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PROCEEDINGS

OF THE

SECOND INTERNATIONAL CONFERENCE

OF

AGRICULTURAL ECONOMISTS

HELD AT
CORNELL UNIVERSITY,
ITHACA; NEW YORK,
AUGUST 18 TO AUGUST 29, 1930

The Collegiate Press
GEORGE BANTA PUBLISHING COMPANY
MENASHA, WISCONSIN
1930

Indexed 3 cards
Depression, Agricultural
Finance

THE RELATION OF MONETARY CONDITIONS TO THE AGRICULTURAL DEPRESSION

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AGRICULTURAL economics and monetary science are both young and vigorous branches of applied economics; but the specialists in the two fields, on the whole, pursue their way independently of each other. I doubt if all agricultural economists are monetary experts and I think it is probable that most monetary experts know little of farm management or even of the marketing of agricultural products.

An anology may be taken from the older sciences. Monetary science may be compared to chemistry. It is fundamental and based on first principles, and it has made striking advances in the last decade. Agricultural economics may be likened to biology, not only because it is concerned with organic and perishable products but because it is still primarily descriptive and inductive. In the study of living processes and especially of animal and plant diseases, chemistry and biology have fused in the new science of biochemistry. So in the study of agricultural prices and marketing, and especially of agricultural depressions, we need a new specialized branch of research. The subject matter of this branch of economic research would be the influence of monetary conditions upon agricultural prices and especially upon the marketing of primary products in the principal produce markets of the world. It would be concerned with the monetary aspects of agricultural depressions, the significance of changes in world stocks of agricultural products and the effect on farmers' livelihoods of fluctuations in the purchasing power of consumers, and changes in the value of money.

In this paper I propose to act as matchmaker and promote an auspicious union between these two young and active sciences. All that is necessary I hope is to get them to talk the same language. Take two problems, which are being actively discussed at the present time. This Conference of Agricultural Economists has been considering the over-production of goods. A few weeks ago the Gold Enquiry Committee of the League of Nations was discussing the shortage of gold. Is there any connection between

these two? I suggest that we may find that these two problems are closely related, if not indeed, actually two aspects of the same problem.

Let us consider first the fundamental paradox of the present situation. The central fact of the agricultural depression is falling prices. What causes prices to fall? Common sense says: "Over-production." Over-production in relation to what? The answer is generally to point to an increase in the production of one or more particular commodities, compared with the average of the last few years. That explains the fall in price of those commodities. But what of other commodities that show no such increase? The answer then might be over-production in relation to the purchasing power of consumers. But how is it that consumers' purchasing power has been reduced? If the price of certain commodities has fallen, ought that not to set free more purchasing power for other commodities? No, we are told, because the majority of consumers are also producers and many, if not most of them, have also been over-producing; look at the unemployment and short time in industry. The workers in industry can not sell their output and get enough money to buy what they want from the farmer, because the farmers can not get enough money for their produce to buy what they want from the workers in industry. That is, I think, a fair statement of the position acceptable to theory and common sense; and it is no answer to say, as the old-fashioned economists were inclined to say, that general over-production in this sense is impossible since in the last resort goods exchange for goods. Goods do not exchange directly for goods. Goods are exchanged for money and what hampers the exchange of goods is any sudden change in the relationship of price to cost of production.

But let us follow up the popular diagnosis and ask common sense what is the remedy for the present situation. Without hesitation and with very good reason every producer at any rate will naturally say that the remedy for over-production is to restrict production. The manufacturer seeks to limit output by agreement, demands higher protection for his home market, goes short time or in the last resort closes down his factory altogether. Trade unions, faced with the falling off in the demand for labour, are tempted to pursue a policy of ca'canny and in other ways to limit output. Farmers can not respond quite so easily to falling prices.

But they will seek to exclude foreign supplies from the home market, to enter into pools and cooperative schemes for withholding supplies and preventing surpluses from coming into the market; and finally, they will applaud the advice given to them collectively to reduce their acreage and limit production even if individually they are slow to adopt this policy and are inclined to wait for the other fellow to do it first.

It is true that common sense has another remedy to suggest, but this is more often the suggestion of the economist or the armchair critic than of the producer himself. Reduce costs of production. An admirable sentiment, but unfortunately greater efficiency and lower costs take time, interest charges and taxes cannot be reduced, and meanwhile the producer faces certain loss.

