THEORIES OF ADJUSTMENT OF THE BALANCE OF PAYMENTS UNDER FIXED EXCHANGES.

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Any system of stable exchange rates is one in which the quantity of money in each country is determined primarily by the balance of payments. Discrepancies in the balance of payments may be settled temporarily by movements of gold or by changes in the balance of international short-term indebtedness, but to eliminate discrepancies caused by secular changes and secure real adjustment the domestic money supply must be adjusted. The traditional classical theory of this adjustment process was the only explanation of the mechanism of re-equilibrium until the recent studies carried out by Harrod and Whale, who applied the Keynesian theory of employment to international trade problems. Harrod's theory is merely a development of the classical, but Whale's analysis of the working of the pre-1914 gold standard has given an alternative explanation of the mechanism of re-equilibrium. These various theories of the mechanism of adjustment of the balance of international payments will be examined in turn and an attempt will be made to determine the validity of Whale's theory, which has been found to fit better the known facts of the working of the pre-1914 gold standard, in the new setting of the fixed exchange relationship between Ireland and Great Britain within the sterling area.

1. The Classical Theory.

According to traditional classical doctrine, the balance of international payments was adjusted by movements of gold. Under a simple specie currency, Hume's law of the self-regulating mechanism of international specie distribution was operative. A drain of bullion diminished the monetary circulation within and increased it outside the country with the result that prices fell within and rose outside and so tended to encourage exports and check imports. And conversely with an inflow of bullion, the sequence was disturbance of equilibrium—flow of specie—changes in volume of circulation—changes in prices—restoration of equilibrium.

Under the gold specie standard, where the domestic circulation as well as the international means of settlement consisted largely of gold, the relationship between the domestic money supply and the balance of payments was direct and immediate. The change in international trade arising from a gold flow was reversed when the country possessed just the quantity of money that it needed. Movements of gold could only give rise to primary contraction and expansion as credit operations did not exist. Adjustment could, therefore, only be secured through the commodity balance.

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Under the gold bullion standard, where gold currency is replaced by paper money and credit instruments, the classical economists recognised that gold movements did not lead automatically and directly to the price changes required to set the forces of equilibrium in motion and that compensatory action or induced changes were necessary to ensure their reversibility lest reserves became exhausted before equilibrium was restored. They held that the effect of gold movements depended on the reaction of the banking system to the change in its reserves and that the multiple change in bank credit consequent upon such movements was obtained through variations in discount rates. An important rôle was assigned to central bank action as an instrument for changing the volume of domestic money in accordance with the balance of international payments. If gold flowed in, for example, the central bank was expected, in addition to purchasing the gold, to increase the national money supply by the acquisition of additional domestic assets in accordance with its reserve ratio. Changes in the discount rate affected the volume of the central bank’s domestic assets by making borrowing more or less attractive. Prices would then be affected in the same manner as under a gold specie standard.

Adjustment was again held to be primarily affected through the commodity balance. If a fixed rate were strictly maintained between the total quantity of bank money and the quantity of gold in the system action would be taken automatically. Changes in the volume of credit and height of prices were regarded as the effect of the movement of specie.

The kernel of the theory was that in the event of disequilibrium in the balance of payments changes in reserves would compel the monetary authorities to take action to adjust their earning assets by changing the terms of lending. This indirect mechanism, connecting money and prices by means of changes in bank reserves and discount rates, was first clearly described by Goschen, but is usually associated with Marshall.

Empirical investigations into the mechanism of adjustment of international balances of payments have failed to verify the traditional classical theory of re-equilibrium. Taussig noted that large adjustments had been effected much more smoothly and speedily than would have been possible if the classical mechanism had operated. He found it hard to discern the intermediate stage of gold flows and price changes before the real adjustment by means of movements of commodity imports and exports and concluded that if it existed it was extremely short.

Apart from the fact that this theory does not apparently work in practice there are a number of defects inherent in it, the more important of which are:

(a) it is dependent on the quantity theory of money, at least in its less rigid form that an increase in the quantity of money will tend to raise prices and conversely;

(b) the volume of trade in goods which have an international market cannot be adjusted by means of domestic price changes as there are no national price levels for such goods;

(c) it assumes that a gold inflow would cause a decrease of exports and an increase of imports, and conversely, but both cannot follow as the increase in money costs which will tend to reduce exports will by the multiplier relationship reduce total incomes and consequently the proportion of total incomes spent upon imports;

(d) the relationship between gold and prices depends upon institutional factors and changes in gold stocks may not affect the volume of note issue at all;

(e) it fails to deal systematically with the level of employment—full employment in some sense being assumed.

