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The Incidence of Industrial Disputes

Rates of Time-Loss, 1927-1947

by

Robert Morse WOODBURY
International Labour Office

In view of the close scrutiny to which the occurrence of strikes is being subjected in a number of countries, a study of the facts as to their incidence appears desirable. The following article accordingly traces the trends of time lost as a result of industrial disputes in twenty-two countries, from the period of prosperity culminating in 1929, through the subsequent depression and recovery and the war years, and up to the first post-war period.[1]

QUESTIONS relating to the prevalence of strikes and lockouts have attracted much attention since the war. Under the influence of war psychology, the tendency in the belligerent countries during the war was towards an adjournment of industrial disputes, and their occurrence was viewed with disfavour. After the war, there was a release from this restraint, and a sharp rise in the incidence of such disputes appeared in certain countries. It is proposed in the following pages to bring out the facts as to the incidence and trends of the disputes by presenting the available data for twenty-two countries in the form of rates of time-loss from this cause over the period 1927-1947. This not only affords an insight

[1] An earlier study, covering the ten years 1927-1936, appeared in *International Labour Review*, Vol. XXXVIII, May 1938, pp. 674-678: "Days Lost through Industrial Disputes in Different Countries".

RATES OF DAYS LOST THROUGH INDUSTRIAL DISPUTES PER 1,000 PERSONS EMPLOYED IN MINING, MANUFACTURING, CONSTRUCTION AND TRANSPORT

Year	Africa		America		Asia		Europe					
	Union of S. Africa [1]		Canada	United States [2]	India [3]	Japan [4]	Belgium [2]	Czecho-slovakia [2,6]	Denmark	Finland	France [6]	Hungary [5]
	Total	White										
1927	33	26	121	1 517	175	241	963	606	337	5 149	162	378
1928	40	11	168	701	2 708	118	1 291	691	31	1 482	986	167
1929	.	.	101	282	1 030	114	460	281	114	243	427	188
1930	10	12	68	205	190	221	465	181	391	14	1 114	107
1931	208	235	171	498	200	201	261	222	653	—	159	268
1932	107	120	219	903	158	126	423	619	243	14	365	51
1933	62	81	204	1 341	176	74	464	156	47	283	206	190
1934	175	179	346	1 408	385	77	1 764	141	347	169	434	134
1935	58	73	203	1 039	78	49	438	249	31	98	228	154
1936	13	6	169	822	183	26	370	268	6 313	488	.	300
1937	62	18	692	1 598	703	51	407	497	44	253	.	195
1938	10	2	95	532	713	6	159	72	181	559	.	119
1939	10	—	167	1 077	383	.	105	.	30	13	.	180
1940	11	11	188	360	576	.	24	.	10	74	.	372
1941	.	.	294	1 110	251	.	.	.	6	.	.	1
1942	.	.	280	163	432	.	.	.	19	.	.	2
1943	.	.	603	559	173	.	.	.	53	.	.	1
1944	13	3	289	351	253	.	.	.	149	.	.	.
1945	.	.	897	1 755	296	.	.	.	114	749	.	.
1946	.	.	2 288	5 482	920	986	581	.	2 292	251	79	83
1947	.	.	1 246	1 459	1 188	418	1 204	.	780	959	4 254	8
Moyennes :												
1927-1929	37 [7]	18 [7]	130	833	1 304	138	904	526	161	2 291	525	244
1930-1934	112	125	202	871	221	140	676	264	330	96	456	150
1935-1939	31	20	265	1 014	412	33	296	272	1 320	282	228	190
1940-1944	12	7	313	509	337	.	.	.	47	.	.	94
1945-1947	.	.	1 477	2 899	601	702	893	.	1 062	653	2 167	46
1927-1947	58	56	416	1 103	532	193	588	332	580	635	776	153

[1] Number of persons employed in mining, manufacturing, construction and transport estimated from the number " economically active ". [2] Including days lost indirectly. [3] Figures for former British India. [4] Up to 1938, including days lost in commerce. [5] Days lost in all industries. [6] Except in 1947, including a small number of days lost in other branches of activity. [7] 1927-1928.