Suppose therefore that production is restricted all around, what is the result? If less is produced, how can everyone be better off? Are we not confronted with this outrageous paradox: that the surest way to restore prosperity and enable us all to buy more of this world's goods is for us all to produce less and organize an artificial scarcity? This conclusion seems hardly acceptable to common sense and yet it seems to follow logically from the action that each producer individually is tempted, advised, or indeed compelled to take. Nor is it an unreal hypothesis. One of the principal evils of a trade depression is that it reduces the total production of wealth at the same time that it gives a larger share of the reduced aggregate income to the creditor classes in the community.

For an explanation of this paradox we must return to the point already mentioned about the relationship of prices and costs. If by some miracle all prices, wages, and charges were to be reduced simultaneously there would be little or no interference with the exchange of goods or reduction in consumers' purchasing power. But unfortunately this does not happen. In a trade depression prices of goods, and particularly of primary foodstuffs and raw materials, fall first; transportation costs, wages, interest charges, rates and taxes, and the cost of services fall much more slowly and with varying degrees of friction and economic loss. The first effect of prices falling below costs is to wipe out profits and the next is to create unemployment. The result in each case is to reduce consumers' purchasing power and thus accentuate the tendency of prices to fall. We thus see that a general fall of prices without

an equivalent reduction of costs must bring about a reduction of demand and a reduction of production. The fundamental problem, therefore, is what causes the price level to fall.

Before leaving the question whether over-production is the cause of falling prices and coming on to the problem of gold and credit, I should like to establish a prima facie presumption that money has something to do with the situation by enunciating three propositions which are so trite as to be truisms.

First, the price or money value of any commodity or service is the amount of money for which it is exchanged. That is the definition of price.

Secondly, the money value of all goods and services bought in a year must be equal to the amount of money paid for them. That will do for the quantity theory of money.

Thirdly, the relationship existing between the amount of money available to buy goods and services and the amount of goods and services offered for sale must therefore have an important bearing on the course of prices. Those who explain the fall of prices by over-production are in fact assuming a change in this relationship between money and goods. For they imply that the supply of goods has increased while the amount of money has remained unchanged. This may be a true explanation of the fall of prices. But if so, it amounts to the same thing as saying that there is a shortage of money in relation to the supply of goods.

The important fact which many people do not recognize or are inclined to forget is that changes in the amount of money do actually occur. The amount of money both in the form of currency notes and of bank deposits in each country and in the world as a whole is constantly changing every week. A glance at the figures published by the Federal Reserve Board and the Bank of England is sufficient to show this. But even more important in their bearing on the relation between money and goods are changes in the rate at which money changes hands. Unfortunately these changes in the rate of turnover of money cannot be measured, though we know that in periods of good trade and rising prices the velocity increases and in periods of depression and falling prices, decreases.

These preliminary remarks may be summed up in the single proposition, from which no economist I take it would dissent, that a fall in prices of things in general shows that the amount and turnover of money has not been increasing as fast as the produc-

tion of goods. The converse of this proposition, that rising prices show that money is increasing faster than goods, is unfortunately familiar enough to our generation through the experience of war-time and post-war inflation in Europe. And yet throughout this period there were many people who attributed the rise of prices, at any rate in Britain and I imagine in the United States, almost wholly to the alleged shortage of goods. Actually the production of goods and services in Great Britain during the post-war boom of 1919-20 was considerably higher than during the period of subsequent depression. In a sense, of course, there is always a "shortage" of goods in relation to demand in good times, just as there is always "over-production" in relation to demand in bad times; but historically it can be shown, I believe, that the "shortage" during boom years has generally represented a larger volume of production than the "over-production" experienced during the depression which preceded or immediately followed it. This shows the need for caution in using the words "over-production" and "shortage," when in different contexts they may both be applied to the same phenomenon.

Three different uses of the terms over-production and shortage may usefully be distinguished:

1. We may mean that the statistical position shows an exceptional increase or decrease of production compared with some previous period.

2. We may mean that the tendency of prices to fall or to rise reveals an excess or deficiency of production in relation to effective demand as measured by the amount of money which consumers are willing and able to pay.

