 1,000 workers	7.8	7.6	8.2	7.1	9.5*
Accidents per million working hours	2.8	2.7	3	3	3.5
No. of deaths/death cases per 10,000 workers	2.3/2.2	2.1/2	2.0/1.6	1.3/1.2	0.9/0.9

* The figures are victim-based.

Source: Annual Report 2006, Occupational Safety and Health Division, Ministry of Manpower, Singapore (www.mom.gov.sg).

Singapore
Categorization of construction accident deaths 1998 and 2006

	Number in 1998	Rank in 1998	Number in 2006	Rank in 2006
Fall from height	34 (50.7 %)	1	15 (62.5%)	1
Struck by falling objects	14 (20.9 %)	2	5 (20.8%)	2
Step on/strike against object	9 (13.4 %)	3	1 (4.2%)	4
Electrocution	4 (6.0 %)	4	-	-
Caught in or between objects	-	-	2 (8.3%)	3
Others	6 (9.0%)	-	1 (4.2%)	-
Total	67 (100%)		24 (100%)	
Deaths per 10,000 workers	3.4		0.9	

Source: Annual Report 2006, Occupational Safety and Health Division, Ministry of Manpower, Singapore, (www.mom.gov.sg).

Taiwan

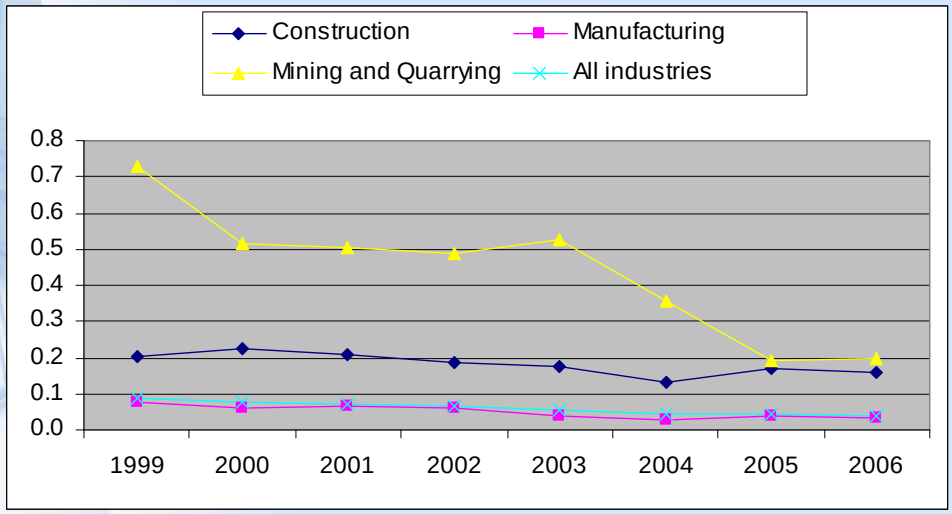
- Around 830,000 construction workers in 2006, about 8% of the total workforce
- Fatality and accident rates about 3 times of those for all industries
- Occupational injury refers to a labour involved in disease, injury, disability or death caused by the building, facility, raw materials, chemicals, steam, dust at the work place or other work activities and other occupational factors.

Taiwan
Fatality rates per 1,000 workers 1999 – 2006

	1999	2000	2001	2002	2003	2004	2005	2006
Construction	0.203	0.223	0.21	0.188	0.175	0.131	0.172	0.161
Manufacturing	0.078	0.063	0.067	0.059	0.041	0.03	0.038	0.035
Mining and Quarrying	0.729	0.517	-	0.489	0.524	0.356	0.19	0.198
All industries	0.085	0.077	0.069	0.065	0.055	0.044	0.045	0.038

Source: Statistics of occupational injuries, Industrial Safety and Health Association of Taiwan (www.isha.org.tw)