RATES OF DAYS LOST THROUGH INDUSTRIAL DISPUTES PER 1,000 PERSONS EMPLOYED IN MINING, MANUFACTURING, CONSTRUCTION AND TRANSPORT *(concl.)*

Year	Europe *(concl.)*									Oceania	
	Ireland	Netherlands [1]	Norway	Poland [2]	Rumania [1] [3]	Sweden [1]	Switzerland [1]	United Kingdom [1]	Yugoslavia	Australia [1]	New Zealand [1] [3]
1927	228	164	3 833	1 382	81	410	46	126	520	1 836	72
1928	172	539	1 006	1 490	150	5 366	124	149	230	856	127
1929	451	377	544	564	554 [4]	677	123	891	24	4 994	150
1930	322	207	634	231	286 [4]	1 145	341	497	85	1 786	190
1931	1 480	707	26 749	355	329 [4]	3 179	103	846	26	305	341
1932	173	1 779	1 056	1 164	186	3 950	249	785	8	280	782
1933	912	246	1 058	2 070	84	2 235	111	121	30	138	447
1934	772	114	628	1 351	204	931	52	104	83	384	64
1935	1 363	278	414	1 125	426	298	25	199	522	440	103
1936	817	61	875	2 137	195	466	62	184	2 441	504	84
1937	8 334	38	2 268	1 755	73 [4]	953	161	349	1 486	560	135
1938	808	79	.	669	49 [4]	715	23	136	767	1 351	160
1939	388	81	.	.	.	162	6	123	.	445	229
1940	522	37	.	.	.	72	2	85	.	1 482	113
1941	304	.	.	.	.	99	17	100	.	920	102
1942	243	.	.	.	.	54	5	168	.	342	203
1943	225	.	.	.	.	93	14	167	.	877	57
1944	148	.	.	.	.	223	21	377	.	789	202
1945	206	112 [5]	.	.	.	10 981	43	301	.	1 787	257
1946	456	385	.	.	.	26	211	181	.	1 734	117
1947	1 346	111	.	.	.	47	114	202	.	1 167	304
Averages :											
1927-1929	284	360	1 794	1 145	262	2 151	98	389	258	2 562	117
1930-1934	732	611	6 025	1 034	218	2 288	171	470	46	579	365
1935-1939	2 342	107	1 186	1 421	186	519	55	198	1 304	661	142
1940-1944	288	.	.	.	.	108	12	179	.	922	135
1945-1947	669	203	.	.	.	3 685	123	228	.	1 563	228
1927-1947	937	313	3 551	1 191	218	1 460	91	290	519	1 061	202

[1] Including days lost indirectly. [2] Days lost in all industries. [3] Number of persons employed in mining, manufacturing, construction and transport estimated from the number "economically active". [4] Days lost in mining, manufacturing, construction and transport estimated from figures for all industries (detailed data available for certain years only). [5] May-December.

into the post-war developments, but makes possible a cursory analysis of the relationship between the occurrence of industrial disputes and conditions of prosperity and depression, besides giving an idea of the relative incidence of such disputes in different countries.

The prevalence and importance of industrial disputes are best indicated by the figures of days lost. The number of strikes and lockouts without reference to the number of persons affected is not a good measure of the importance of these disputes; nor is the number of persons affected especially significant without reference to the duration of the strike or lockout. It is a combination of the two numbers, in other words, the number of man-days lost, which affords the best measure of their importance. By expressing the days lost in relation to the number of persons employed, a rate of time-loss from industrial disputes is obtained which is comparable with rates of time-loss from unemployment or from sickness.

In order to show uniformly in the different countries the time-loss in the industrial sectors chiefly affected, rates have been calculated of the days lost per 1,000 persons employed in mining, manufacturing, construction and transport in the countries covered by this study. The results are presented in the table on pp. 452-453. In addition to the figures for each year from 1927 to 1947, averages for groups of years have been calculated as follows: 1927-1929, 1930-1934, 1935-1939, 1940-1944, 1945-1947, corresponding roughly to prosperity, depression, recovery, the war and the post-war periods. Averages for the entire period are also given.

Comparability of the Rates

Before discussing these rates some observations are called for as to the margin of error in the data.[1] For present purposes two types of errors in the figures may be distinguished: those affecting the comparability of rates between different countries; and those affecting the comparability of rates during different periods.