3. We may use the terms to mean an absolute excess or deficiency in relation to consumers' needs caused, let us say, by satiety or insatiable demand. In this sense we can perhaps talk of an over-production of motor cars, and if a casual visitor may hazard a guess, possibly of popular magazines in the United States, though not in relation to the world as a whole. And we can certainly speak of an actual surplus and still more of an absolute shortage of water in particular localities. I am prepared to concede that there may conceivably be a surplus of wheat in the world in this sense, but certainly of no other foodstuff or raw material that I know of.

In what sense then can we rightly use the term over-production in relation to the present crisis? Do we mean that the statistical

position reveals an exceptionally large increase in production compared with previous years? Unfortunately our statistics of production are never very accurate and always lag behind our statistics of prices. But let us look at the League of Nations indices of world production published last year.

The Memorandum on Production and Trade contains indices of the production of raw materials and foodstuffs in the world for the 5 years 1923-1927. The combined index gives an increase of 15 per cent during this period or an average of 3 per cent per annum. The index number for foodstuffs alone during these five years shows an average increase of only 2 per cent, while raw material production increased by about 22.5 per cent, or 4.5 per cent per annum. The world's population meanwhile increased by about 1 per cent per annum, and therefore had 1 per cent more food each year to go round.

Among foodstuffs the group that contributes the largest increase is vegetable oils and oil seeds, which increased by 33 1/3 per cent. Increased consumption of fats is a sign of a higher standard of living. The smallest increase in the foodstuffs is that of the cereal group which shows an increase of only 4 per cent, or less than 1 per cent per annum. (This illustrates the general rule that as the standard of living rises less cereals are consumed not only proportionately to total food but absolutely; in other words, with every rise in wages less money tends to be spent on bread and more expensive foods take its place).

Textiles, mainly cotton and wool, show an increase of 25 per cent which also suggests a rise in the standard of living. Chemical fertilizers show an increase of 33 per cent which points to the growth of a more intensified and diversified agriculture. Cement production increased by 47 per cent, pointing to increased building activity, and wood pulp by 38½ per cent, mainly accounted for by the rise of the artificial silk industry and the growth of the newspaper habit. The largest increase of all is 70 per cent for rubber production and this figure, combined with a 22 per cent increase in petroleum production, is naturally associated with the growth of the motor car industry.

The statistics thus suggest that the world's population is eating slightly more, is better clothed and better housed, reads more newspapers and moves about more on wheels; which is satisfactory since they confirm what we thought we knew already.

The 1928 index of production has not yet been published but advance information received from Geneva gives the increase in 1928 as 4 per cent. Assuming that the same rate of increase of 4 per cent has been maintained in 1929 we get an increase of 23 per cent during the seven years from January, 1923 to January, 1930.

This may seem to some a dangerously rapid rate of increase of production, which is quite sufficient to account for the deplorable position in which producers now find themselves. To my mind they suggest rather the opposite. An increase of world production of foodstuffs and raw materials at the rate of 3 or 4 per cent per annum seems a desperately slow rate of progress in relation to human needs. Taking the white races alone, it is surely not unreasonable to ask that their standard of living should be increased by at least 200 per cent before we speak of the need for slowing down the wheels of progress. The masses of peasants and wage-earners would still be no better off than many of us—whom I presume still have some unsatisfied desires for food and clothing,—if their real incomes were increased ten-fold. But so far from being able to realize the dream of abolishing poverty we can scarcely expect an annual increase of even ten per cent in world production under the most favorable circumstances. You cannot double the supply of foodstuffs and raw materials in the world in a year nor even in ten years. The stubborn facts underlying all our talk of over-production and agricultural surpluses are the poverty of man and the niggardliness of nature.

This digression has, I hope, clarified the meaning of the term over-production. We conclude that the statistics show that there has been a steady increase of production at the rate of 3 or 4 per cent per annum during the last decade, but that this rate falls far short of what we should like to see if poverty is to be abolished and the standard of living of the masses is to be raised to a decent level. On the other hand it is evident from the fall in prices during the last twelve months that there is now substantial over-production in relation to consumers' purchasing power. In other words, the apparent—I would almost call it illusory—over-production from which the world is suffering is *over-production in relation to the demand at the former level of prices*. This is another of those truisms acceptable alike to theory and common sense, but it has important implications; for it is only another way of saying that

there has been a diminution or at least an insufficient increase in the amount of money available to purchase the world's staple products.

