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ESTIMATES OF LOSSES CAUSED BY FIRE IN THE UNITED KINGDOM AND EIRE 1930-1954

by

D.W. Millar and J.M. Firth

Summary

An attempt has been made to allow for the effect of the changing value of money, on the estimates of direct fire damage published in "The Times".

It has been shown that a great part of the increase both in the total direct fire damage in the United Kingdom and Eire, and that in high loss fires in the United Kingdom, in recent years, has been caused by rising prices. There is some evidence that the total direct fire damage in the United Kingdom and Eire measured at 1949 prices, is lower in the post-war period than before the war.

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INTRODUCTION

The only estimates available of the losses due to fire in the United Kingdom and Eire are the estimates of direct fire damage published monthly in "The Times" and in "The Post Magazine and Insurance Monitor". The source of these estimates is unknown but in the absence of any other data they have been used as a measure of total fire losses[1] a procedure which ignores consequential losses such as loss of profits and the cost of fire-fighting. These estimates appear to be compiled by taking individual account of all fires causing direct damage to an extent of £1 000 or more; the published information specifies individually only those fires in which the damage was £10 000 or more. To allow for the very numerous small fires an arbitrary proportion of 70 per cent (60 per cent prior to July 1947) is added to the total direct cost of the large and medium fires, which are those causing damage of £10 000 or more and those causing damage between £1 000 and £10 000. No information available to the Joint Fire Research Organization gives any measure of the accuracy of the arbitrary estimate for small fires, but it is presumed to be reasonably representative of the true figure. The work previously done[1] was largely confined to a discussion of the large fire losses since these amount to very nearly half the total estimated loss and the individual fires can be traced in the Fire Brigade reports. The purpose of this note is to investigate the effect of rising prices both on large fire direct damage and the total fire direct damage losses.

TOTAL DIRECT DAMAGE FIRE LOSSES IN THE UNITED KINGDOM AND EIRE

An attempt has been made to put the estimates of the total direct damage fire loss in the United Kingdom and Eire in terms of 1949 and 1954 prices. To do this it has been necessary to use price indices to allow for damage to plant and machinery; buildings, and industrial materials and manufactures. The indices used for the first two items were those calculated by Redfern[2] while that used for the last item was the Board of Trade Wholesale Prices Index (old series), industrial materials and manufactures section. It has been assumed that damage to plant and machinery accounts for 30 per cent of the loss; buildings, 20 per cent; and materials and manufactures, 50 per cent of the loss. Using these proportions, the figures of total loss shown in Table 1 have been adjusted to the prices obtaining in 1949 and those current in 1954.

The figures have also been plotted in figure I. A trend line has been fitted to the curve of the adjusted figures by using 5 yearly moving averages. The purpose in fitting the trend is to estimate the year to year variation in the series as opposed to the long term trend. The standard deviation about the trend line is of the order of £m 2.5 so that it is obvious that no great importance can be attached to small fluctuations in the series or in the derived trend line. This may be illustrated by the facts that the peak values in 1947 and 1949 were partly due to very large fires; two fires causing damage to the extent of £1 522 000 in 1947 and one very large fire amounting to £2 000 000 in 1949. A further factor affecting the figures is that the allowance for small fires was increased from 60 to 70 per cent from July 1947.

It seems reasonable to conclude that the current level of total direct damage, when measured at constant prices, is lower than the pre-war level.

A natural division of the series is into three periods 1930-1939, 1940-1944 and 1945-1954. There is some evidence to show that there was a downward trend between 1940 and 1944, but there is no strong evidence of any consistent upward or downward trend in the other two periods. Further information will become available in time to show if there is any trend in current fire losses.

These conclusions are subject to several possible sources of error which are listed below:-

a. Actual errors in the individual estimates of medium and large fires. There have been cases where the final agreed compensation for direct damage has differed considerably from "The Times" estimates, which appear within a few weeks of the dates of the outbreaks.

b. The proportionate allowance for small fires may not be accurate. This would not affect comparisons within a period in which there had been no change in the correct value of the proportion, but it is quite possible that the proportion of direct damage due to small fires may in fact have changed considerably over the period considered.

c. The indices for plant and machinery prices can only be very approximate (c.f. Redfern(2)) and may not represent the costs of restoring or replacing fire damaged plant or machinery. Similarly the indices measuring the costs of new buildings other than houses, and other works may not be representative of the costs of restoring fire damaged buildings. The weights and items used in the index of wholesale prices may not reflect the quantities and kind of items actually damaged in fires. For example in the index a heavy weight, 37 out of 132, is given to the iron and steel group.

d. An overall cost index applied to all classes of premises is obviously not altogether satisfactory and in the second section of this note, which deals with large fires only, an attempt to allow for the different patterns of loss in different premises has been made. The effect of varying the weights used to represent the proportions of direct damage due to damage to buildings, damage to plant and machinery, and damage to materials and manufactures has been examined and it was found that variation in the weights had little effect on the final figures.

LARGE DIRECT DAMAGE FIRE LOSSES IN THE UNITED KINGDOM, 1944-54

These calculations have been carried out using a different set of indices for the prices of industrial plant and equipment. These indices have been available only since 1949, so the adjustments have been applied only to the figures for 1949 and subsequent years. The three price indices used in this second calculation were:-

1. Confidential price indices for industrial plant and equipment supplied by another Government Department; the indices related to various classes of mechanical and electrical plant,

2. The cost of repairing buildings measured by "The Builder" building index compiled by H.J. Venning(3),

3. The cost of the materials and manufactures damaged in fires measured by the appropriate sections of the Board of Trade Wholesale Prices Index (old series).

