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Study of Insurance Economics

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World Fire Statistics

Information Bulletin of the World Fire Statistics

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LOOKING BACK A QUARTER OF A CENTURY

Some 25 years ago the WFSC made its first full report to the United Nations, with national fire cost statistics for 13 countries in respect of 1980-81. For the most recent exercise, covering 2003-05 data for 15 countries, 8 of the original participants remained. A comparison of the results registered by these 8 countries between the two periods shows that, on average, there has been a dramatic fall in the percentage to GDP of direct property losses, from 0.28% to 0.16%, and of fire deaths per 100,000 population from 1.88 to 1.34. Related to GDP, costs of fire insurance administration have also fallen steeply, while those of fire fighting organisations and of fire protection to buildings have shown a more mixed picture. Overall, it appears that for these countries – Denmark, Finland, France, Japan, Norway, Sweden, UK and USA - there has in aggregate been a significant and heartening fall in the burden of fire costs over this period. Moreover, it has also been encouraging that the number of countries undertaking detailed analyses of the cost of fire to their economies has over this period expanded from only one, the USA, to six, including Canada, UK, Denmark, New Zealand and Australia..

The Geneva Association

The International Association for the Study of Insurance Economics, or by its short name “The Geneva Association”, is a unique world organisation formed by a maximum of 80 chief executive officers from the most important insurance companies in the world (Europe, North and South America, Asia, Africa and Australia). Our main goal is to research the growing importance of worldwide insurance activities in all sectors of the economy. We try to identify fundamental trends and strategic issues where insurance plays a substantial role or which influence the insurance sector. In parallel, we develop and encourage various initiatives concerning the evolution – in economic and cultural terms – of risk management and the notion of uncertainty in the modern economy.

The Geneva Association also acts as a forum for its members, providing a worldwide unique platform for the top insurance CEOs. We organise the framework for our members in order that they may exchange ideas and discuss key strategic issues, especially at the General Assembly where once per year over 50 of the top insurance CEOs gather. The Geneva Association serves as a catalyst for progress in this unprecedented period of fundamental change in the insurance industry and its growing importance for the further development of the modern economy. It is a non-profit organisation.

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Aims and Activities of the World Fire Statistics Centre

The Centre’s main objective is to persuade governments to adopt strategies aimed at reducing the cost of fire which, although running at around 1% of GDP in most advanced countries, has generally received much less attention than the cost of crime or of road accidents. In pursuit of this objective, the Centre collects from some 20 leading countries statistics on national fire costs (see Contents above), upon which it reports annually to a United Nations Committee.

Apart from undertaking an annual questionnaire enquiry among national correspondents in participating countries, the Centre also makes use of relevant data published by the World Health Organization in respect of its annual causes of death enquiry, in which many of its member countries take part..

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See also: [www.genevaassociation.org/Affiliated Organizations/WFSC.htm](http://www.genevaassociation.org/Affiliated_Organizations/WFSC.htm)

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Information Bulletin of the World Fire Statistic Centre

This information bulletin of the World Statistics Centre appears annually. It presents statistics on national fire costs from around 20 leading countries in an effort to persuade governments to adopt strategies aimed at reducing the cost of fire. It has been published since March 1984.

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I. EDITORIAL: Looking Back a Quarter of a Century

Some 25 years have now passed since the presentation of the Centre's first full report to the United Nations (at that time, to the Working Party on Building of the UNECE's Committee on Housing, Building and Planning) and it may be instructive to examine what progress has been made over that period.

For that first report 13 countries submitted returns in respect of national fire cost statistics for 1980-81, as against 15 countries taking part in the latest survey, in respect of 2003-05 data (with several others submitting limited data). In the intervening period a number of countries have left the scheme, and others have joined. Nevertheless, a core of eight countries* have taken part on both occasions, and a comparison of their results in the latest period against those in the earlier one may be indicative of some more general long-term trends.

Looking first at two of the most important forms of fire loss, direct property losses and fire deaths, we find that (using unweighted averages):

- the mean direct loss fell from 0.28% of gross domestic product (GDP) to 0.16%, with all eight countries registering a decline, and
- the mean fire death count per 100,000 population fell from 1.88 to 1.34, with six countries registering a decline, one little change, and one an increase.

