

The Rise in Prices and the Increased Cost of Living

Changes in Leading Manufacturing Countries of the World During the Period 1900-1912

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THE industrial unrest, which is such a marked feature in all the civilized countries of the world at the present time, has been ascribed to many causes. In an article published in April, 1912, in the *Engineering Magazine* (New York), the present writer analyzed these causes in some detail, and stated his opinion that the increased cost of food, and the rising standard of comfort and luxury demanded by the workers, were the two primary and chief causes of this unrest, and of the general demand for higher wages.

In the present article it is intended to give facts and figures in support of this opinion, drawn chiefly from an important publication relating to the "Cost of Living of the Working-Classes," issued recently by the Statistical Department of the British Board of Trade (Cd. 6,955, 1913). This report, although dealing primarily with the conditions obtaining in Great Britain, covers the rise that has occurred in food prices in the leading manufacturing countries of the world. Other publications drawn upon are: No. 137 of the *Annals of the American Academy of Political and Social Science*, published in July, 1913 (this deals entirely with the minimum wage in its relation to the cost of living); an address by Prof. H. N. Dickson, and a paper by Prof. Fisher of Yale University, read and discussed at the British Association (Birmingham) meeting in September last. Publications of this kind, however eminent their authors, are not read by the general public. The purpose of this article is to render the valuable information contained in these reports, addresses and papers available for a much wider circle of readers, and to present certain of the data in more easily digested and attractive form.

The Increased Cost of Food.

On page 62 of the introductory summary of the Board of Trade Report on the cost of living, already referred to, there is a most valuable table showing by means of "index numbers" the changes in the level of food prices which have occurred in the United Kingdom and its colonies and in certain foreign countries in the years 1900-1912. In this comparison the year 1900 is used as a base year, and the retail or wholesale prices of food in each country are taken as represented by 100 in that year. Since comparative figures of this kind are much more illuminating when presented in graphic form, the author has constructed diagrams I. to IV. from the official data. The figures themselves, which represent a vast amount of time and trouble on the part of those responsible for their collection, are given for purposes of reference only in Table I.

Diagram I. gives the curve for the changes in food prices in the United Kingdom, Russia and the United States in the years 1900-1912. The rise is seen to have been practically continuous in all three countries, but whereas in 1911 the United Kingdom only showed an increase of 9 per cent, in Russia the increase had been 21 per cent, and in the United States the curve of prices had attained a level of 139, equivalent to an increase of 39 per cent on the prices of 1900. In Diagram II. the price curves for France, Holland and Germany are presented in a similar manner and on a similar scale. Here we see that between 1901 and 1906, France benefited by a decline in food prices, the index numbers for which dipped down to 95 (or 5 per cent below the standard), in the years 1902 and 1906. Since 1907, however, the rise in food prices in France has been very marked, and in 1912 they reached their maximum of 117, equivalent to a rise of 17 per cent on the 1900 standard. In Holland the rise has been steady and continuous, and the curve has approximated in form to that of the United Kingdom, ending in 1912 at a level of 123, as compared with 115 for the United Kingdom. Holland and the United Kingdom, it may be pointed out, are the two free trade countries of

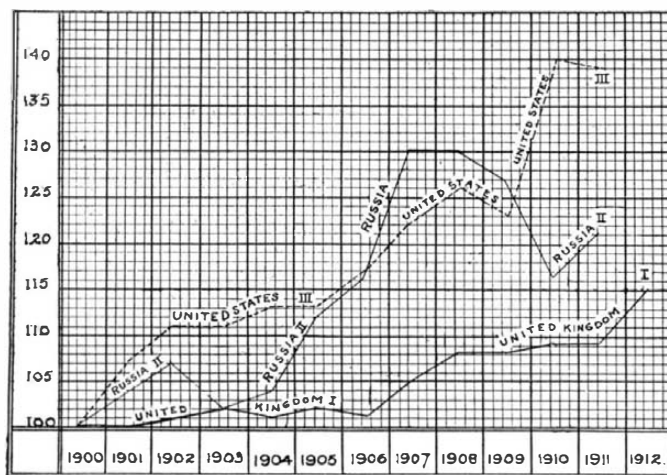


Fig. 1.—Diagram to show changes in the level of food prices in the United Kingdom, Russia, and the United States in the period 1900-1912.