There is little information available in monetary terms on the proportions of loss caused by damage to buildings, damage to plant and equipment and damage to stocks of materials and manufactures. Indices were combined according to the weights shown in Table 3, as these were judged to be representative of the proportionate losses in each class of occupancy due to the various components of loss. To examine the effect of the error in the assumptions variations were made in the weights used to combine the indices. In the first place various systems of weights for the classes of mechanical and electrical engineering plant and equipment were tried. These had very little effect on the final index of industrial plant and equipment prices and so the variations in the system of the weights shown in Table 4 were calculated. It can be seen that within the likely range of variation for a given class of premises, differences in the weights do not make much difference to the final index. There are differences between the indices for industrial and commercial premises. These indices have been applied to the revaluation of the large fire losses, i.e., those causing damage to the extent of £10 000 or more. Because of the definition of a large fire, and assuming that the compiler of

the estimates has been consistent, an increase in prices alone will cause an increase in both the numbers and the total estimated damage due to large fires. The indices have therefore been used firstly to eliminate those large fires which in any given year would have caused damage of less than £10 000 at 1949 prices. This part of the calculations is not greatly affected by assumptions regarding the system of weights used to combine the indices, since the variations in the indices are small compared with the error of estimation of large fire losses. The losses due to the remaining large fires were then adjusted to 1949 price levels by dividing by the indices.

RESULTS

Tables 5 and 6 show the numbers of large fires in the United Kingdom between 1944 and 1954 and the total cost of direct damage due to these fires. Tables 8 and 9 show the numbers of fires and the total direct damage caused by them at 1949 prices, excluding fires which caused less than £10 000 at 1949 prices. These figures have been shown graphically in Figs. 2 and 3. It can be seen that much of the increase in the numbers of large fires from 1949 to 1954 in industrial premises is probably due to the effect of rising prices. The conclusion in the case of commercial and other premises is rather less certain since the variations from year to year are larger in proportion to the numbers of fires. Similarly the effect of adjusting the total loss in industrial premises to 1949 price levels is to reduce the loss between 1949 and 1954 to an approximately constant figure in each year. The figures of losses for commercial premises are distorted by a very large fire causing £2 000 000 worth of damage in 1949, but allowing for this, the apparently rising trend in total loss in commercial premises is again reduced to much more of a constant figure.

CONCLUSIONS

The two sets of calculations described are necessarily rather arbitrary in character because of the lack of information on the components of loss. The estimates of direct damage due to large fires have sometimes been found to be inaccurate, and it is likely that there is some similar inaccuracy in the estimates for the medium fires, while the accuracy of the allowance for small fires is unknown. Nevertheless it is thought that these calculations are sufficient to show that a very considerable part of the increases in the numbers of large fires, in the direct damage loss due to large fires, and in the estimated total direct damage loss due to fire in the United Kingdom and Eire since 1944 is due to the falling value of money, and as far as can be seen there is no very marked increasing trend in either the numbers of large fires or the total direct damage caused by them since 1949. There is some evidence of a decrease in the estimated total direct damage in the post-war era in comparison with pre-war.

References

1. MILLAR, D.W. and FRY, J.F. Fires causing a large monetary loss. Department of Scientific and Industrial Research and Fire Offices' Committee Joint Fire Research Organization F.R. Note No.222/1955. October 1955.

2. REDFERN, P. Net investment in fixed assets in the United Kingdom 1938-1953. Journal of the Royal Statistical Society 1955. Series A. Vol. 118 II, 141-192.

3. VENNING, H.J. The cost of building (a continuous series of building costs figures and other data). "The Builder".

Table 1

ESTIMATED DIRECT DAMAGE DUE TO FIRES IN THE UNITED KINGDOM AND EIRE 1930-1954

Year	(1) Estimated loss at current prices	(2) Estimated loss at prices current in 1949	(3) 5 year moving average of (2)	(4) Estimated loss at prices current in 1954
	£ 000	£ 000	£ 000	£ 000
1930	8 989	22 800		31 000
1931	7 946	22 100		29 400
1932	9 104	26 000	24 300	35 000
1933	9 234	26 400	24 900	35 500
1934	8 695	24 200	26 100	32 200
1935	9 205	25 600	25 300	34 100
1936	10 771	28 300	24 100	38 500
1937	9 530	22 200	23 400	29 800
1938	8 781	20 400	23 300	27 400
1939	9 088	20 700	21 200	27 500
1940	12 640	24 800	20 900	33 300
1941	10 253	18 000	19 500	24 400
1942	12 470	20 400	18 600	27 700
1943	9 089	13 600	17 200	18 200
1944	11 618	16 400	16 700	21 900
1945	12 800	17 500	17 100	23 700
1946	12 047	15 600	18 200	21 100
1947	18 860	22 200	19 400	29 900
1948	18 643	19 200	19 500	25 900
1949	22 471	22 500	19 800	30 400
1950	19 576	17 800	19 000	24 200
1951	23 148	17 500	18 900	23 600
1952	24 230	17 800	18 300	24 000
1953	25 135	18 800		25 400
1954	26 183	19 400		26 200

Table 2 (a)