[1] Reference may be made in this connection to the comments in the article in the *Review* already cited.

Comparability between Countries

Chief among the factors affecting the comparability of rates between different countries are the inclusion of indirect time-losses and the differences in the scope of the data on industrial disputes.

In over half the countries shown in the table, the days lost through strikes and lockouts are limited to those lost by the persons directly involved; in the rest, the figures include also days lost by other persons in the establishments affected who are thrown out of work as a consequence of the dispute.[1] Comparability is not affected in the case of comparisons between countries having the same definition of time-loss; but in all comparisons between countries having different definitions, allowance must be made for these differences. In the United Kingdom, for example, figures over a period of fifteen years (1929-1944) show that the days lost indirectly formed about one fifth of the total; in other words, for comparison with a country where the days lost are limited to those lost directly, the rate for the United Kingdom should be reduced by one fifth. In Hungary, however, the days lost indirectly (1932-1936) averaged 13.4 per cent. of the total, and in Czechoslovakia (1930-1934) only 5.8 per cent.

The second, though less important, source of lack of comparability is the inclusion in a few countries of days lost from strikes and lockouts in other branches of economic activity than mining, manufacturing, construction and transport. Thus in Japan, days lost through strikes and lockouts in commerce are included; in France and Poland, the days lost include those lost in all economic sectors. These differences are not so serious as might at first appear, since the great majority of disputes occur in mining, manufacturing, construction and transport. Furthermore, the relative importance of reported disputes in the other fields of economic activity varies from country to country, depending upon the proportion of workers in these four branches and on the degree of unionisation and other factors which affect the prevalence of labour conflicts, as well as upon the laws and regulations

[1] Days lost by workers in establishments other than those affected who may be thrown out of work through the repercussions of the dispute upon business in general are not included.

governing the reporting of strikes and lockouts. For Poland, for example, it is estimated that about 3 per cent. of the days lost were outside the four branches. In France, in 1929-1935, the proportion of strikes and lockouts which took place in other branches of economic activity was 7.5 per cent. of the total, including 3.9 per cent. in agriculture and forestry ; the proportion of workers affected was much smaller, for example, in 1930, 1 per cent. of the disputes were in agriculture and forestry, but less than 0.2 per cent. of the workers affected ; and the percentage of days lost outside mining, manufacturing, construction and transport was probably less than the corresponding percentage either of industrial disputes or of workers affected.

To these two sources of lack of comparability in rates as between different countries must be added those of a general character, including differences in the definition of industrial disputes, differences in methods of calculating the time lost, and differences due to the varying difficulty of obtaining unbiased and complete reports on strikes and lockouts, on their duration and on the numbers of persons concerned.[1]

In addition, differences in the methods of estimating the number of wage earners and salaried employees engaged in mining, manufacturing, construction and transport affect the comparability of the rates. These estimates are based upon the censuses of the economically active population. Annual adjustments have been made in the number to allow for population increase and for increase in the proportion of the economically active population in the four branches of economic activity ; and, whenever possible, allowances have been made for variations in employment or unemployment. One point of some importance is the classification of the economically active population, by industry or occupation : in about half the countries, the economically active are classified on the basis of the industries in which they work, and in the other half on the basis of their occupations. In the United States, for example, where data are available on both bases, the number of economically active persons (in 1930) in mining, manufacturing, construction and transport was 5.3 per cent. higher according to the industrial classification

[1] For further discussion on these points, see *International Labour Review, loc. cit.*, pp. 675-677. See also the notes to the table.

than according to the occupational classification. In a few cases, the number of wage earners and salaried employees has been estimated from the number of the economically active. Furthermore, the allowances for variations in employment or unemployment are subject to a considerable margin of error.

In conclusion, substantial reservations must be made in comparing rates of days lost through industrial disputes in different countries. Even if differences in rates of as much as 10 to 20 per cent. in the exceptional case may be regarded as possibly within the range of variation due to differences in statistical methods, the actual differences in the average rates in the table are, in most cases, far greater than can be explained in any such way. The explanation of differences not due to differences in statistical methods must lie, therefore, in such factors as differences in the strength of unions, in their leadership, in their ability to obtain their demands through negotiation rather than through stoppages of work, in the different relative importance of the industries in which unions are important and, in general, in differences in the general labour situation, in prosperity and depression and other causes.