It may also be worth noting that in both cases the countries with the highest ratios in the earlier period were generally able to achieve larger proportionate reductions than were their counterparts whose ratios were already relatively low and, in the case of fire deaths, in a few instances to overtake them.

For the purposes of the WFSC exercise, the main costs borne in anticipation of fire comprise expenditure on fire protection measures for buildings and other structures, and the cost of fire insurance administration. An examination of these two items shows that, in relation to GDP:

- the mean fire protection costs for buildings, etc rose from of 0.22% to 0.28%, with costs increasing for all but two of the countries concerned, while
- the mean fire insurance administration cost fell from 0.13% to 0.08%, with every country covered registering a decline.

Finally, for the main type of cost incurred in consequence of fire, the expenses of fire fighting organisations, the WFSC exercise shows a mixed picture. The average of costs in relation to GDP shows a decrease from 0.21% to 0.19%, with three counties recording a significant decline, one a moderate increase, and the remainder little change.

Overall, it looks as if every participating country has been able, in varying degrees, to reduce its national fire costs in relation to GDP (or population, for fire deaths).

Besides the WFSC initiative, the period under study has shown a gradually widening effort by individual countries to measure their own national fire costs. The first tentative steps in this direction had been taken in the report *America Burning* (1973), and this was followed by a series of annual reports entitled *The Total Cost of Fire in the United States*, produced from the early 1980s in increasingly developed form by the National Fire Protection Association. Next came a thorough study by TriData Corp. for the National Research Council of Canada, *The Total Cost of Fire in Canada* (1994) and a series of reports on the cost of fire in England and Wales produced between 1997 and 2006, initially for the UK Home Office and then for its successor Government Departments, most recently the Department for Communities & Local Government. Most recently have come *The Socio-Economic Costs of Fire in Denmark* (Danish Emergency Management Association, 2001), *The Cost of Managing the Fire Risk in New Zealand* (BERL, 2005) and *Total Cost of Fire in Australia* (B.S.W. Ashe et al., 2008).

And what of progress towards one of the Centre's main objectives, the adoption by governments of coherent national fire strategies, for which a blueprint was outlined in *America Burning*? News of developments on this front is very limited, but signs of progress occur from time to time in various countries, not least in the UK, where the increasing transfer of Fire Service resources from fire fighting to fire prevention is already bearing substantial fruit.

* Denmark, Finland, France, Japan, Norway, Sweden, UK and USA.

United Nations Fire Statistics Study

The Centre presented its annual report to the UN Committee on Housing and Land Management at the meeting in Geneva in September 2008.

The following eight tables of international fire cost comparisons are based on those which appeared in the report:

II. COST OF DIRECT FIRE LOSSES – Table 1**Table 1**

Adjusted direct losses (in millions, except for Japan - billions)

Country	Currency	2003 Direct Losses	2004 Direct Losses	2005 Direct Losses	Percentage of GDP 2003-05
Czech Republic	CzKr	2,050	1,900	1,850	0.07
Poland	Zl	650	650	645	0.07
Singapore	\$S	135	120	135	0.07
Slovenia	SIT	2,500	4,250		0.07 (2002-04)
United States	\$US	13,000	10,500	11,500	0.10
Japan	Yen	465	520	615	0.11
New Zealand	\$NZ		165		0.11 (2004)
Hungary	Ft				0.12 (1986-88)
Spain	Pta				0.12 (1984)
United Kingdom	£	1,550	1,300	1,900	0.13
Germany	€	3,650	2,900	3,000	0.14
Finland	€	245	235	225	0.15
Sweden	SKr	4,050	4,050	4,750	0.16
Canada	\$Can				0.17 (1999-2001)
Italy	€	2,550	2,050	2,350	0.17
Denmark	DKr	2,600	3,000	2,150	0.18
Netherlands	F				0.18 (1995-96)
France	€	3,350	3,050	3,350	0.20
Norway	NKr	4,300	3,550	3,850	0.22
Switzerland	SwF				0.23 (1989)
Belgium	€				0.24 (1998-2000)
Austria	Sch				0.26 (1998-2000)