ESTIMATED DIRECT LOSSES DUE TO FIRE IN THE UNITED KINGDOM AND EIRE

Category of fire	Loss in units of £1 000												% of total
	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	Total	
Small	4 357	4 800	4 518	7 519	7 677	8 429	8 061	9 120	9 565	10 350	10 781	85 177	39.6
Medium	2 125	2 272	2 301	2 111	2 687	2 456	2 992	2 144	2 290	2 351	2 601	26 330	12.3
Large	5 136	5 728	5 228	9 230	8 279	11 586	8 523	11 884	12 375	12 434	12 801	103 204	48.1
Total	11 618	12 800	12 047	18 860	18 643	22 471	19 576	23 148	24 230	25 135	26 183	214 711	100.0

Note. Small fires are those causing direct damage to the extent of less than £1 000 each; medium fires are those causing direct damage of between £1 000 and £10 000, and large fires are those causing direct damage to the extent of £10 000 or more. The total annual losses due to small fires are assumed to be 70 per cent (60 per cent prior to July 1947) of the sum of the estimates for the medium and large fires, allowance being made in 1949, 1951 and 1952 for the effect of three unusually large fires each costing more than £1 000 000.

Table 2 (b)

ESTIMATED DIRECT LOSSES DUE TO FIRE IN THE UNITED KINGDOM AND EIRE ADJUSTED TO 1949 PRICE LEVELS

	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Total loss at current prices - £000	11 618	12 800	12 047	18 860	18 643	22 471	19 576	23 148	24 230	25 135	26 183
Price index (1949 = 100)	71	73	77	85	97	100	110	132	136	134	135
Total loss adjusted to 1949 prices - £000	16 400	17 500	15 600	22 200	19 200	22 500	17 800	17 500	17 800	18 800	19 400
Total loss adjusted to 1954 prices - £000	21 900	23 700	21 100	29 900	25 900	30 400	24 200	23 600	24 000	25 400	26 200

Table 3

THE WEIGHTS USED IN COMBINING INDIVIDUAL PRICE INDICES INTO AN AVERAGE INDEX TO ADJUST LOSSES TO THE 1949 PRICE LEVEL

Occupancy	Building costs	Plant and equipment prices	Wholesale prices	Interim index of retail prices	
				Household durable goods	Clothing
Industrial premises	20	30+	50*	-	-
Transport	20	80+	-	-	-
Commercial premises	20	-	80≠	-	-
Professional establishments, public entertainment	80	-	-	20	-
Houses, flats, hotels	70	-	-	30	-
Laundries	10	40+	-	-	50
Other buildings ...	70	-	-	30	-

\+ The series appropriate to the occupancy group were used.
* Industrial materials and manufactures
≠ All articles.

Table 4

THE EFFECT OF VARIATIONS IN THE SYSTEMS OF WEIGHTS USED IN COMBINING PRICE INDICES

(a) Systems of weights

Index weighted	System used		Alternative 1		Alternative 2		Alternative 3		Alternative 4	
	Industrial premises	Commercial premises	Industrial premises	Commercial premises	Industrial premises	Commercial premises	Industrial premises	Commercial premises	Industrial premises	Commercial premises
Building costs .	20	20	15	30	20	15	10	10	30	40
Plant and equipment	30	-	25	-	40	-	20	-	30	-
Wholesale prices	50	80	60	70	40	85	70	90	40	60
	100	100	100	100	100	100	100	100	100	100

(b) Variations in final indices

Year										
1949	100	100	100	100	100	100	100	100	100	100
1950	108.8	111.7	110.0	110.5	107.6	112.3	111.2	112.9	107.5	109.3
1951	129.9	134.2	133.2	131.9	126.8	135.4	136.3	136.6	126.8	129.6
1952	134.5	140.6	135.9	139.6	133.0	141.0	137.1	141.5	133.6	138.6
1953	132.2	140.7	132.9	139.8	131.2	141.2	133.5	141.7	131.9	138.8
1954	133.3	141.8	134.0	141.0	132.0	142.3	134.7	142.7	133.1	140.2