2. Development of Classical Theory by Harrod.

Harrod applied the Keynesian theory of employment to international trade problems and found that gold movements do not play an important part in the mechanism of adjustment through their effects on the commodity balance. He holds that the self-righting mechanism postulated by the classicals through the influence of gold movements on money costs of production only operates if they exert an antecedent and greater influence on the level of activity. But gold flows exert by no means the most important influence on the level of a country's activity. Falling exports, for example, may so depress the level of activity in a country that imports fall still more and an inflow of gold occurs, but the depressing effect of the falling volume of exports may outweigh any stimulating effect which the import of gold may have. If income from exports increases, the income and activity of a country as a whole is stimulated. A rise in prices will be dependent on the degree of employment and obviously will not play an important part in the adjustment of the international balance. Gold flows, therefore, cannot be regarded as a suitable instrument for adjusting foreign trade, even if they are allowed to exert a large effect on the quantity of money.

The classicals ignored the possible direct effects of a specie movement on the level of foreign lending and borrowing. They treated movements of capital as independent factors to which all other items in the current account had to adjust themselves. Harrod, however, while minimising the effects of gold movements exerted through the commodity balance, holds that they can exercise considerable influence on the flow of external investment and that capital movements induced by a gold flow are possibly the most reliable factor in the self-righting mechanism. The effect is transmitted through the influence of the gold flow on relative liquidity at home and abroad. If an active balance is not compensated by a flow of foreign investment gold flows in and liquidity is increased with the result that saving exceeds the current addition to the stock of capital goods. If the banks remained passive the gold flow would have no further effect, but Harrod says that the banks will tend to reduce interest rates, at first short and later long-term rates, in order to increase their proportions of remunerative assets. Capitalists will then look abroad for more lucrative assets and the gold flow may be reversed and a new equilibrium reached.

The two principal objections to this view are that the effect of gold movements on relative liquidity is unlikely to be large and that changes in the quantity of money are slow to affect long-term interest rates.
With regard to the first point, the flight of capital during the inter-war period caused a considerable amount of dislocation and the effect of gold movements on the liquidity position of commercial banks played an extremely small part in reversing the flow. The large gold imports into the United States in the 'thirties were merely an addition to surplus reserves and exerted no reflationary or inflationary effect. On the contrary, in so far as gold producing countries such as Canada sold their output to the United States and utilised the proceeds to repay United States debt the inflow of the metal provided a vehicle for disinvestment and was a positive deflationary force.

Secondly, the banks, in attempting to operate on the long-term rate of interest, are at the mercy of public opinion; they can only affect long-term rates in so far as they influence stock-market speculation. Changes in the rates for advances are generally far too trivial to have any influence on trade activity directly. Further, changes in long-term rates of interest induced as a result of gold flows do not appear to exert much effect on investment activity. Recent studies suggest that the volume of investment is governed much more directly by the trend of effective demand and has been rather insensitive to changes in the rate of interest.

The maintenance of the gold standard by means of variations in discount rates requires from time to time a disturbance in the processes of saving and investment in the different countries. Discrepancies in interest rates may lead to inconvenient capital movements and unstable equilibrium. Before its collapse in 1931 the gold standard had been dangerously menaced by the highly volatile mass of short-term funds which had developed as a result of uncertainty and the operation of central bank control by means of discount rate changes. The abnormal size of international short-term movements in the 'thirties was due in part to the regulation of the international position by interest rate changes. Independent and highly variable bank rate policies brought into being such an enormous mass of short-term funds that exchange equalisation funds had to be established to avoid constant and upsetting variations in exchange rates.

On the other hand, central banks under the gold standard conditions prior to 1914 instead of reacting automatically to gold movements in accordance with classical doctrine used all sorts of devices to make bank rate changes unnecessary. The bank rate weapon was not used to keep gold supplies in different countries in line with each other by the policy of dear money in one country while cheap money was being pursued in the other. Gold movements were then rather the reflex of changes in the balance of payments and in the rhythm of business activity in the various countries. They arose from changes on income account and not from discount rate changes. The rhythm of business activity and not interest rate changes governed investment opportunities and capital movements.