Comparability between Different Periods

Chief among the factors affecting the comparability of rates over a period of time within a country is the variation in the number of employed wage earners and salaried employees exposed to the risk of time-loss through industrial disputes. Obviously only those who are employed can be involved in a strike or lockout. Hence, estimates of wage earners and salaried employees in mining, manufacturing, construction and transport should make allowance for variations in employment and unemployment.

In the present table this allowance has been made in one of two ways : by applying the current rates of unemployment to the wage earning and salaried employee population (adjusted for population increase) ; or by applying the index of employment in mining, manufacturing, construction and transport to the number of wage earners and salaried employees in the base period (adjusted, where possible, for unemployment in the base year). These allowances, however, are subject to

a considerable margin of error arising from inaccuracies in the estimates. It is believed, however, that the rates based on these adjusted figures indicate the trend in time-loss from industrial disputes more faithfully than a series in which changes in employment and unemployment are left out of account.[1]

Comparison of Rates in Different Countries

The range of variations in rates as between countries is very considerable. The average rates during the twenty-one years of the period 1927-1947, or so much of it as the figures cover[2], vary from 56 days lost per year per 1,000 employed in mining, manufacturing, construction and transport in the Union of South Africa (white population) to 3,551 in Norway, the latter dominated by the unusually high rate of loss in 1931. Four countries besides Norway had average loss rates higher than 1,000 days per 1,000 employees per year, or over one day per employee per year : Sweden, 1,460 ; Poland, 1,191 ; the United States, 1,103 ; and Australia, 1,061. Seven countries had rates between 500 and 1,000 : Ireland, 937 ; France, 776 ; Finland, 635 ; Belgium, 588 ; Denmark, 580 ; India, 532 ; and Yugoslavia, 519. Four countries had rates between 250 and 500 : Canada, 416 ; the Netherlands, 313 ; Czechoslovakia, 332 ; and the United Kingdom, 290. Rates of under 250, or less than one fourth of a day per person per year, were found in Rumania, 218 ; New Zealand, 202 ; Japan, 193 ; Hungary, 153 ; Switzerland, 91 ; and the Union of South Africa, 58.

Clearly, these differences reflect major differences in prevalence, and are not to be explained by minor differences in methods. It is true, of course, that the ranking of countries is subject to considerable imprecision owing to these differences in methods and may be greatly influenced by the occurrence of major disputes. Nevertheless, the wide gap between the United States and Australia at one end of the scale and Switzerland and the Union of South Africa at the other points

[1] In the absence of reliable data for India, no adjustments for variations in employment or unemployment were made for that country.

[2] In some cases, *e.g.*, Norway, the figures cover only pre-war years and are therefore not comparable with averages for the whole period.

to fundamental differences, in which the history and development of trade unionism, the attitudes of labour and relationship between employers and employees and other factors are reflected.

Among the reasons for these differences are, for example, the relative strength of the trade unions in the four branches of economic activity, as well as the general temper and tradition of workers and employers in those branches. Another factor is the relative importance of the different industries—whether, for example, a country has a larger or smaller number of persons in the industries where large strikes occur, such as coal mining, the heavy industries, textiles, etc. Thus the low rate in Switzerland may be due in part to the absence of some of these industries.

A point which affects the incidence of strikes in transport is the question of State ownership : in many countries the State owns the railways, and as a consequence the occurrence of labour disputes in this branch of economic activity is low or practically nil.

Another factor is the presence of a docile labour supply : in the Union of South Africa, strikes among coloured and indigenous workers are not important ; and the presence of a large mass of such labour may make strikes less frequent among the white population also. During the period just prior to and during the war, strikes were made illegal in Axis and Axis-dominated countries, and this affected the time-loss rates, not only in those countries—mostly omitted from the tables because of the absence of any recent figures—but also in neighbouring countries.

For the countries of eastern Europe, recent figures are mostly lacking ; a few have been included in the table to illustrate the course of the time-loss rate up to 1938.