Table 5

THE FREQUENCY OF LARGE FIRES IN THE UNITED KINGDOM 1944-1954 IN RELATION TO OCCUPANCY INVOLVED

Occupancy	Number of fires											Total
	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	
Agricultural premises	-	-	1	1	1	-	3	1	4	4	4	19
Manufacturing industries												
Chemicals, dyes, explosives, paints, oil, grease	5	5	7	12	8	12	13	20	15	13	23 (22)	133 (132)
Manufacture of metals, machines, implements and conveyances	19	21	14	19	22	23	29	27	35 (34)	32	34	275 (274)
Textiles and textile goods	25 (24)	23	22	12	17	22	24	27 (26)	20 (19)	34 (33)	17	243 (239)
Leather and fur preparation	2	-	1	3	4	4	3	3	5	3	6	34
Clothing manufacture	2	4	3	6	4	5	4	14	10	6	8	66
Food, drink and tobacco	7	10	13	11	12	12	15	11	11	7 (6)	20 (19)	129 (127)
Woodworking, furniture	10	10	9	3	11	13	16	9	24	16	15	136
Papermaking, printing	11	6	6	8	10	11	9	12	12	10 (9)	15	110 (109)
Rubber manufacture (including synthetic)	2	4	1	1	2	1	2	1	7	-	3	24
Other manufacturing industries	4	5	7	13	6	9	5	10	11 (10)	10	11 (10)	91 (89)
Total	87 (85)	88	83	88	96	112	120	134 (133)	150 (147)	131 (128)	152 (149)	1 241 (1 230)
Transport and communication	6	2	3	3	8	2	2	6 (5)	1	1	1	35 (34)
Commercial premises												
Retail shops, department stores	2	9	14	12	7	6	12	4	14	14	15 (14)	109 (108)
Warehouses	9	6	5 (4)	7	4	10 (9)	4	5	14	10	7	81 (79)
Wholesale dealers	8	14	6	8	11	14	10	12	11	22	17	133
Total	19	29	25 (24)	27	22	30 (29)	26	21	39	46	39 (38)	323 (320)
Professional establishments, public institutions	1	10	7	9	12	14	7	7	15	13	10	105
Public entertainment	5	9	11	6	10	11	9	7	12	8	5	93
Houses and flats	8	2	5	11	12	14	4	3	9	11	9	88
Clubs, hotels, etc.	-	8	9	8	4	8	7	8	13	7	7	79
Laundries	-	3	1	3	3	3	4	3	-	4	4	28
Other buildings (including offices)	4	8	7	7	3	3	7	4	2	3	6	54
Outdoor hazards	1	2	4	8 (6)	5	9 (8)	1	6	3	-	2	41 (38)
Total	131 (130)	151	156 (155)	171 (169)	176	206 (204)	190	200 (198)	248 (245)	228 (225)	239 (235)	2 106 (2 088)

The figures in brackets are the numbers of large fires when fires causing damage of £500 000 or more are excluded.

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Table 6

THE DIRECT MONETARY LOSS IN LARGE FIRES IN THE UNITED KINGDOM 1944-1954 IN RELATION TO THE OCCUPANCY INVOLVED AT THE PRICES CURRENT AT THE TIME OF THE OUTBREAK

Occupancy	Loss in units of £1 000										
	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Agricultural premises	[illegible]	[illegible]	19	10	100	-	32	10	70	50	78
Manufacturing industries											
Chemicals, dyes, explosives, paints, oil, grease	164	251	150	440	411	451	286	1 161	428	659	1 259 (759)
Manufacture of metals, machines, implements and conveyances	858	662	478	794	1 116	981	1 430	1 805	2 397 (1 897)	1 787	1 286
Textiles and textile goods	1 711 (1 171)	706	597	970	804	1 135	1 771	1 978 (1 428)	1 788 (788)	2 653 (2 153)	770
Leather and fur preparation	52	-	15	165	160	216	210	160	219	187	222
Clothing manufacture	45	74	58	204	100	93	195	1 006	224	156	356
Food, drink and tobacco	198	433	443	491	750	1 017	497	549	450	830 (255)	1 979 (1 129)
Woodworking, furniture	145	234	156	58	292	369	327	447	895	352	444
Paper making and printing	440	425	280	269	302	554	283	439	448	1 166 (466)	914
Rubber manufacture (including synthetic)	52	98	10	10	92	20	21	30	200	-	77
Other manufacturing industries	68	122	91	336	160	413	181	245	810 (310)	360	1 024 (424)
Total	3 735 (3 195)	3 005	2 378	3 737	4 187	5 249	5 201	7 820 (7 270)	7 859 (5 859)	8 150 (6 375)	8 331 (6 361)
Transport and communication	173	60	45	255	261	35	285	1 310 (310)	40	70	25
Commercial premises											
Retail shops, department stores	96	677	574	765	378	232	609	169	460	683	849 (349)
Warehouses	370	154	663 (163)	783	645	2 475 (475)	735	440	1 455	669	575
Wholesale dealers	213	631	116	427	438	541	251	449	214	1 061	728
Total	679	1 462	1 353 (853)	1 975	1 461	3 248 (1 248)	1 595	1 058	2 129	2 413	2 152 (1 652)
Professional establishments, public institutions	25	190	185	271	315	366	139	182	429	283	312
Public entertainment	99	336	319	148	376	295	275	178	425	274	385
Houses and flats	210	28	111	334	224	288	61	52	392	317	184
Clubs, hotels, etc.	-	236	156	179	98	201	283	259	335	147	180
Laundries	-	48	40	132	38	113	72	53	-	85	270
Other buildings (including offices) .	115	321	271	315	78	93	340	109	30	60	225
Outdoor hazards	45	22	93	1 699 (177)	87	779	17	444	95	-	225
Total	5 081 (4 541)	5 708	4 371 (4 471)	9 055 (7 533)	7 225	10 667 (8 067)	8 320	11 475 (9 925)	11 804 (9 804)	11 849 (10 074)	12 367 (9 917)

The figures in brackets show the total direct damage when fires causing damage of £500 000 or more are excluded.