3. Whale's Spontaneous Adjustment of Income Theory.

Whale has postulated an alternative theory of spontaneous adjustment by means of changes in incomes without the need for interest rate changes. According to this theory the same cause which is responsible for the specie movement, namely the change in the course of trade, may alter the demand for loans at the same interest rates. The change in

the volume of credit is held to come about spontaneously without being
induced by a change in the money rate of interest. While the main-
tenance of the same money rate is equivalent to a rise or fall in the
natural rate it is considered that adjustment of the volume of credit
through changes in demand at the same rate of money interest is likely
to be more immediate than those induced by changes in the rate.
Further, complications resulting from discrepancies in interest rates
between countries are avoided.

In this view a change, for example, in the direction of demand which
tends to turn the balance of payments against a country exercises a
corrective deflationary influence. A decline in the effective demand
for a country's exports will reduce the income of exporters and
through them, in accordance with the multiplier relationship, the
incomes of other classes.

With regard to international capital movements the position is that
such movements for the financing of real investment will normally
bring into operation the self-regulating mechanism of adjustment
operating through income and effective demand in accordance with the
foreign trade multiplier. Portion of the proceeds of a foreign loan are
likely to be spent directly on imports and the portion spent at home
will generate increased income which will lead to increased imports
covered by the balance of the loan.

Under gold standard conditions temporary disequilibria in inter-
national balances of payments were settled frequently by movements
of short-term funds. Such movements are all-important for the adjust-
ment of temporary disequilibria under fixed exchanges not based on
gold. Neither the classical nor the spontaneous adjustment of income
or Whale theories, however, are concerned with explaining how
equilibrium in this sense is established. Both mean by equilibrium
of the international balance of payments equality of in and out pay-
ments without continuous gold movements and without continuous
changes in the balance of international short-term indebtedness, and
both assume that equilibrium in this sense is established. They are
both concerned with explaining the mechanism by which balance-of-
payments discrepancies are eliminated rather than the means by which
they are currently settled.

Whale's theory is an attempt to explain the mechanism of
re-equilibrium under fixed exchanges from an analysis of the working
of the pre-1914 gold standard. In view of the economic frictions which
have since beset a régime of fixed exchange rates it will be useful to
consider generally the conditions in which his theory may be expected
to operate.

The theory of a spontaneous adjustment of international balances
of payments without the need for interest rate changes does not dis-
pose of the need for the regulation of national credit in all cases. It
does, however, seek to provide an explanation of the mechanism of
re-equilibrium in the normal case, i.e. if the effect of a passive or active
balance tends to make local business less or more profitable. The ease
and rapidity with which spontaneous adjustment will be effected will
also depend upon a number of other factors, chief among which is the
marginal propensity to import.

Where a passive balance is due to causes which at the same time
tend to make local businessmen less profitable exporters, in order to
meet maturing liabilities and maintain their customary standards of
living, they will have to draw upon their bank balances or increase
their overdrafts. If the trend of demand is not reversed without delay they will be compelled to curtail expenditure owing to the depletion of their bank accounts or refusal or withdrawal of overdraft facilities. If the reduced expenditure of exporters would have been spent on imports the demand for imports will fall off at once and the fall in the banks’ local liabilities or rise in their local assets will be checked. In countries, therefore, with a high marginal propensity to import, an adjustment of the balance of payments through a reduction in imports should be both rapid and effected with very little difficulty, while if there is a low propensity to import the reduced expenditure will lead to economies in locally-produced goods and services and adjustment will be more prolonged. In the latter case the demand for certain types of cheap imported goods other than raw materials may even increase. Adjustment will then be secured either by way of increased exports arising from reduced rewards to factors of production or, alternatively, by decreased production leading to a decline in income and consequently decreased imports.

There will, however, be no spontaneous tendency towards equilibrium if the causes of the passive balance bring about increased profitability of business as a result of an internal expansion produced by Government loans for public works or other reflationary policies when a sympathetic movement is not generated abroad. The automatic tendency towards adjustment will be counteracted by autonomous income changes at home, and while the change in the trade balance will still exercise a deflationary influence it cannot be expected to be self-correcting. The release of idle balances will not then be counteracted by a reduction in bank credit and imports and also possibly exports will increase. If the rate of interest is maintained and internal confidence holds, bank advances will continue to rise until reserves are completely exhausted. A long-term loan from abroad could ease the situation. Central bank action calling for, inter alia, discount rate adjustments will be necessary eventually in such circumstances.

A third possibility is that the passive balance may have no effect on internal conditions. There need be no change if the banks have ample reserves. If owners of bank balances, which would in any event have remained idle, elect to transfer them to banks abroad the banks may passively allow their local deposits and their reserves to be equally depleted. If the passive balance persists after the supply of idle balances has been exhausted the profitability of local business will be lessened, ceteris paribus, and the resultant depression will lead to a reduction in bank loans, a cancellation of credit money and a spontaneous adjustment of the balance of payments as in the first case examined.