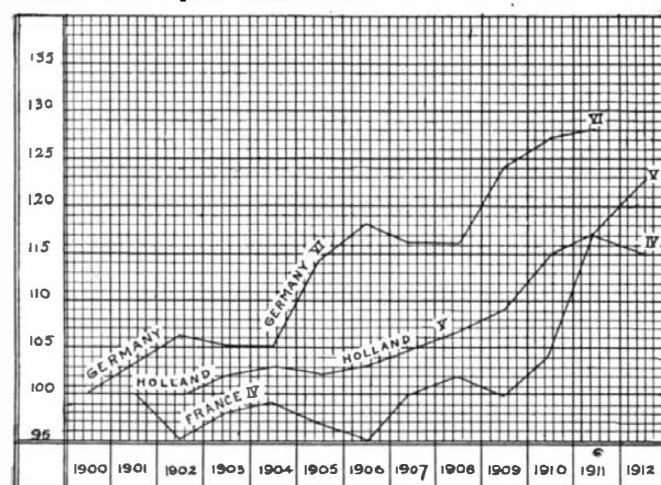


Fig. 2.—Diagram to show changes in the level of food prices in France, Holland, and Germany in the period 1900-1912.

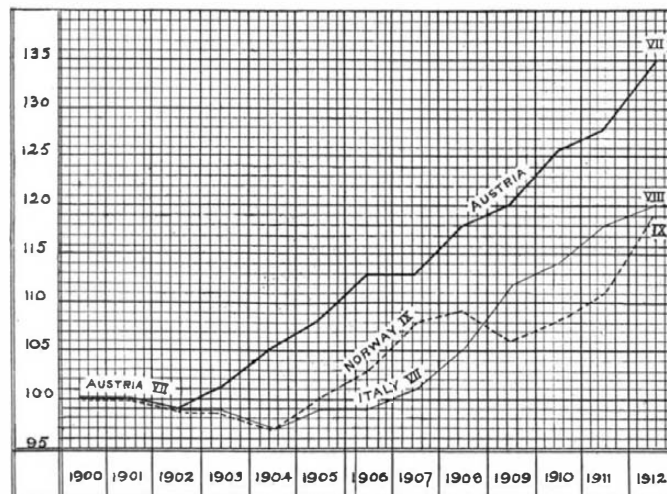


Fig. 3.—Diagram to show changes in the level of food prices in Austria, Italy, and Norway in the period 1900-1912.

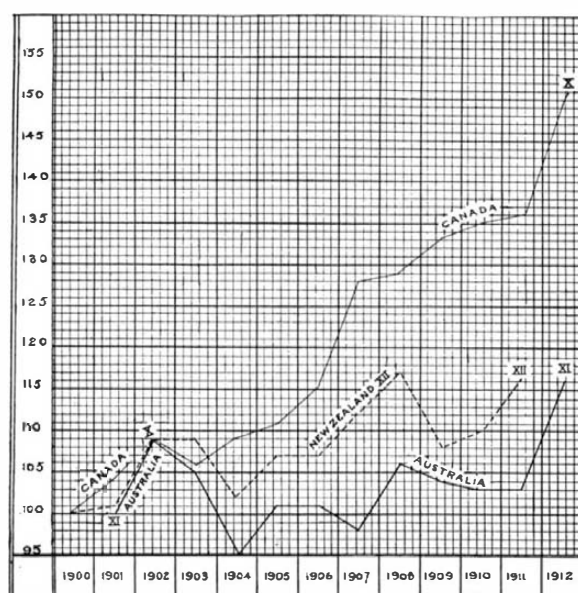


Fig. 4.—Diagram to show changes in the level of food prices in the three most important British colonies: Canada, Australia and New Zealand, during the period 1900-1912.