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Table 7

THE AVERAGE DIRECT MONETARY LOSS IN LARGE FIRES IN THE UNITED KINGDOM 1944-1954 IN RELATION TO THE OCCUPANCY INVOLVED AT THE PRICES CURRENT AT THE TIME OF THE OUTBREAK

Occupancy	Average monetary loss per fire (£1 000s)										
	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954
Agricultural premises	-	-	10	[illegible]	100	-	11	10	18	12	20
Manufacturing industries											
Chemicals, dyes, explosives, paints, oil, grease	33	50	21	[illegible]	51	38	22	58	29	51	55 (34)
Manufacture of metals, machines, implements conveyances	45	32	34	[illegible]	51	43	49	67	68 (58)	56	38
Textiles and textile goods	68 (49)	32	32	[illegible]	47	52	74	73 (55)	89 (41)	78 (65)	45
Leather and fur preparation	26	-	15	[illegible]	40	54	70	53	44	62	37
Clothing manufacture	23	19	19	[illegible]	25	19	49	72	22	26	44
Food, drink, tobacco	28	43	34	[illegible]	63	85	33	50	41	119 (42)	39 (59)
Woodworking, furniture	15	23	17	[illegible]	27	28	20	50	37	22	30
Paper making, printing	40	71	47	[illegible]	30	50	31	38	37	117 (52)	61
Rubber manufacture (including synthetic)	26	25	10	[illegible]	46	20	11	30	29	-	26
Other manufacturing industries	17	24	13	[illegible]	27	46	36	25	74 (31)	36	93 (42)
Total	43 (37)	34	29	[illegible]	44	47	43	58 (55)	57 (40)	62 (50)	55 (43)
Transport and communication	29	30	15	[illegible]	33	18	143	218 (52)	40	70	25
Commercial premises											
Retail shops, department stores	48	75	41	[illegible]	54	39	51	42	33	49	57 (25)
Warehouses	41	26	133 (41)	[illegible]	161	248 (53)	184	88	104	67	82
Wholesale dealers	27	45	19	[illegible]	40	39	25	37	19	48	43
Total	35	50	54 (36)	[illegible]	66	108 (43)	61	50	55	52	55 (43)
Professional establishments, public institutions	25	19	26	[illegible]	26	26	20	26	29	22	31
Public entertainment	20	37	29	[illegible]	38	27	31	25	35	34	77
Houses and flats	26	14	22	[illegible]	19	21	20	17	44	29	20
Clubs, hotels, etc.	-	30	18	[illegible]	24	25	40	32	26	21	26
Laundries	-	18	40	[illegible]	13	38	18	18	-	21	68
Other buildings (including offices)	29	40	39	[illegible]	26	31	49	27	13	20	38
Outdoor hazards	45	11	23	[illegible]	17	67	17	74	32	-	112
Total	39 (35)	35	32 (29)	[illegible]	41	52 (39)	44	57 (50)	47 (40)	52 (45)	52 (42)

The figures in brackets are the average direct loss in large fires when fires causing damage of £500 000 or more are excluded.

Table 8

THE ESTIMATED FREQUENCY OF LARGE FIRES IN THE UNITED KINGDOM 1949-1954
IN RELATION TO THE OCCUPANCY INVOLVED
EXCLUDING FIRES WHICH COST LESS THAN £10 000 AT 1949 PRICES

Occupancy	Number of fires					
	1949	1950	1951	1952	1953	1954
Manufacturing industries						
Chemicals, dyes, explosives, paints, oils, grease	12	9	18	10	11	21 (20)
Manufacture of metals, machines, implements, conveyances	23	26	24	25 (24)	26	26
Textiles and textile goods	22	24	24 (23)	17 (16)	26 (25)	14
Leather and fur preparation	4	3	3	5	2	5
Clothing manufacture	5	4	11	7	4	7
Food, drink, tobacco	12	14	9	10	7 (6)	16 (15)
Woodworking, furniture	13	14	7	19	10	11
Paper making, printing	11	7	10	9	8 (7)	10
Rubber manufacture (including synthetic)	1	1	1	5	-	2
Other manufacturing industries	9	5	5	9 (8)	6	10 (9)
Total	112	107	112 (111)	116 (113)	100 (97)	122 (119)
Transport and communication	2	2	4 (3)	1	1	1
Commercial premises						
Retail shops, department stores	6	10	4	7	10	12 (11)
Warehouses	10 (9)	4	5	14	8	7
Wholesale dealers	14	10	10	8	15	14
Total	30 (29)	24	19	29	33	33 (32)
Professional establishments, public institutions	14	7	6	11	11	7
Public entertainment	11	9	7	9	7	5
Houses and flats	14	4	3	8	8	7
Clubs, hotels, etc.	8	7	8	11	5	5
Laundries	3	4	2	-	2	3
Other buildings (including offices)	3	7	4	1	3	5
TOTAL (excluding agricultural premises and outdoor hazards)	197 (196)	171	165 (163)	186 (183)	170 (167)	188 (184)

The figures in brackets are the numbers of fires when certain large fires causing damage to the extent of £500 000 or more at current prices are excluded.

Table 9

THE ESTIMATED DIRECT MONETARY LOSS IN LARGE FIRES IN THE UNITED KINGDOM 1949-1954 AT 1949 PRICES IN RELATION TO THE OCCUPANCY INVOLVED EXCLUDING FIRES WHICH COST LESS THAN £10 000 AT 1949 PRICES