Taiwan
Fatality rates per 1,000 workers 1999 – 2006



Taiwan
Rates of injury, disability and death per 1,000 workers 1999 – 2006

	1999	2000	2001	2002	2003	2004	2005	2006
Injury or illness	10.33	12.14	12.3	11.79	12.13	12.57	12.03	12.51
Disability	0.96	1.03	1.07	1.02	0.84	0.81	0.77	0.72
Death	0.2	0.22	0.21	0.19	0.18	0.13	0.17	0.16
Total in construction	11.5	13.4	13.6	13	13.1	13.5	13	13.4
Total for all industries	4.4	5	4.9	4.7	4.6	4.6	4.4	4.5

Source: Statistics of occupational injuries, Industrial Safety and Health Association of Taiwan (www.isha.org.tw)

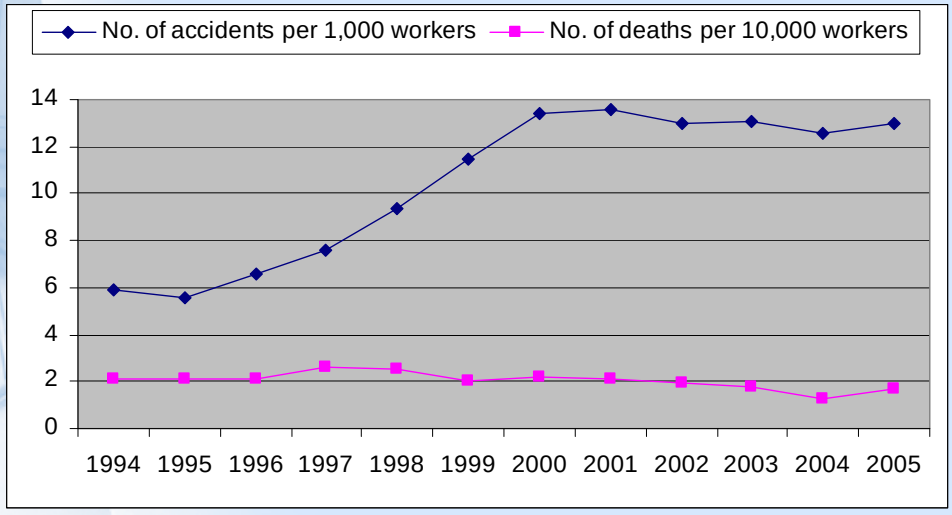
Taiwan
Construction accidents and deaths 1994 – 2005

	1994	1995	1996	1997	1998	1999
No. of labour accidents	5,230*	4,734	4,962	5,531	6,750	8,257
No. of deaths	186	176	160	188	183	146
No. of site workers (10,000)	88.66	84.54	75.66	72.47	72.08	71.08
No. of accidents per 1,000 workers (injury + disability + death)	5.9	5.6	6.6	7.6	9.4	11.5
No. of deaths per 10,000 workers	2.1	2.1	2.1	2.6	2.5	2

	2000	2001	2002	2003	2004	2005
No. of labour accidents	n/a	n/a	n/a	n/a	n/a	n/a
No. of deaths	n/a	n/a	n/a	n/a	n/a	n/a
No. of site workers (10,000)	n/a	n/a	n/a	n/a	72*	n/a
No. of accidents per 1,000 workers (injury + disability + death)	13.4	13.6	13	13.1	12.6	13
No. of deaths per 10,000 workers	2.2	2.1	1.9	1.8	1.3	1.7

* estimate
n/a not available
Source: Statistics of occupational injuries, Industrial Safety and Health Association of Taiwan (www.isha.org.tw)

Taiwan
Construction accidents and deaths 1994 – 2005



Taiwan
Categorization of construction accident deaths 1998 and 1999

	Deaths in 1998	Rank in 1998	Deaths in 1999	Rank in 1999
Fall from height	65 (34.5 %)	1	54 (37.2%)	1
Electrical accident	33 (17.4 %)	2	18 (12.4%)	2
Collapsing, cave-in	17 (9.0 %)	3	11 (9.4%)	3
Flying and falling objects	16 (8.5 %)	4	3 (6.3%)	4
Crashed	14 (7.4%)	5	12 (3.7%)	6
Tumble	4 (2.1 %)	6	4 (4.7%)	5
Others	39 (20.7%)	-	44 (30.1%)	-
Total	188 (100%)		146 (100%)	
Death rates per 10,000 workers	2.5		2	