Trends in the Incidence of Disputes

The variations in time-loss rates over a period of time are, in many respects, more significant than the differences between countries. Between different periods within the same country, basic attitudes towards trade unions and labour troubles do not change or change but slowly [1], so that an analysis of

[1] Except when a new régime like that of the Fascists upsets old customs and rights.

changes in time-loss rates should throw light upon the factors which affect them.

A study of the figures over the twenty-year period should show whether there are any long-term trends, what was the influence of war psychology on the rates and how great a reaction set in after the end of the war, and whether there is any evidence of variation in the time-loss rate with conditions of economic prosperity and depression or with changes in national income.

So far as long-term trends are concerned, Canada is an example of a steadily increasing trend. This may perhaps be ascribed to an increasing unionisation of Canadian industries, coupled, perhaps, with the influence of trade union and strike activities across the border in the United States. The rates of time-loss in Canada at the beginning of the twenty-year period were low, less than one sixth of those in the United States, whereas at the end of the period they were approximately half the United States rates.

The United States also shows an increasing trend (with the exception of the war years, when the rates were low).

In other countries, the trends are mixed. In some, there was a downward trend during the first three periods, as in Belgium, France and Rumania ; in others, a rising trend during these periods, as in Denmark and Ireland ; in still others, a varied trend appears. In many cases, it is difficult to determine a trend with any definiteness owing to the wide variations in rates from year to year, depending on the occurrence of major strikes.

Effect of War Psychology

The effect of the war upon the rate of time-loss through industrial disputes can be traced in half a dozen countries. Among the belligerent countries the influence of the war-time " no-strike " psychology is clearly shown in the very low rate in the United States in 1942, the first year of war for that country, as well as in the low rates for the three years 1942-1944, which averaged only two fifths of those prevailing in the period 1935-1939. In the United Kingdom, the figures for 1940, 1941, 1942 and 1943 also reflect the desire of employers and employees to eliminate labour stop-

pages. In India the rate of time-loss from industrial disputes appears nearly one fifth less (18 per cent.) during the period 1940-1944 than during the pre-war period 1935-1939 ; in view of the probably increased employment during the war period [1], the actual reduction was doubtless considerably greater. In New Zealand, on the other hand, though the rates in 1940, 1941 and 1943 were unusually low, the average for the period 1940-1944 was only 4 per cent. below that for the immediate pre-war years 1935-1939, while in Canada the rate of time-loss from industrial disputes rose 20 per cent., and in Australia 40 per cent., as compared with this pre-war period.

In the three neutral countries, Ireland, Sweden and Switzerland, the rate was one fifth (or a smaller fraction) of the rate during the immediate pre-war period.

The Post-War Period

The post-war reaction is also of great interest. In all countries for which the post-war figures are available, sharp increases in time-loss rates appear for the three-year period 1945-1947 in comparison with the preceding five-year period. This is true not only of the former belligerent countries but also of the former neutrals. In two of the belligerent countries the post-war time-loss rates were about five times those for the war years : in the United States, 5.8 times, and in Canada, 4.7 times. In the others they were only slightly greater : the United Kingdom, 1.3 times ; Australia, 1.7 times ; and New Zealand, 1.7 times. The rates among the neutrals showed even greater increases relatively to the war period: Sweden, 36 times [2]; Switzerland, 10 times; and Ireland, 2.3 times.

Relation to Economic Prosperity and Depression

The table throws light also upon the relation between the time-loss rates from strikes and lockouts and economic prosperity and depression. For the purpose of this analysis, the data are grouped roughly in three periods, the first, 1927-1929,

[1] Adjustment not made in the figure for India.

[2] Owing to a single large strike in 1945.

representing prosperity, the second, 1930-1934, depression, and the third, 1935-1939, recovery. (The war and post-war years, 1940-1944 and 1945-1947, are left out of account for this analysis.) No attempt is made to measure the exact degree of prosperity or lack of it, or even to determine in particular countries the exact moment when prosperity ended or recommenced : the contrasts between the averages for the three periods should reveal the influence, if any, of good and bad times upon the time-loss rates.