Note : Fire losses include explosion losses following fires, but exclude explosion loss where no fire occurs, for example, some acts of terrorism

III. COST OF INDIRECT FIRE LOSSES – Table 2**Table 2**

Average percentage of GDP (2003-05)

Country	%
Norway	0.002
Czech Republic	0.005 [2000-02]
Sweden	0.005
USA	0.006
New Zealand	0.007 [2004]
Finland	0.009
UK	0.009
France	0.012
Germany	0.013
Italy	0.014 [1993-94]
Austria	0.016 [1998-2000]
Japan	0.016 [1985-86]
Slovenia	0.021 [2002-04]
Canada	0.022 [1991]
Netherlands	0.027 [1995-96]
Denmark	0.029 [1993-95]
Hungary	0.029 [1992-93]
Switzerland	0.095 [1989]

Note: This table must be regarded with serious reservations - the figures are produced on widely varying bases and some of the differences look too large for credibility.

IV. FIRE DEATHS – Tables 3 & 4**Table 3**

Country	Adjusted figures (fire deaths)		
	2003	2004	2005
Singapore	0	10	5
Switzerland	35	40	35
Austria	45	50	45
Spain	280	275	280
Australia	135	110	140
Italy	270		
Germany	545	560	605
New Zealand	40	30	30
UK	625	535	515
Ireland	40	40	50
France	645	585	660
Slovenia	25	20	20
Sweden	140	70	90
Norway	55	55	65
Greece	150	145	140
Czech Republic	150	130	145
Poland	525	485	590
USA	4,300	4,250	4,000
Denmark	90	85	85
Japan	2,300	2,050	2,250
Finland	105	110	85
Hungary	210	195	195

Population Comparisons for Fire Deaths (2003-05)**Table 4**

Deaths per 100,000 persons

Country	Deaths per 100,000 persons
Singapore	0.12
Switzerland †	0.50
Austria	0.57
Spain	0.65
Australia	0.66
Italy	0.68 (2001-03)
Netherlands	0.68 (1994-96)
Germany	0.71
New Zealand	0.82
UK	0.93
France	1.04
Ireland	1.07
Slovenia	1.09 (2002-04)
Sweden	1.11
Canada	1.15 (2000-02)
Norway	1.27
Greece	1.31
Belgium	1.35 (1995-97)
Czech Republic	1.39
Poland	1.39
USA	1.41
Denmark	1.60
Japan	1.72
Finland	1.91
Hungary	1.98

† Excluding firefighter deaths; deaths in buildings only.

Note: Population figures used are derived from the United Nations Population website..**V. COST OF FIRE FIGHTING ORGANISATIONS – Table 5****Table 5**

Average percentage of GDP (2003.-05)

Country	%
Singapore	0.04
Slovenia	0.05 (2002-04)
Denmark	0.08
Austria	0.11 (1994)
Norway	0.11
Belgium	0.14 (1998-2000)
Netherlands	0.15 (1994-96)
Sweden	0.15
New Zealand	0.16
Poland	0.18
UK	0.21
Finland	0.22
USA	0.25
Japan	0.33
Canada	0.35 (1991)

Note: The low Danish cost is largely due to the private company, Falck, which runs many fire brigades, together with ambulance, rescue and motor breakdown services.

VI. COST OF FIRE INSURANCE ADMINISTRATION – Table 6**Table 6**

Average percentage of GDP (2003-05)

Country	%
Hungary	0.01 (1987-88)
Finland	0.03
Singapore	0.03
Netherlands	0.04 (1987-88)
Italy	0.05
Spain	0.05 (1986)
Sweden	0.05
Canada	0.06 (1991)
Germany	0.06
Slovenia	0.06 (2002-04)
Denmark	0.07
France	0.08
New Zealand	0.08 (2004)
Japan	0.09
Norway	0.10
UK	0.10
USA	0.13
Austria	0.14 (1979-80)
Belgium	0.23 (1999-2000)