Source: Yu, 2000

Hong Kong

- Around 52,900 construction workers in 2006, compared to the peak of 81,000 in 1997
- Accident rate of 64 per 1,000 workers
- Accounting for 20% of all industrial accidents
- 62% of all fatal accidents happened on construction sites
- Accident –

  Which results in death, serious bodily injury or incapacity for a period exceeding 3 days immediately following the accident of a person

Hong Kong
Accident rates per 1,000 workers on public/private sector sites

Accident rate per 1,000 workers

- Dividing the no. of all construction accidents (multiplied by 1,000) by the total no. of manual workers at construction sites

	2000	2001	2002	2003	2004
Public sector sites	81.7	68.9	53.6	40.4	29.4
Private sector sites	233.7	154	107.5	89	83.7

Source: Cheung, 2005

Hong Kong
Construction accidents and deaths 1998 – 2007

	1998	1999	2000	2001	2002
No. of labour accidents	19,588	14,078	11,925	9,206	6,239
No. of deaths	56	47	29	28	24
No. of workers on sites (10,000)	7.9	7.09	7.96	8.03	7.32
No. of accidents per 1,000 construction workers	247.9	198.4	149.8	114.6	85.2
No. of accidents per 1,000 workers of all industries	64.7	55.1	51.7	44.6	37.4
No. of deaths per 10,000 construction workers	7.1	6.6	3.6	3.5	3.3
No. of deaths per 10,000 workers of all industries	1.02	0.8	0.66	0.53	0.42

Source: Occupational safety and health statistics 2006 and 2007, Occupational Safety and Health Branch, Labour Department (www.labour.gov.hk); Cheung, 2005

Hong Kong
Construction accidents and deaths 1998 – 2007

	2003	2004	2005	2006	2007
No. of labour accidents	4,367	3,833	3,548	3,400	3,042
No. of deaths	25	17	25	16	19
No. of workers on sites (10,000)	6.41	6.35	5.93	5.29	5.02*
No. of accidents per 1,000 construction workers	68.1	60.3	59.9	64.3	60.6
No. of accidents per 1,000 workers of all industries	31.3	31.5	30.6	31.5	29.3
No. of deaths per 10,000 construction workers	3.9	2.7	4.2	3	3.8*
No. of deaths per 10,000 workers of all industries	0.51	0.43	0.53	0.47	0.46*

* estimates

Source: Occupational safety and health statistics 2006 and 2007, Occupational Safety and Health Branch, Labour Department (www.labour.gov.hk); Cheung, 2005

Hong Kong
Safety measures and year of implementation

Year of implementation (Accumulated No.)	Abbreviation	Safety Measures
1991 (1)	PASS1	Performance Assessment Scoring System
1994 (4)	PFSS	Pay for Safety Scheme
1994 (4)	PASS2	Performance Assessment Scoring System
1994 (4)	SP	Safety Plan
1995 (5)	CPOSR	Consulting Paper on Self-Regulatory SMS
1996 (6)	GCS	Green Card Scheme: Mandatory Safety Training Programme
1997 (9)	CSR	Construction Sites (Safety) Regulations
1997 (9)	FIUR1	Factories & Industrial Undertakings Regulations
1997 (9)	OSHO	Occupational Safety & Health Ordinance Cap 509
1998 (12)	CSSMH	Construction Site Safety Manual & Handbook
1998 (12)	SSPS	Site Supervision Plan System
1998 (12)	OSHR	Occupational Safety & Health Regulation