We are led back therefore to the other aspect of our two-fold problem. What evidence is there of a shortage of money? How has it come about? And what precisely is the manner in which it affects agricultural prices?

First let us look at the production and distribution of gold; for in all gold standard countries the total amount of money—that is notes and bank credit—is ultimately limited according to the various statutes and customs of each country, by the reserves of gold in the central banks. The total volume of money can contract and expand within fairly wide limits at the discretion of the central banks, but the limiting factor is ultimately the amount of gold. That is one of the objects of the gold standard. The first is to provide a medium of international payment and thus maintain currencies at parity with one another. The second is to provide an automatic check on the unlimited creation of new money. If it does this too effectively money will not be created fast enough and prices will fall; if gold supplies are suddenly increased—as happened after each successive discovery of gold in California, Australia, and South Africa—then new money will be created too fast and prices will rise. The ideal of course would be to manage somehow that gold supplies are increased each year at the same rate as the production of goods and if this is impossible then to alter the ratio of total money to gold so that money at any rate, increases at the desired rate. Unfortunately this is not an easy matter.

Actually we find that during the seven years from January, 1923 to December, 1929, according to Mr. Joseph Kitchin's calculations, the world's stock of gold money has increased by only 1¾ per cent per annum, or from £2,000 m. to £2,336 m. In the British Empire alone which holds only approximately 11 per cent of the world's monetary gold, the stocks at the end of 1929 showed a decrease of 10 per cent compared with the amount held at the end of 1924.

It thus appears that the production of goods, as indicated by the League of Nations' indices of world production, has been increasing during the last seven years nearly twice as fast as the annual addition to the world's gold stocks. Prima facie therefore there

is evidence here of a relative shortage of gold in relation to goods.

But if that were the whole story, we might have expected prices to have fallen more steeply at an earlier date. In fact it has been possible for the central banks to make the existing gold go further by withdrawing gold coins from circulation and by obtaining supplies that were lying idle, either in their own or other countries. It is possible therefore to give an alternative set of figures which shows that the gold reserves of the principal central banks have increased during this period by about 24 per cent which is double the estimated increase in the stock of gold money in the world, and the same as the estimated increase in world production. It is possible to argue therefore that there is no gold shortage, as yet at any rate. The experts disagree as to the comparative significance of the two sets of figures.

More important however than the total supplies of gold is their distribution and the use made of them. We saw that within very wide limits the ratio of the total amount of money to gold reserves may be varied by law or by custom or by the discretion of the central banks. One country may receive a large accession to its gold reserves and not allow the increase to be reflected in a proportionate expansion of credit. This happened in the United States after the war and has happened in France during the last two years. Other countries, like England and Germany, may be able to make the same amount of gold support a much larger superstructure of currency and credit than before the war. A loss of gold from the United States and France has therefore little or no effect, while a moderate drain of gold from London may involve serious consequences.

Taking into account gold in circulation as well as gold reserves, the significant facts are, (1) that the United States has more than twice as much gold as before the war, (2) that France has increased her stock by 10 per cent since 1913 and 71 per cent since 1927 and, (3) that Great Britain and Germany had in December, 1929, less than before the war.

During 1929 movements of gold were on an unprecedented scale. Great Britain started the year with £152 m., gained £10 m. by June, then lost £34 m. and ended up with £146 m.—a net loss of £6m. Germany lost £47 m. by the middle of the year and then recovered £26 m., leaving a net loss of £21 m. The United States gained £50 m. by the end of October and then lost about £20 m.

leaving a net gain of £30 m. France took £79 m. and lost nothing. In the last two years the Bank of France has absorbed 30 per cent more than the total supplies of gold added to the world's stock of money.

The net result was to increase these stocks of the United States and France, which already had more than enough, and to deplete the stocks of Great Britain and Germany. The severe loss of gold from London compelled the Bank of England to raise the bank rate to 6½ per cent in order to raise the exchange value of the pound and stop the drain of gold. The Bank's paramount duty is to maintain the statutory gold standard in Great Britain, but the effects of its actions are world wide.