To keep this paper within manageable limits it is not possible to deal adequately with the effects of a passive or active balance on other countries. How quickly a passive balance will be adjusted, for example, will depend upon the extent to which the increased expenditure of the countries with active balances is reflected in their imports and upon the time-lag before these increased imports are reflected in increased exports from the country with the passive balance. In a financial centre like Great Britain there is the alternative of a transfer to local residents of local balances previously held by foreign banks. In this case the effect on the profitability of business will be less marked and there will not be the same incentive to increase bank credit. In the case of an active balance arising from local developments there
may be a fall in local incomes. A fall in interest rates will probably be necessary to secure adjustment in this case.

Whale’s theory of the spontaneous adjustment of equilibrium gives much greater importance to the policy of commercial banks. With a passive balance the excess payments are likely to be reflected in the banks’ accounts by a fall in deposits and/or a rise in total advances. The banks’ problem will be to restore the customary ratio of cash and foreign exchange reserves to deposits or to reduce local assets other than cash to their customary ratio to local liabilities. A new justification is thus found for the theory that notes and deposits should be covered by self-liquidating loans.

The regulation of international balances of payments depends ultimately upon the correction of surpluses or deficits by changes in the general level of incomes earned in production. The theory of spontaneous adjustment should work in normal conditions although interest rate changes may be necessary, for example, to correct an internal expansion unaccompanied by an expansive policy abroad. It certainly provides a satisfactory explanation of the smoothness and rapidity with which adjustments have often been made under gold standard conditions.

Whale’s analysis is of particular importance when reserve ratios are fixed, i.e. when changes in reserves require to be accompanied by changes in the volume of notes or deposits covered by earning assets. There is no immediate problem of adjustment with flexible reserve ratios. The outflow of reserves will not then affect the volume of fiduciary money directly and there is no reason to suppose that banking policy will depend on the banks’ reaction to a change in their reserves. It will be shown, however, that the theory is much more likely in such conditions as a means of redressing the adverse balance of payments and preventing an undue loss of reserves. It will now be examined in the light of the adjustment of the balance of payments of Ireland during the period 1922 to 1939. A comparison of the applicability of the classical and Whale theories to the mechanism of adjustment actually found to be in operation will be possible only, however, when the Irish balance of payments did more or less show a tendency to equilibrate itself in the sense defined above.


Ireland’s currency is convertible at par into sterling and accordingly in her case movements of sterling reserves replace gold movements as the means of settling discrepancies in her international balance of payments. The mechanism of re-equilibrium would, however, be the same as under the gold standard and the same system of international price relationships would also apply.

Ireland’s net acquisition of and liquidation of claims from abroad have fluctuated with general movements of income. The accumulation and repatriation of external assets has played a passive rôle in the balance of payments. Movements of sterling reserves have in no sense determined the supply of money. The volume of credit is dependent upon banking policy which may not react at all to changes in reserves. A passive balance of payments caused by a decline in exporters’ incomes may have no effect upon internal conditions if the banks have ample excess reserves. The reserves of the Irish banks are so enormous that cash or bank money need not be affected if a passive balance
caused by the maintenance of incomes in such circumstances were not unduly large or prolonged, as would be the case with fixed reserve ratios or where flexibility did not extend far enough to dispense with the necessity of accompanying changes in reserves by changes in notes or deposits covered by earning assets.

In general, a passive balance of payments will be reflected in the banks' accounts by a fall in deposits and/or a rise in total advances. The fall in local liabilities and/or rise in local assets of the banks have their counterpart in the depletion of the banking system's reserves of external liquid assets or less commonly by a rise in external liabilities. With fixed reserve ratios it will be necessary that the banking system's customary ratio of reserves to deposits or the customary ratio of local assets (other than cash) to local liabilities should be restored. If they are forced to take action this will be in the direction of reducing the total of local advances and/or security holdings.

The Irish banks have no fixed or customary ratio of cash and foreign reserves to deposits. They have been content to allow their foreign balances to increase or decline relatively to their deposits. They likewise have no fixed ratio for local assets to local liabilities. The latter greatly exceeds the former. If owners of bank balances, which would in any event have remained idle, elect to transfer them to other banks abroad all that happens is that the banks' local deposits and their reserves are equally depleted. Bank loans may also be reduced as a result of the deflationary influence generated by the general fall in incomes, but if this does not occur there is in general no pressure on the banks to bring their less liquid assets into line with their reduced reserves. If a passive balance occurs the balance of payments can be adjusted by wiping out some of the debts due to the country. Equilibrium can thus be restored by changes in the balance of international short-term indebtedness without deflation or pressure on the exchange rate. And conversely with an active balance.