Hong Kong
Safety measures and year of implementation

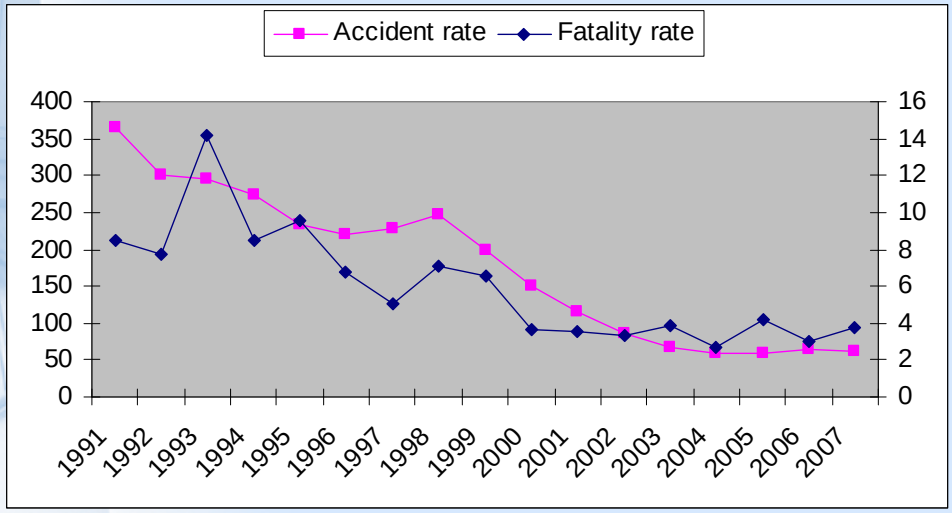
Year of implementation (Accumulated No.)	Abbreviation	Safety Measures
1999 (13)	FIUO2	Factories & Industrial Undertakings (Amendment) Ordinance
2000 (16)	PASS3	Performance Assessment Scoring System (Revised to include PFSS Provision)
2000 (16)	CPIS	Contractor Performance Index System (The scorecard system)
2000 (16)	CPSSS	Code of Practice for Site Safety Supervision
2001 (17)	ASTS	Automatic Suspension from Tendering System
2002 (20)	SSC	Site Safety Cycle
2002 (20)	FIUR2	Factories & Industrial Undertakings (Safety Management) Regulation
2002 (20)	CPOSM	Code of Practice on Safety Management
2003 (21)	CSR	Construction Sites (Safety) (Amendment) Regulation

Hong Kong
Accident (per 1,000) and fatality (per 10,000) rates

	91	92	93	94	95	96	97	98
Accident rate	364	302	295	275	233	220	227	248
Fatality rate	8.5	7.7	14.2	8.5	9.6	6.8	5	7.1

	99	00	01	02	03	04	05	06	07
Accident rate	198	150	115	85	68	60	60	64	61
Fatality rate	6.6	3.6	3.5	3.3	3.9	2.7	4.2	3	3.8

Hong Kong
Accident and fatality rates since 1991



Hong Kong
Categorization of construction accident deaths 2004, 2005 and 2006

	Deaths in 2004	Rank in 2004	Deaths in 2005	Rank In 2005	Deaths in 2006	Rank In 2006
Fall from height	8 (47%)	1	14 (56%)	1	9 (56%)	1
Struck by falling objects	3 (18%)	2	-	-	1 (6%)	3
Contact with electricity or harmful substances	1 (6%)	4	2 (8%)	4	-	-
Striking against or struck by objects or moving vehicles	3 (18%)	2	6 (24%)	2	1 (6%)	3
Trapped by collapsing objects	1 (6%)	4	3 (12%)	3	1 (6%)	3
Trapped in/between objects	1 (6%)	4	-	-	1 (6%)	3
Asphyxiation	-	-	-	-	3 (19%)	2
Total	17 (100%)		25 (100%)		16 (100%)	

Source: Occupational safety and health statistics 2006, Occupational Safety and Health Branch, Labour Department (www.labour.gov.hk)

UK

- 1.3 million employees and 0.8 million self-employed workers in construction (total 2.1 million workers) in 2006/07
- For all industries, 26.4 million employees and 3.9 million self-employed workers
- Major injuries –
  Specified serious injuries and other injuries leading to resuscitation or 24-hour admittance to hospital
- Over 3-day injuries -
  Other injuries that lead to absence from work, or inability to do the usual jobs for over 3 days