One of the most disquieting results of the maldistribution of gold is that while heavy gold exports from London must inevitably involve a contraction of credit in Great Britain, they can no longer be counted on to serve automatically as a basis for credit expansion elsewhere. It would hardly be an exaggeration to say that the expansion and contraction of credit in the world as a whole (and consequently the course of prices of primary products in world markets) depends more on what happens to the relatively small stock of about £60 m. or so of free gold held by the Bank of England than on the rest of the gold put together. Most of the rest is either tied up as statutory backing for internal note issues—a patent anachronism when gold is not needed for internal circulation—or hoarded in excess of statutory reserve ratios, or prevented from being used by suspension of gold payments and prohibition of exports. The "shortage" of gold is thus to a large extent artificial and is accentuated by the widespread tendency to hoard stocks of gold divorced from any close connection with the working of the international gold standard. London retains its position as the financial centre and principal produce market of the world, but the maldistribution of gold has rendered it more sensitive than ever to accidental shocks and has at the same time weakened its powers of control. In a situation like this the expression "shortage" of gold may give rise to misunderstanding and differences of opinion. Looked at from one point of view there is no shortage. As we saw, the gold reserves of central banks show considerable increase during the last ten years; and there are no doubt ample supplies to provide all reasonable requirements, given a satisfactory distribution and a reasonable elasticity in reserve ratios. On the

other hand we have the patent fact that gold has been steadily appreciating in value for some years and has risen in value—as measured by its command over goods—by more than 11 per cent during the last year. As we saw, it is customary and legitimate to speak of a shortage when the value of a commodity rises in value. In this sense therefore we are entitled to speak of a shortage of gold. Moreover the fact that central banks have been increasing their gold stocks is not unconnected with its rise in value, and is indeed often referred to by economists as the "scramble for gold." For my present purpose it is sufficient to stress the fact that London, at any rate, experienced a drain of gold last year and that this played a not unimportant part in precipitating the collapse of agricultural prices.

This brief analysis of the gold situation supplies the background of our monetary troubles.

The immediate cause of a collapse in prices of primary products is the contraction of credit resources in the primary world markets. A rise of the bank rate in London affects not only the domestic situation in England, but equally and even more quickly the position of primary producers in other countries who look to London as their principal market. An increase of 25 per cent or so in the cost of financing the purchase and shipment of primary products (which is what a rise in the bank rate involves) causes an immediate reaction on the price which dealers are prepared to offer. Bulls become bears and selling pressure meets with little or no resistance. At the same time contraction of credit through the sale of gold and securities by the Bank of England reduces the cash resources of the banks, discourages fresh lending and leads to the calling in of loans. Forced selling by dealers and speculators accentuates the slump and with every fall in values more loans are called in. Thus the vicious circle of progressive and cumulative deflation is set up, which tends to grow by its own momentum and spreads gradually throughout the whole economic system, eating up profits, closing factories, and bringing unemployment, bankruptcies and poverty in its train. The tide turns eventually when cheap money and the deliberate expansion of credit by the central banks have effected a change in psychology and re-started the wheels of trade and industry.

It is easier to point to the causes of our troubles than to put them right. The remedy for the world-wide agricultural depression

is a world-wide expansion of credit sufficient to counteract the fall of prices. Sooner or later this will happen; but in the absence of a common policy and the habit of close cooperation between central banks, confidence is hard to restore and isolated action by one country may fail to achieve its object. Given the irrational and unstable manner under which the gold standard is working under post-war conditions, I believe that neither the Federal Reserve Board nor the Bank of England is in a position to take the necessary remedial action safely, promptly and effectively. The initiative and the determining influence for good and evil seems for the time being to have passed to the Bank of France.

These are among the intricate problems now being explored by the League of Nations Committee of Enquiry into the gold problem. The outlook for the future is certainly disquieting. If the present competition for gold continues, prices will continue to fall with periodical crises like that of the last twelve months. The effects of falling prices and contraction of purchasing power are felt in every direction in paralysing business enterprise. Over-production, lack of markets, agricultural depression, and unemployment, are the constant preoccupations of governments throughout the world. The remedies adopted or proposed—restriction of production, tariffs, preferences, bounties, subsidies, producers' pools and price-fixing agreements—may benefit the parties immediately concerned and enable them to shift part of the burden on to other shoulders, but they do nothing to counteract the root cause of the trouble, and possibly even accentuate it. The monetary crisis is fundamental and concerns all countries. If the gold standard is to be maintained, closer international cooperation is essential to bring it into line with the requirements of the modern world.