Occupancy	Loss in units of £1 000					
	1949	1950	1951	1952	1953	1954
Manufacturing industries						
Chemicals, dyes, explosives, paints, oils, grease	451	226	878	277	481	928 (553)
Manufacture of metals, machines, implements, conveyances	981	1 287	1 366	1 685 (1 313)	1 304	901
Textiles and textile goods	1 135	1 628	1 500 (1 076)	1 305 (562)	1 940 (1 562)	555
Leather and fur preparation	216	193	123	163	133	156
Clothing manufacture	93	179	750	140	100	259
Food, drink, tobacco	1 017	448	406	326	628 (193)	1 452 (814)
Woodworking, furniture	369	282	327	626	214	302
Paper making, printing	554	242	321	308	867 (337)	646
Rubber manufacture (including synthetic)	20	10	23	132	-	56
Other manufacturing industries	413	166	147	578 (206)	241	761 (311)
Total	5 249	4 661	5 841 (5 417)	5 540 (4 053)	5 908 (4 565)	6 016 (4 553)
Transport and communications	35	274	1 137 (273)	32	55	20
Commercial premises						
Retail shops, department stores	232	527	126	273	458	577 (224)
Warehouses	2 475 (475)	658	335	1 035	471	407
Wholesale dealers	541	225	318	126	701	584
Total	3 248 (1 248)	1 410	779	1 434	1 630	1 568 (1 215)
Professional establishments, public institutions	366	136	147	306	199	209
Public entertainment	295	269	152	304	199	291
Houses and flats	288	79	44	297	209	124
Clubs, hotels, etc.	201	276	219	242	98	122
Laundries	113	70	37	-	53	210
Other buildings (including offices)	93	332	92	15	47	170
TOTAL (excluding agricultural premises and outdoor hazards)	9 888 (7 888)	7 507	8 448 (7 169)	8 170 (6 683)	8 398 (7 055)	8 730 (6 914)

The figures in brackets show the total direct loss in large fires when certain fires causing damage of £500 000 or more at current prices are excluded.

Table 10

THE AVERAGE DIRECT MONETARY LOSS PER LARGE FIRE IN THE UNITED KINGDOM 1949-1954 AT 1949 PRICES IN RELATION TO THE OCCUPANCY INVOLVED EXCLUDING FIRES WHICH COST LESS THAN £10 000 AT 1949 PRICES

Occupancy	Loss per fire in units of £1 000					
	1949	1950	1951	1952	1953	1954
Manufacturing industries						
Chemicals, dyes, explosives, paints oils, grease	38	25	48	28	44	44 (28)
Manufacture of metals, machines, implements, conveyances	43	50	57	67 (55)	50	35
Textiles and textile goods	52	68	62 (47)	77 (35)	75 (62)	40
Leather and fur preparation	54	64	41	33	66	22
Clothing manufacture	19	45	69	20	25	37
Food, drink, tobacco	85	32	45	33	90 (32)	91 (54)
Woodworking, furniture	28	20	47	33	21	28
Papermaking, printing	50	35	32	34	108 (48)	65
Rubber manufacture (including synthetic)	20	10	23	26	-	28
Other manufacturing industries	46	33	29	64 (26)	40	76 (34)
Total	47	43	52 (50)	48 (36)	59 (47)	49 (39)
Transport and communications	18	138	284 (91)	32	55	20
Commercial premises						
Retail shops, department stores	39	53	31	39	46	48 (20)
Warehouses	248 (53)	165	67	74	59	58
Wholesale dealers	39	22	32	16	47	42
Total	108 (43)	59	41	50	49	48 (38)
Professional establishments, public institutions	26	20	25	28	18	30
Public entertainment	27	30	14	34	28	58
Houses and flats	21	20	14	37	26	18
Clubs, hotels, etc.	25	39	27	22	20	22
Laundries	38	18	19	-	26	70
Other buildings (including offices)	31	48	23	15	16	34
TOTAL (excluding agricultural premises and outdoor hazards)	52 (40)	43	51 (45)	44 (37)	49 (42)	46 (38)

The figures in brackets are the average direct loss in large fires when certain large fires causing damage to the extent of £500 000 or more at current prices have been excluded.