UK
Accident and death rates 1997/98 - 2006/07

	97/98	98/99	99/00	00/01	01/02
Major injuries (M) per 1,000 employees	3.82	4.03	3.96	3.81	3.56
Over-3-day injuries (O) per 1,000 employees	9.66	8.63	9.17	8.29	7.99
M + O injuries per 1,000 employees	13.5	12.7	13.1	12.1	11.6
M + O injuries per 1,000 self-employed workers	n/a	n/a	n/a	n/a	n/a
M + O injuries per 1,000 workers (employees + self employed workers)	8.5	8.3	8.8	8.2	7.9
Deaths per 10,000 employees	0.57	0.44	0.55	0.65	0.53
Deaths per 10,000 self-employed workers	0.31	0.28	0.32	0.5	0.3

n/a not available

Source: Health and safety statistics 2006/07, Health and Safety Executive, UK (www.hse.gov.uk)

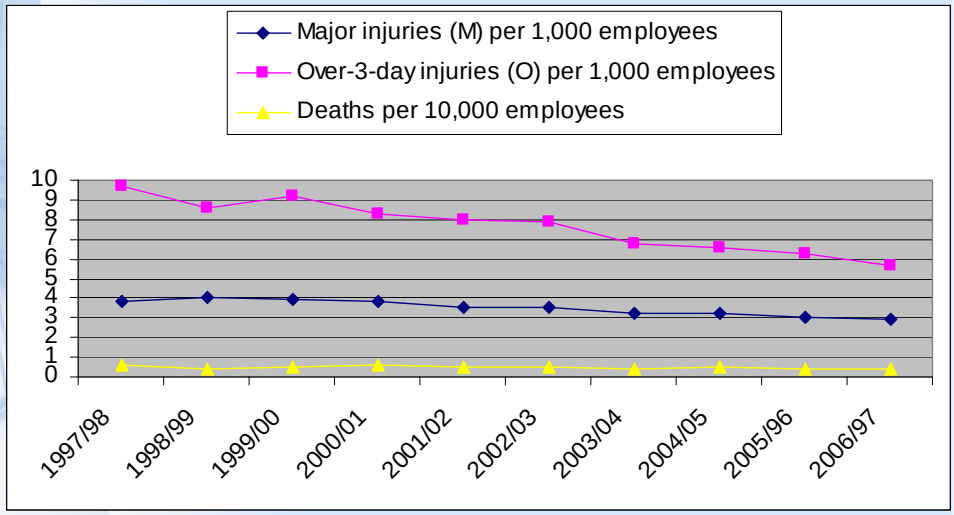
UK
Accident and death rates
1997/98 - 2006/07

	02/03	03/04	04/05	05/06	06/07
Major injuries (M) per 1,000 employees	3.55	3.28	3.27	3.08	2.95
Over-3-day injuries (O) per 1,000 employees	7.88	6.8	6.54	6.28	5.66
M + O injuries per 1,000 employees	11.4	10.1	9.8	9.4	8.6
M + O injuries per 1,000 self-employed workers	1.9	1.9	1.8	2	1.8
M + O injuries per 1,000 workers (employees + self employed workers)	7.8	n/a	n/a	6.4	5.9
Deaths per 10,000 employees	0.49	0.43	0.48	0.36	0.4
Deaths per 10,000 self-employed workers	0.2	0.25	0.17	0.21	0.33

n/a not available

Source: Health and safety statistics 2006/07, Health and Safety Executive, UK (www.hse.gov.uk)