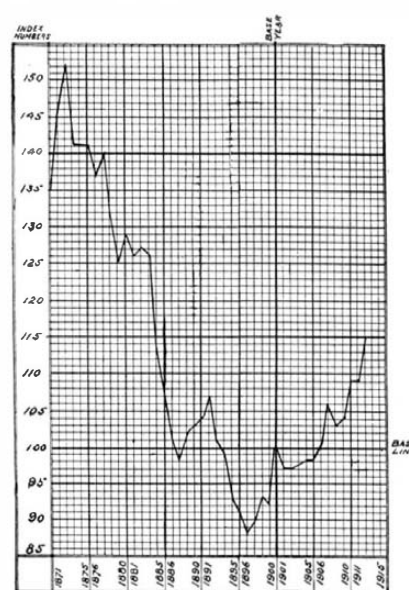


Fig. 5.—Diagram to show changes in the level of wholesale prices of forty-seven articles in the United Kingdom, 1871-1912.

Europe, and therefore, if free trade means (as its supporters declare) cheap food, one would expect to find the rise in prices much less striking than in highly protected countries. Whether this expectation is justified by the curves shown in Diagrams I. to IV., the writer of this article will not attempt to decide, since it would lead him away from the real purpose of this section, which is to present facts. The German curve shows a slight dip in the years 1907-1908, when the price of food in Germany declined, but since the latter year the rise has been very marked, and the curve ends in 1911 at a level of 128, equivalent to a rise of 28 per cent on the 1900 standard.

Diagram III. shows the curves for Austria, Italy and Norway, and calls for little comment. Italy and Norway benefited by a decline in food prices in the years 1902-1906. Since the latter year the rise has been steady but not very large, the curves ending at the levels of 119 and 120 respectively. In Austria the rise in food prices has been more marked and continuous, the increase being equivalent to 35 per cent in the 12 years.

Diagram IV., which gives the curves for the three most important colonies of the United Kingdom—Australia, Canada and New Zealand—is extremely interesting, and deserves close study and attention. Each of these colonies produces and exports food to the mother country in large quantities, and one would expect to find that the rise in food prices in these food-producing countries was less marked than in the United Kingdom or in the other industrial countries of Europe. In one case only is this so, namely, Australia, for up to 1911, the price curve for this colony had only attained a level of 103, and for the whole period the average has been 103½. In New Zealand the course of prices has been more irregular, and the curve rises to 109 in the years 1902-1903, and attains its maximum of 117 in 1908. The course of prices in New Zealand has thus shown a greater average percentage increase than in the United Kingdom. The price curve for Canada is, however, the most remarkable, for in this country the increase in the cost of food has been more marked than in any of the industrial or manufacturing countries, and the curve has steadily ascended until it attained the extraordinary level of 151 in the year 1912, or a rise of 51 per cent as compared with 1900.

Placed in the order of their "deariness" as regards the cost of food (in 1911 or 1912) we thus have the following list of countries: Canada, 151; United States, 139; Japan, 138; Austria, 135; Belgium, 132; Germany, 130; Holland, 123; Russia, 121; Italy, 120; Norway, 119; New Zealand, 116; Australia, 116; United Kingdom, 115; France, 115. A study of the curves given in Diagrams I. to IV. and of the summary of their meaning given above indicates therefore that during the past six years there has been in all countries (agricultural as well as industrial) a very marked rise in the price of food, and also that so far as the figures are available, the increases in the years 1911, 1912, 1913 have been greater than in any previous year.

The Causes of the Increased Cost of Food.

The causes of the increased cost of food in all countries, that is so clearly indicated in Diagrams I. to IV., are not perfectly understood and the opinions of economists are sharply divided upon this question. There are many who believe that the continued growth of the population of the world, the increased demand for luxuries, and the extravagant way in which the present generation is exhausting the material resources of the earth, is beginning to have its effect upon prices. Food and the other commodities of life are dearer, in the opinion of this school of economists, because, in relation to the increasing numbers who want them, they are becoming more scarce.