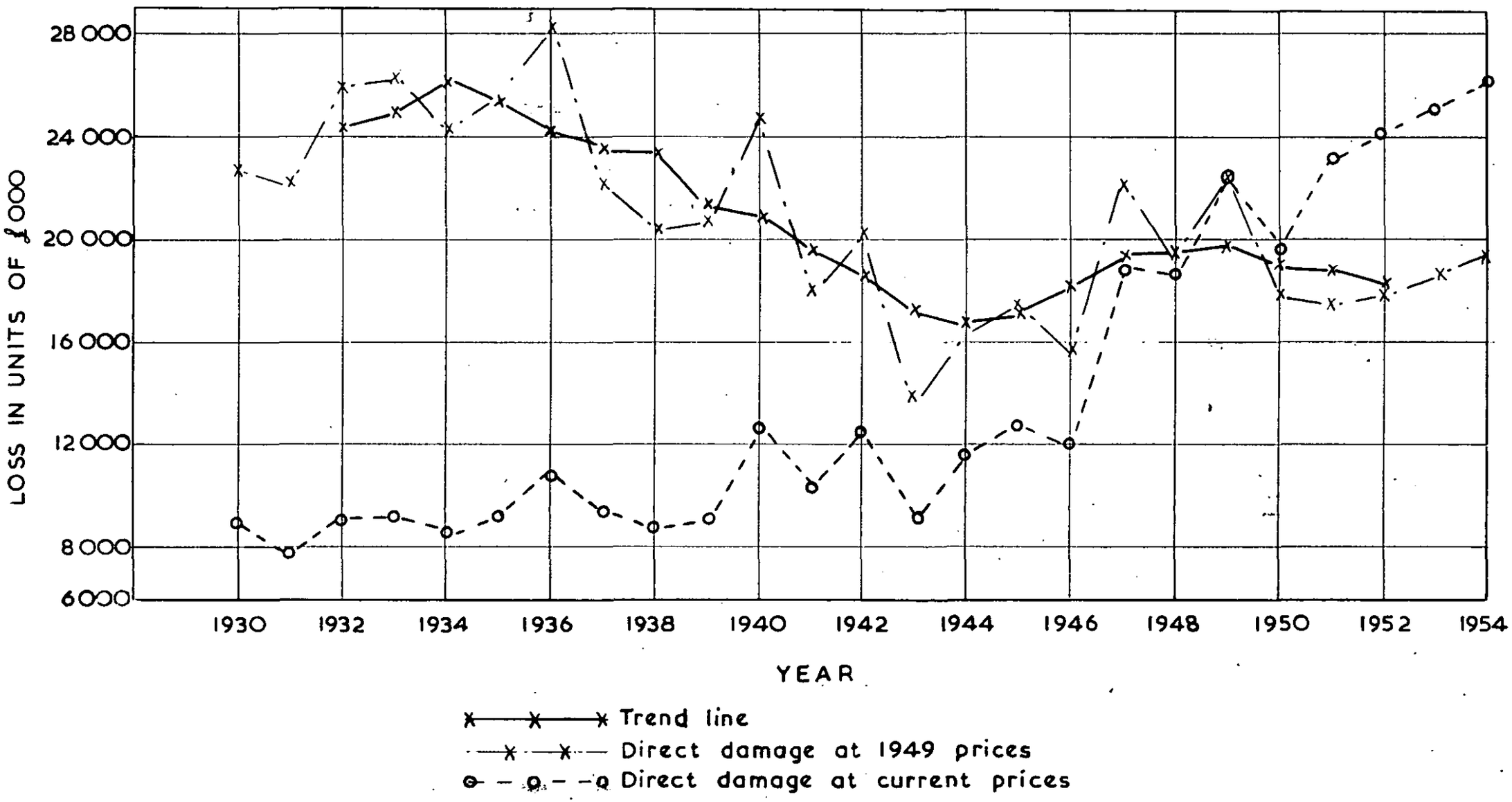

FIG.1. FIRE LOSSES DUE TO DIRECT DAMAGE IN THE UNITED KINGDOM AND EIRE 1930–1954

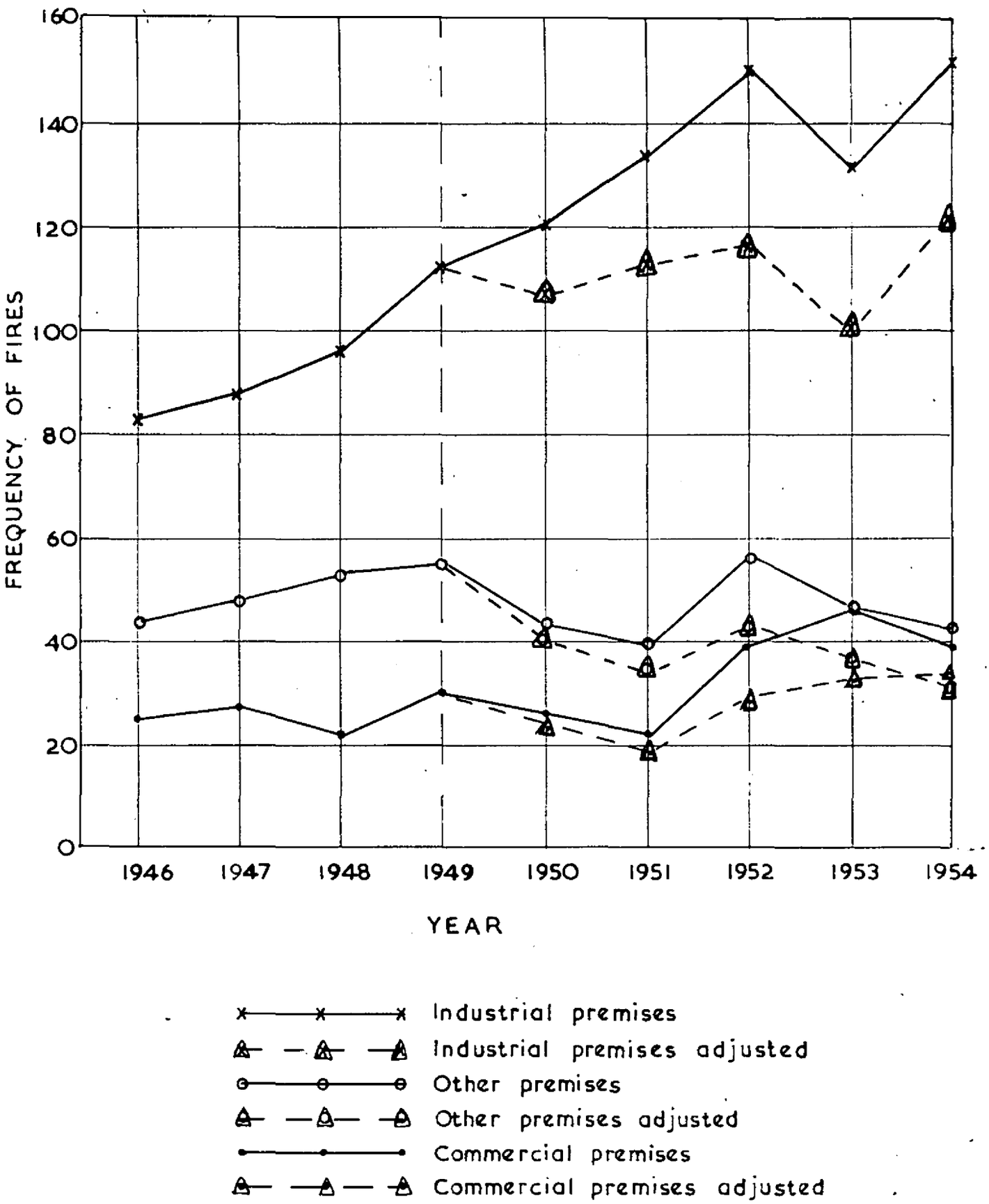

FIG.2. THE FREQUENCY OF LARGE FIRES* 1946–1954, SHOWING THE NUMBERS ADJUSTED TO EXCLUDE THOSE FIRES COSTING LESS THAN £10,000 AT 1949 PRICES.