UK
Accident and death rates
1997/98 - 2006/07



UK
Categorization of construction accident deaths 2004/05 and 2006/07

	No. of deaths in 2004/05	Rank in 2004/05	No. of deaths in 2006/07	Rank in 2006/07
Fall from height	28 (38.9%)	1	23 (29.9%)	1
Hit by objects	14 (19.4%)	2	16 (20.8%)	2
Trapped by something collapsing/ overturning	13 (18.1%)	3	8 (10.4%)	4
Hit by moving vehicles	5 (6.9%)	4	6 (7.8%)	5
Contact with electricity or harmful substances	3 (4.2%)	5	12 (15.6%)	3
Slips and trips	2 (2.8%)	6	-	
Handling, lifting and carrying	2 (2.8%))	6	5 (6.5%)	6
Drowning or asphyxiation	-		5 (6.5%)	6
Others	5 (6.9%)		2 (2.6%)	

Source: Statistics of fatal injuries 2006/07, Health and Safety Executive, UK (www.hse.gov.uk)

Summary

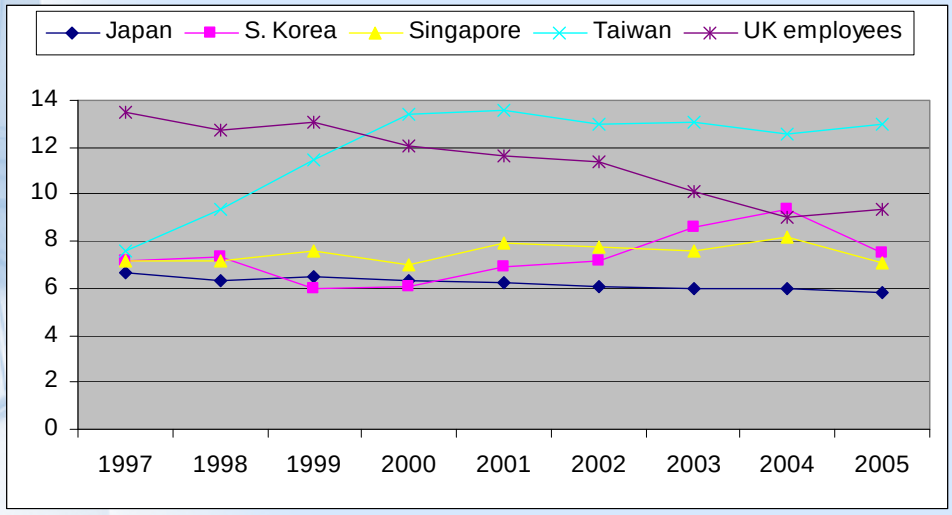
- Accident rates
- Death rates
- Categorization of deaths

No. of accidents per 1,000 employees / workers

	97	98	99	00	01	02	03	04	05	06
Japan	6.7	6.3	6.5	6.3	6.2	6.1	6	6	5.8	n/a
S. Korea	7.2	7.3	6	6.1	6.9	7.2	8.6	9.4	7.5	n/a
Singapore	7.2	7.2	7.6	7	7.9	7.8	7.6	8.2	7.1	n/a
Taiwan	7.6	9.4	11.5	13.4	13.6	13	13.1	12.6	13	n/a
Hong Kong	227.4	247.9	198.4	149.8	114.6	85.2	68.1	60.3	59.9	64.3
UK employees	13.5	12.7	13.1	12.1	11.6	11.4	10.1	9	9.4	8.6
UK workers	8.5	8.3	8.8	8.2	7.9	7.8	n/a	n/a	n/a	n/a

n/a not available

No. of accidents per 1,000 employees (with Hong Kong omitted)



Average no. of accidents per 1,000 workers 1997 - 2006

Average no. of accidents per 1,000 workers	Japan	S. Korea	Singapore	Taiwan	Hong Kong	UK (employees/ Self-employed workers)
1997–2001 (5-year)	6.4	6.7	7.4	11.1	187.6	12.6/8.3
2002-2006 (5-year)	6.0+	8.2+	7.7+	12.9+	67.6	9.7/7.8#
1997–2006 (10-year)	6.2+	7.5+	7.6+	12.0+	127.6+	11.2/8.3#