This view finds expression in the presidential address of Prof. H. N. Dickson, before the members of the Geographical Section of the British Association, at Birmingham, England, in September last. In this address Prof. Dickson stated that "he had no desire to sound an unduly alarmist note, or to suggest that we are in imminent danger of starvation, but it would be well, even on the suspicion, to see if our information is adequate and reliable, and if our conclusions are correct; and not merely to drift in a manner which was justifiable enough in Saxon times, but which, at the rate things are going now, may land us unexpectedly in difficulties of appalling magnitude."

In support of this view, it must be noted that the population of the whole world is increasing by 20,000,000 persons annually, and that as water covers three quarters of the earth's surface, there is only one fourth available for the support of human life. The following quotation from a recent article by Mr. Chiozza Money, an English liberal political economist, emphasizes the teaching of Prof. Dickson's address, and will be read with especial interest in America:

"All mankind has for a basis no more than about 50,000,000 square miles of land, no small fraction of which is desert territory, or for other reasons uninhabitable. The parts of the world which are particularly favored in point of power supplies, whether of coal or mineral oil, or water, are few. The easily-worked mines of iron, copper, tin, lead, zinc, etc., have been already creamed, with results which have made themselves evident in price. As to timber, the world is using it much more quickly than it is growing it, and we have the extraordinary fact that the United States of America, which has some of the finest forests in the world, has hacked away at them so rapidly, that some sorts of wood are scarce in her vast territory."

The opposite view that food and other commodities are dear because gold has become more plentiful, finds its strongest advocate in Irving Fisher, Professor of Political Economy at Yale University. In an article upon "The Monetary Side of the Cost of Living Problem," contributed to volume 48 (July, 1913) of the *Annals of the American Academy of Political and Social Science*, and in a paper contributed to the Birmingham, England, meeting of the British Association, Prof. Fisher gives many reasons and arguments for believing that the present rise in prices is due to an inflation of money and credit, rather than to a scarcity of food and other commodities. His chief argument is based on the fact that the periods of high prices in the past have always coincided with some fresh discovery or more active exploitation of the gold resources of the world, and that periods of low prices have likewise coincided with a lull or setback in the production of the precious metals.

The following paragraph summarizes this argument: "The rise in prices during the last fifteen years has not only been great, but general. It applies to almost all commodities and to all countries for which we have figures. If practically all the children in a certain school were stricken simultaneously with typhoid fever, we should reasonably suspect that there was some common source from which the germ had come. If the prices of most commodities rise somewhat simultaneously, we, very reasonably, it seems to me, should attribute this rise to a common factor, rather than to various isolated causes relating to the commodities separately considered. In other words, on the basis of probabilities, it is reasonable to assume that the present general rise in prices is related to some common fact. Since every price is tied

to gold, and the supply of gold has increased during the last fifteen years, we would not then be unreasonable in suspecting, if not convicting, that fact of being responsible for the present high prices. No other important common cause has been suggested."

In his British Association paper, Prof. Fisher pleads for the appointment of an International Conference on the subject, a bill for which passed through the United States Senate last Spring, and states that this proposal has the support of the President and ex-President of the United States, and also of many high officials in the European capitals.

In the present writer's opinion, the increased prices of food and other necessities of life may be, with some show of reason, attributed to a combination of the above two causes. The increased demand arising from the growing population of the world, and increase of luxury, have no doubt enormously stimulated the call for food and commodities of all kinds. At the same time, the increased output of gold and greater use of credit have tended to cheapen these, in their relation to commodities, and, therefore, one has to pay more in gold or silver to obtain the same amount of food than five or ten years ago. Which of these causes has had the most influence in bringing about the rise of the past five years, the writer will not attempt to decide.

Is the Rise in the Price of Food and Other Commodities Likely to Continue?