*A large fire is defined as one costing £10,000 or more

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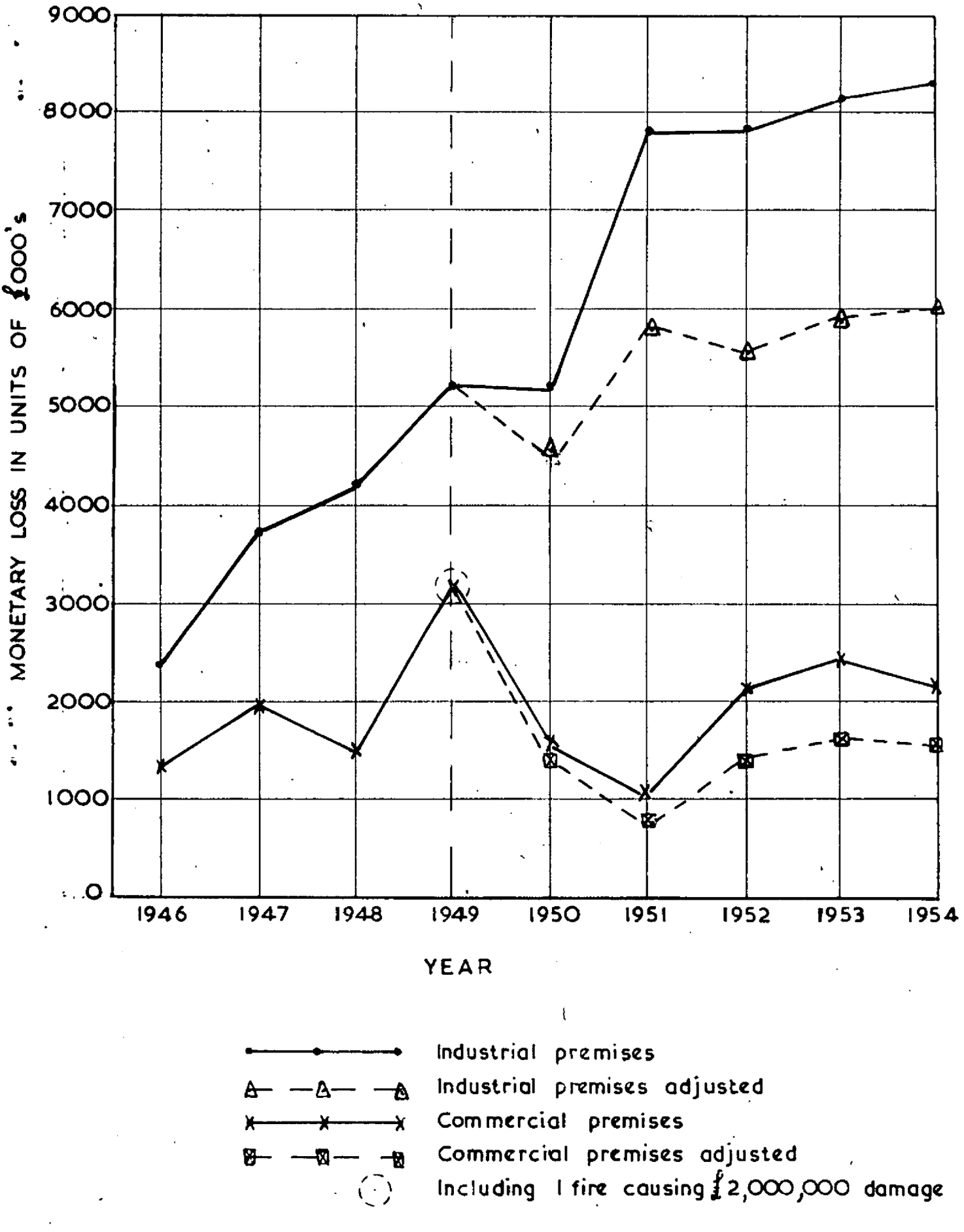

FIG.3. LARGE FIRES* 1946—1954.
DIRECT MONETARY LOSS, SHOWING THE FIGURES ADJUSTED TO EXCLUDE THOSE FIRES COSTING LESS THAN £10,000 AT 1949 PRICES.

* A large fire is defined as one costing £10,000 or more