But while in the different countries the contrasts between the averages in the different periods are striking, the evidence on the relationship between prosperity and the time-loss rate is conflicting. The countries fall into two groups according to the character of this relationship.

In the first group, the rates during prosperity were substantially higher than during the depression period which followed ; this group includes the following eleven countries : the United States, India, Belgium, Czechoslovakia, Finland, France, Hungary, Poland, Rumania, Yugoslavia and Australia. In the second group, on the other hand, the rates during prosperity were substantially lower than during the depression period which followed ; this group includes ten countries, as follows : the Union of South Africa, Canada, Denmark, Ireland, Norway, the Netherlands, Sweden, Switzerland, the United Kingdom and New Zealand. In the case of one country, Japan, the rates were approximately identical in the two periods.

In view of this conflicting evidence, the behaviour of the rates during the period of economic recuperation following the depression is of special interest. Of the eleven countries in which the rates during prosperity were higher than during depression and for which data of the recovery period are available, eight showed increased time-losses in the recovery period, namely, the United States, India, Czechoslovakia, Finland, Hungary, Poland, Yugoslavia and Australia, while three showed further reductions in time-losses—Belgium, France and Rumania. Of the ten countries in which the rates during prosperity were lower than during depression, seven showed reduced time-losses in the recovery period, namely, the Union of South Africa, Norway, the Netherlands, Sweden, Switzerland, the United Kingdom, and New Zealand, while

three showed a further increase in time-losses : Canada, Denmark and Ireland.

In the first group of countries, where time-losses from industrial disputes were higher during good times, the rates during the recovery period confirmed this tendency in two thirds of the countries ; and likewise in the second group, where time-losses were lower during good times, the rates during the recovery period again confirmed this (reverse) tendency in two thirds of the countries.

Two points need to be examined. In the first place, an examination of the rates in individual years shows that in some cases an extreme rate has a dominating effect upon the apparent trends. Thus the exceptionally high time-loss rate in Norway in 1931 (26,749) is sufficient in itself to determine the position of the average rate during the depression period 1930-1934 in relation to 1927-1929, as well as the relation between the depression rate and the rate for the recovery period 1935-1939. If this one rate were omitted (were such a procedure admissible), the rates in the three periods would show a declining trend. In one other case, extreme rates that might affect the apparent trends in the different periods are found : if the 1932 rate of 1,779 for the Netherlands were omitted, the average rate for the depression years would fall slightly below that for the prosperity period, and in the three groups taken together the trend would be downwards. In a number of other cases, however, the omission of the year with an extreme rate does not affect the apparent relationship between prosperity and depression, on the one hand, and the incidence of time-losses from industrial disputes, on the other. However, it must be emphasised that the occurrence of unusually heavy losses from time to time is characteristic of labour disputes, and that it is hardly permissible to ignore major disputes as if their occurrence had nothing to do with the economic condition of prosperity or depression prevailing at the time.

In the second place, a closer analysis of the exact year of the beginning and end of depression might conceivably reveal a more clearcut relationship between good and bad times and time-losses due to labour stoppages. If depression, for example, tends to reduce such losses and prosperity to increase them, the effect of including in a depression period a year or

part of a year which in a particular country was actually one of recovery or moderate prosperity would lessen the apparent influence of the depression. But such an inclusion would not reverse the apparent effect of depression, unless the average economic conditions of the whole period were themselves reversed so that the period labelled " depression " was in fact a period of prosperity. An analysis of the effect of omitting the year 1934 from the depression period and limiting the latter to 1930-1933 shows in most of the countries a sharpening of the contrast between good times and bad in their relation to the rate of time lost through industrial disputes ; but this sharpening appears in both groups of countries, those in which bad times are associated with lower, and those in which bad times are associated with higher, time-loss rates.

Further analysis of the conditions and circumstances existing in the two groups of countries might throw light upon the reasons for the apparent divergence in the relationships existing between the time-loss rates and prosperity and depression. Such factors as the degree of unionisation, the character of union leadership, or the character of the issues raised in the different periods in the different countries may play their part in producing this result.