The question headlined is, of course, the practical one that all affected (either as buyers or sellers) by the recent rise in values, wish to have answered. The only figures that bear upon this question are those contained in the British Board of Trade Report already referred to, and they represent the course of wholesale prices of 47 articles of consumption in the United Kingdom from 1871 down to the present date—the year 1900 being employed as base year with a value of 100, and the values being expressed as before—as index numbers, in relation to that base. Diagram V. gives these values in the form of a curve, and the diagram certainly conveys little comfort to those who have been heavily handicapped by the rise in prices since the year 1900. Compared with the prices ruling in the United Kingdom from 1870 to 1880, present prices are low, and if history is to repeat itself, many years will elapse before the maximum point of the curve is attained, and the descent to a lower price level is commenced. Many things have changed however in the conduct of commerce and industry since the years that followed the Franco-German war, and it is quite possible that an analogy from the past, in this case, is an unsafe guide to the course of future events. That some high authorities believe that an era of high prices is before us, is proved however by the following extract from the British Association paper by Prof. Fisher:

"The outlook seems to many of us to indicate that the rise in world-prices is permanent, and is likely to be aggravated in future years. Under these circumstances, even though we cannot immediately apply remedies for lack of sufficient agreement, the sooner we can secure the necessary data to lead to such an agreement, the better."

Conclusions.

In view of the vast importance of the subject with which this article deals, there can be little doubt that Prof. Fisher's demand for the calling together of an International Congress to consider the problem is wise and timely, and will ultimately be adopted. As Prof. Fisher points out:

"The great conflict of opinion at the Conference will

doubtless be as to whether the rise of prices means an inflation of money and credit or a scarcity of goods. If the result of its investigations should indicate that the rise of prices is chiefly a monetary phenomenon, this would indicate the importance of a monetary remedy, such as some plan for 'standardizing' monetary units, i. e., 'stabilizing' the general level of prices. But whether or not any such far-reaching remedy can be applied or even recommended, there are other and less ambitious remedies in the way of saving waste which ought to be carefully considered. Such, for instance, are the conservation of natural resources; the elimination of unnecessary middlemen; the introduction of co-operation where economies can thereby be effected; improvement of banking systems; removal of high tariff walls, etc."

An International Committee for making a geographical survey of the world's treasures of material wealth, as outlined in Prof. Dickson's British Association address, might also be appointed, and thus a general "stock-taking" of the earth's natural resources be carried out at the same time that the important problem of the rise in prices is being investigated. The writer of this article supports both proposals, and trusts that during the next twelve months some progress will have been made in obtaining the co-operation of statesmen in the leading manufacturing countries for this important work.

The Biggest Bird That Ever Lived

By R. W. Shufeldt, M. D.

DURING the Summer of 1913, while engaged in describing and photographing the specimens representing the fossil remains of vertebrates in the extensive collections belonging to the American Museum of Natural History, the United States National Museum, and the Peabody Museum of Yale University, I met with the fragments of the lower long leg bones that belonged to an extinct bird of enormous size. They were completely fossilized, and had been discovered by a member of the Expedition of 1912 sent out by the American Museum of Natural History in the Wasatch of Wyoming. Geologists are pretty well agreed that this particular region is some 2,500,000 years old.

These fossil remains consisted of two immense toe-joints and parts of the trochleæ of the tarso-metatarsus of an adult individual. The tarso-metatarsus in a bird's leg is the last of the three of the long bones of that limb; the trochleæ are those projections at its distal end which articulate with the toe-bones.

This was all that had been found of a bird giant which had flourished over two and a half million years ago in the central region of this country. It was not all that we knew about it, however; for, many years ago, the late Prof. Cope had described, in the *Proceedings of the Academy of Natural Sciences of Philadelphia* (1876, II), and subsequently in the Report of the U. S. Geographical Survey West of the 100th Meridian (Vol. IV, p. 70), the fossil remains of a bird of gigantic proportions, of which he said that "this species was of large size, the proximal end of the tarso-metatarsi being nearly twice the diameter of that of the ostrich. Its discovery introduced this group of birds to the known fauna of North America, recent and extinct, and demonstrates that this continent has not been destitute of the gigantic forms of birds now confined to the Southern hemisphere fauna." This distinguished palæontologist named this long-extinct species *Diatryma gigantea*, and considered it to be quite distinct from any of the existing true ostriches.