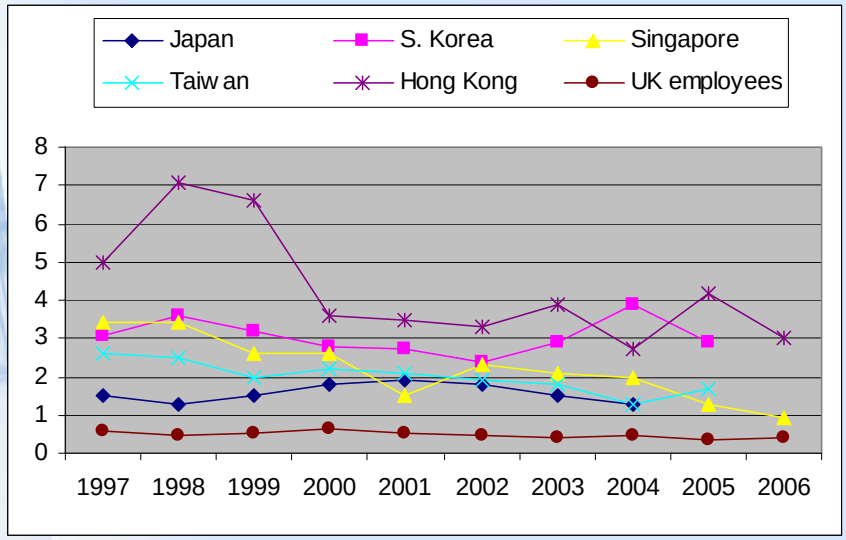
\+ calculation based on data up to 2005
\# based on data in 2002

No. of deaths per 10,000 workers (10,000 employees for UK)

	97	98	99	00	01	02	03	04	05	06
Japan	1.5	1.3	1.5	1.8	1.9	1.8	1.5	1.3	n/a	n/a
S. Korea	3.1	3.6	3.2	2.8	2.7	2.4	2.9	3.9	2.9	n/a
Singapore	3.4	3.4	2.6	2.6	1.5	2.3	2.1	2	1.3	0.9
Taiwan	2.6	2.5	2	2.2	2.1	1.9	1.8	1.3	1.7	n/a
Hong Kong	5	7.1	6.6	3.6	3.5	3.3	3.9	2.7	4.2	3
UK (employees)	0.57	0.44	0.55	0.65	0.53	0.49	0.43	0.48	0.36	0.4

n/a not available

No. of deaths per 10,000 workers (10,000 employees for UK)



Average no. of deaths per 10,000 workers 1997 - 2006

Average no. of deaths per 10,000 workers	Japan	S. Korea	Singapore	Taiwan	Hong Kong	UK (workers)
1997–2001 (5-year)	1.6	3.1	2.7	2.3	5.2	0.47
2002-2006 (5-year)	1.66+	3.0+	1.7+	1.7+	3.4	0.35
1997-2006 (10-year)	1.63+	3.1+	2.2+	2.0+	4.3	0.41

\+ calculation based on data up to 2005

Ranking of construction accident deaths

	Japan (2006)	S. Korea (2003)	Singapore (2006)	Taiwan (1999)	Hong Kong (2005)	UK (2006/07)
1	Fall from height	Fall from height	Fall from height	Fall from height	Fall from height	Fall from height
2	Machinery	Struck by falling objects	Struck by falling objects	Electrocution	Striking against or struck by objects	Hit by objects
3	Automobiles	Electrocution	Caught in or between objects	Collapsing, cave-in	Trapped by collapsing objects	Electrocution
4	Struck by falling objects	Temporary Construction	Step on/strike against object	Struck by falling objects	Contact with electricity	Trapped by collapsing objects

Conclusions

- Japan –
  Best performing country in Asia, with lower accident rates than UK
- Hong Kong –
  Made impressive progress in last 10 years
  Positive link between implementation of safety measures and drop in accident/fatality rates
- Death rate of UK much lower than all Asian figures –
  All Asian figures show a consistent downward trend except South Korea
- Fall from height is the main cause for construction deaths, accounting for 40-50% of all fatal cases

Reference:

Management and Economics of Construction Safety in Hong Kong

By S.W. Poon, S.L. Tang and Francis Wong

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Thank you very much