VII. COST OF FIRE PROTECTION TO BUILDINGS – Tables 7 & 8**Table 7**

Estimated Cost of Fire Protection to Buildings

Country	Fire Protection‡ (%)	Currency	Cost in millions (except for Japan – billions)		
			2003	2004	2005
Australia		\$A			3,600
Canada	3.9	\$C	3,450	3,900	4,050
Czech Republic	3.0	CzKr	4,750	5,150	5,300
Denmark	5.0	DKr	7,150	8,000	
France	2.5	€	2,450	2,650	2,900
Italy	4.0	€	5,500	5,850	6,150
Japan	2.5	Yen	715	745	745
New Zealand	2.5	\$NZ	240	285	310
Norway	3.5	NKr	5,650	6,250	7,050
Singapore	4.0	\$S	400	400	450
Slovenia	2.5	SIT	9,350	11,000	
Sweden	2.5	SKr	4,100	4,400	4,850
UK	2.5	£	2,350	2,550	2,700
USA		\$US	37,500	41,500	46,000

‡ Estimated cost of building fire protection in relation to total national cost of building and construction.

Note: In the United Kingdom, the estimated fire protection costs varied from 1 per cent for housing to 7 per cent for hospitals and office buildings, in the United States, from 2.5 per cent for housing to 12 per cent for private non-residential structures, and in Canada from 2 per cent for single homes to 13.2 per cent for high-rise apartments.

Fire Protection to Buildings**Table 8**Average percentage of GDP (2003-05)

Country	%
Japan	0.15
France	0.16
Slovenia	0.16 (2002-04)
Czech Republic	0.17
Sweden	0.17
New Zealand	0.19
UK	0.21
Singapore	0.28
Belgium	0.29 (1998-2000)
Canada	0.29
Switzerland	0.29 (1989)
Netherlands	0.30 (1993-95)
USA	0.36
Norway	0.36
Australia	0.42 (2005)
Hungary	0.42 (1987-88)
Italy	0.42
Denmark	0.52 (2002-04)

VIII. UN SCHEME ENDORSED

In their session held in Geneva on September 22-23, 2008, the United Nations Committee expressed its interest in the Report, thanked Mr.Paish, invited him to present a similar report to its next session and encouraged countries which had not yet done so to participate in the study.

IX. EUROPEAN PARLIAMENT AND FIRE COSTS

Following a meeting with Sir Christopher Prout MEP and with DG III (Industry), Sir Christopher in 1994 drafted the following Motion for resolution by the European Parliament:

"Whereas fire is currently costing countries of the European Union approximately 1% of GDP,

Whereas in comparison with road safety, crime prevention and industrial safety, little or nothing is being done to monitor progress on safety measures,

Whereas the rewards have been high for Governments, such as the United States of America, which have organised a determined campaign to cut fire costs.

NOW THEREFORE

1. The European Parliament urges the Council of Ministers to make a public announcement stating their concern over the level of fire costs in the EU.
2. The European Parliament calls on the European Commission to establish a Working Party of fire experts whose terms of reference would be to recommend ways of tackling the fire problem."

Sir Christopher (now Lord Kingsland) shortly thereafter ceased to be an MEP, but in 1995 Ms Christine Crawley MEP put down a similar Motion, which went to the Environment Committee in 1996. However, only three of the twenty proposed motions before the Committee were accepted for pursuit and, although the fire resolution was "recognized to be an issue of great importance", it was not accepted. Lord Kingsland in 1997 raised it again with the Chairman of the Environment Committee, who took it up with the Commission, only to receive a stonewalling response.

X. EUROPEAN FIRE SAFETY ACTION

In April 1999, an international conference, “Firesafe Europe 99”, was organised in Chester, UK on behalf of FEU¹ and CACFOA² with EU financial support. This resulted in a suggested European fire safety action programme, and the Centre helped FEU to carry this forward by jointly organising an FEU/WFSC seminar in Augsburg in June 2000 on “European Fire Strategy – the Part of Statistics”.