Relation to National Income

The evidence of the relation between time-losses from industrial disputes and prosperity and depression should furnish a rough indication of the relation between such losses and national income or per capita income, in view of the obvious fact that national income and per capita income tend to be higher in prosperity than in depression. The conflicting evidence discussed in the preceding paragraphs suggests, therefore, that the relationship between the time-loss rates and national or per capita income may also be a confused one.

An interesting article published in 1944 [1] drew the conclusion, on the basis of the figures of strikes and lockouts in Great Britain, that the incidence of labour disputes varied

[1] Eugene L. GOMBERG : " Strikes and Lockouts in Great Britain ", in *Quarterly Journal of Economics*, Vol. LIX, No. 1, November 1944, pp. 92-106.

directly with changes in national income over the period 1927-1942. But when measured by time-loss rates instead of by the number of strikes and lockouts, this incidence tended on the contrary to vary inversely with national income : the years with higher time-loss rates tended to be associated with years of lower national income.[1]

With regard to per capita income, an analysis of the relationship between average time-loss rates over the period 1927-1944 and average per capita real incomes for the period 1925-1934, as estimated by Professor Colin Clark for a series of countries [2], shows no significant correlation.[3]

If the countries are grouped according to the level of their per capita real income, the seven highest are the United States, Canada, New Zealand, the United Kingdom, Switzerland, Australia and the Netherlands; and of these seven, two—Australia and the United States—had high time-loss rates, three—Canada, the Netherlands and the United Kingdom—had intermediate rates, and two—New Zealand and Switzerland—had low rates : on the average, the time-loss rate for these seven countries fell below the general average for all the countries in the table. On the other hand, of the seven countries with the lowest real per capita incomes, four had low rates (below 250), one a high, and two intermediate rates : the average for this group was also below the general average.

An examination of the materials shows again the very great importance of the circumstances of the individual dispute as against the influence of such general factors as national income, or even prosperity and depression. A strike in a major industry may have such a decisive influence upon the rates of time-loss in a particular year, or in a group of years, that it becomes difficult to appraise the influence of general factors.

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[1] The coefficient of correlation between national income and the time-loss rates from strikes and lockouts for the period 1927-1938 (leaving out the war years, when the national income in monetary terms was high and labour disputes were diminished by war psychology) was negative : $r = -.44 \pm .23$. However, the correlation between national income and the number of strikes and lockouts was positive : $r = +.25 \pm .13$; and that between national income and the number of workers involved directly and indirectly was also positive, though small and not significant : $r = +.15 \pm .28$.

[2] Cf. Colin CLARK : *Conditions of Economic Progress* (London, Macmillan & Co., 1940), especially p. 41.

[3] $r = -.17 \pm .19$.

Comparison with Total Time Worked

A final word may be said about the relation between the time-loss due to industrial disputes and total working time and the time-loss from unemployment. From the figures of the table, it is clear that the loss from disputes is of very minor importance in relation to the total time worked. A rate of 1,000 days lost per 1,000 employees per year means one day per employee per year or, if the year comprises 300 working days, only one third of 1 per cent. of the year's working time. As stated above, only four countries had time-loss rates from strikes and lockouts as high as this figure. On an average, the time-loss from strikes and lockouts is half a day per employee per year, or less than two tenths of 1 per cent. In comparison with unemployment, therefore, for which a rate of 3 per cent. is low and one of 10 per cent. not unusual [1], the loss from industrial disputes appears almost negligible. The time-loss from industrial disputes receives an attention in the public press quite out of proportion to its real significance in terms of total time worked and of the time-loss from unemployment.

One further point should be noted. The time-loss from strikes and lockouts is in no sense a measure of the importance of trade unions or of their influence over the terms of contracts of employment : strikes and lockouts occur only when negotiations have broken down and are the last resort in the effort to reach an acceptable arrangement. Their frequency, therefore, is an indication of failure in the normal procedure of reaching acceptable terms. It is of course true that the threat of a strike is a potent weapon in the hands of labour leaders, a fact which may account in part for the large place that strikes occupy in the public press. But time is lost through industrial disputes only when negotiations have failed. Since time-loss from industrial disputes is essentially a concomitant of failure of negotiations, the indices of such loss should not be assigned a meaning beyond their true significance.

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[1] See below, under " Statistics ", table I.