We know that an old male African ostrich will grow to be at least eight feet tall, and Cope surmised, in his description of *Diatryma gigantea*, that it was a bird twice the size of an adult ostrich; in other words, it may have attained a height of some fifteen or sixteen feet, or about three times the height of an ordinary man.

It would seem to have belonged somewhere in the group of great flightless birds with keelless sternums known as the *Ratites*, or in the Supersuborder *Dromæognathæ* of my own Classification of Birds. Doubtless it was ostrich-like in appearance while not directly allied to that genus, or still less to the moas of the New Zealand group of islands, of which there were some twenty species, now all extinct; of these *Dinornis maximus* was, without doubt, a bird that grew to be at least twelve feet tall, or four feet taller than the tallest of existing ostriches (Newton).

Upon comparing the fossil remains of this extinct bird of ponderous proportions, belonging to the American Museum of Natural History, with those of Cope's *Diatryma gigantea*, I at once recognized the fact that it, too, belonged in the same genus or the genus *Diatryma*, and I have since bestowed upon it the name *Diatryma ajax*. Upon measuring the bones and fragments of bones representing it, it was apparent that these were from a form considerably larger than Cope's *D. gigantea*, and could such a thing ever have happened as to have an old male African ostrich stand beside a full-grown individual of this extinct, gigantic bird of the Eocene of Wyoming, the former would have appeared, by way of comparison, a veritable pigmy in its proportions.

In order to appreciate the probable size of *Diatryma ajax* I have made a drawing for the purpose. The ac-

TABLE I.—INDEX NUMBERS OF THE CHANGES OF LEVEL OF FOOD PRICES IN THE PERIOD 1900-1912.

Country.	Nature of Index Number.	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
United Kingdom	Retail prices of 23 articles of food in London, weighted according to workmen's consumption.....	100	100	101	103	102	103	102	105	108	108	109	109	115
France	Retail prices of 24 articles of food (including wine), fuel and lighting materials in Paris, weighted according to workmen's consumption.....	100	100	95	98	99	97	95	100	102	100	104	117	115
Germany	Retail prices of 13 articles of food in Prussia, Bavaria, Baden and Wurtemberg, weighted according to workmen's consumption.....	100	103	106	105	105	114	118	116	116	124	127	128	(130)
Holland	Retail prices of 23 articles of food in 6 principal towns (unweighted).....	100	100	100	102	103	102	103	105	107	109	115	117	123
Italy	Contract prices of 13 articles of food supplied to 43 State colleges in various parts of the country (unweighted).....	100	100	99	99	97	99	99	101	105	112	114	118	120
Norway	Retail prices of all articles of food (26 specified) in Christiania, weighted according to workmen's consumption.....	...	100	99	99	97	100	103	108	109	106	108	111	119
Russia	Wholesale prices of 30 articles of food at representative markets (unweighted)....	100	104	107	102	104	112	116	130	130	127	116	121	...
United States	Retail prices of 15 articles of food in 39 principal cities, weighted according to workmen's consumption.....	100	105	111	111	113	113	117	122	126	133	140	139	...
British Dominions: Canada	Wholesale prices of 78 articles of food (including fodder) at representative markets, weighted according to national consumption.....	100	104	109	106	109	111	115	128	129	133	135	136	151
Australia	Retail prices of 41 articles of food (besides soap, starch, washing blue, kerosene and candles) in the 6 capital cities, weighted according to national consumption.....	...	100	109	105	95	101	101	98	106	104	103	103	116
New Zealand	Wholesale prices of 17 articles of food at representative markets (unweighted)....	100	101	109	109	102	107	107	112	117	108	110	116	...