As a result of the seminar, the “League of Augsburg 2000” was formed to develop proposals for a European fire statistical database which would meet the needs of likely users of the figures. A core group was formed from among the likely users: fire services, fire protection associations, fire equipment suppliers, fire insurers, government, industry and commerce, and academics. A questionnaire was circulated to core group members seeking (i) views on additional fire statistics that would be useful, and (ii) information on existing statistics available for publication. The European Commission was kept informed of the progress of the core group, whose role was to produce a report suggesting the best way of carrying forward the proposals. This report was in due course produced and circulated to interested parties, including the Commission. Copies are available on request from wfsc@genevaassociation.org.

Another European fire initiative, organised in 2003 by the Swedish Fire and Rescue Service (SRSA), under a contract from the European Commission’s DG III (Environment), was to study “Fire Prevention and other incidents” at the European level. This aimed to find common problems associated with fires and to prepare principles and guidance to handle these problems. A group of five countries worked on the project, which resulted in the publication of a comprehensive report, with recommendations for action, in February 2004. As a result, with the support of the Commission, an EU Fire Safety Network, composed of relevant Government representatives from EU states, has been set up to interchange information and statistics on fire safety matters, and has held several meetings.

In a report on “Social and Economic Challenges in Distressed Urban Areas of the UNECE³ Region” presented to the meeting of the UN Committee on Housing and Land Management in September 2006, the authors drew on the 2005 WFSC report to the Committee in the following paragraph:

“For the UNECE region the annual toll of fire deaths is measured in tens of thousands

The most effective way to minimize this toll is better fire protection, coupled with consumer education. To coordinate such efforts, urgent actions by governments are needed, which should include (a) collecting fire statistical data and analysis, and (b) developing a national fire safety strategy”

During a session to commemorate the 25th anniversary of the World Fire Statistics Centre’s formation, held as part of a seminar on “The Future of Risk Management and Loss Prevention in Fire Insurance”, organised in Paris in September 2007 by The Geneva Association, the WFSC summarised its experience to date and prospects for future development.

¹ Federation of European Union Fire Officers’ Associations.

² Chief and Assistant Chief Fire Officers’ Association (UK); this body has now changed its name to Chief Fire Officers’ Association (CFOA).

³ United Nations Economic Commission for Europe; the region in question covers the whole of Europe, together with all the republics of the former Soviet Union, even though some are situated in Asia.

If you would like to notify any additions, deletions or amendments to the current Bulletin circulation please send the details to wfsc@genevaassociation.org or use the address given at the foot of the front page list. There is also a facility for asking to be added to the circulation list on the Centre’s website: www.genevaassociation.org/Affiliated_Organizations/WFSC.aspx, from which this and some earlier Bulletins may also be downloaded.



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XI. CONFERENCES ORGANISED AND / OR SPONSORED BY THE GENEVA ASSOCIATION

2008

October

- 6-7 Istanbul **Istanbul International Insurance Conference**, organized by AKSigorta and The Geneva Association
- 9-10 Rome **AXA/MPS Vita Annual Forum**, organized by AXA/Montepaschi Vita and The Geneva Association

November

- 6-7 Zurich **5th Liability Regimes Conference**, hosted by Swiss Re, Zurich Financial Services and co-organised by The Geneva Association
- 6-7 London **5th Health & Ageing Conference on Long-Term Care – Risk Profiles, Future Determinants and Financing**, jointly organised with BUPA
- 20-21 Munich **4th CRO Assembly** jointly organised with Munich Re

December

- 8-9 London **5th International Insurance and Finance Seminar** of The Geneva Association
- 11-12 Rome **6th Meeting of The Geneva Association's Chief Communications Officers** hosted by Assicurazioni Generali

2009

January

- 13 New York **Joint Industry Forum for P&C Insurance Industry**, co-sponsored by The Geneva Association
- 16 Paris **2nd Meeting of Chief Investment Officers in Insurance**, hosted by AXA (*CIO members only*)

February

- 5-6 Amsterdam **11th Meeting of the Amsterdam Circle of Chief Economists**, hosted by ING (*ACCE members only*)

April

- 6-7 Montreux **25th PROGRES Seminar on Insurance Regulation and Supervision**

May

- 11-12 Milan **13th Joint Seminar of the European Association of Law and Economics and The Geneva Association**