While excess reserves are extremely useful for correcting temporary and accidental changes in the balance of payments without disturbing internal conditions, this automatic regulator contains within itself no self-correcting mechanism for readjusting the internal economy to a secular price change as a result of a decline in the demand for exports. The movement of reserves may not exercise the slightest effect on the credit structure and accordingly may not tend to adjust the position by influencing internal conditions. With a severe decline in the external demand for a country's staple exports, for example, the banks cannot regard the losses of reserves with equanimity. Their reliance upon liquid assets abroad implies actual and expected stability of the foreign exchange rate, and if a large passive balance of payments persisted there would be danger of a flight from the currency. Unless internal incomes are adjusted or external demand revives in such circumstances the banks' reserves would be finally dissipated and their liquidity seriously endangered, with the maintenance of fixed exchanges. Twice during the period 1922 to 1939 the Eire balance of payments became passive, but on neither occasion did it reach dangerous proportions or exert pressure on the exchange rate.

The effect of a reduction in exporters' incomes will be different according to the importance of exports in a country's economy. Stimuli of total income, in addition to exports, whose effects will be multiplied according to the multiplier relationship are budgetary
deficits, expenditure upon capital goods and investments of all sorts and autonomous reductions in imports caused by increased tariffs, etc. With the development of secondary industries the propensity to import tends to decline and the propensity to purchase local products to increase, thus raising the multiplier. If a new infusion takes place the aggregate response is larger, inducing greater local financing and greater expansion than would otherwise occur.

If changes in incomes are chiefly generated by the fluctuating values of exports a high marginal propensity to import will be a factor eliminating difficulties in the exchange market. If, on the other hand, changes of income are chiefly generated within the country then a higher marginal propensity to import will cause a loss of reserves and/or exchange difficulties. If the internal market is much more important than the external market, adjustment can be more easily secured with a decline in exporters' income by transferring resources to the production of goods which will replace imports at a lower turnover of international trade.

The effect of the multiplier relationship will also be different according to the marginal propensity to consume of the income recipients immediately affected. The effect is less in highly capitalised industries or those with a high propensity to import and so the effect of increased exports or investments on those industries may be much less than the normal multiplier for the whole community. Plumptre in his "Central Banking in the British Dominions" compared the different results to the Canadian economy of increased exports of wheat in the 1920s and of gold in the 1930s. In the former case, repercussions were widespread, partly because wheat producers had a high marginal propensity to spend on consumption goods, which, due to tariffs, were largely produced in Canada, and partly because the wheat industry required a great deal of induced investment in farm equipment. In the 1930s, however, the revival led by gold mining was much more confined. The national income failed to multiply on the basis of increased exports and fell away almost without any time lag when exports declined. This was partly because the marginal propensity to spend of those collectively engaged in mineral production was relatively low and because mining, taken together with ancillary industries, probably induced far less new capital investment per dollar's worth of export expansion than wheat.

If a decline in the effective demand for Ireland's exports persisted and it did not have the spontaneous corrective deflationary influence postulated by Professor Whale, the banks would be forced eventually to take action by reducing their accommodation to borrowers, either by refusing facilities for fresh borrowing or by bringing pressure to bear on existing borrowers to pay back loans. To test this theory in the light of the adjustment of the Irish balance of payments during the period 1922-1939 it will accordingly be necessary to examine (i) the effect of a decline in exporters' incomes on Ireland's economy, (ii) whether money balances were withdrawn to maintain incomes, and (iii) whether the withdrawal of money balances was counteracted by the banks to adjust credit conditions to the passive balance of payments or whether reflationary measures at home were undertaken to maintain incomes.

The value of Ireland's net agricultural output was over twice her net industrial output until 1932 and while the proportion declined in subsequent years until the outbreak of war, its value continued to be considerably in excess of that for net industrial output. Over 80
per cent. of Ireland’s total exports consist of agricultural products. In 1930, 51.6 per cent. of the total agricultural output was exported against home sales of 21.5 per cent. While the percentage exported subsequently fell, chiefly due to declining values, exports still exceeded home sales up to 1939, when the percentages were 37.8 and 29.2 respectively. Ireland was thus largely dependent on agriculture to provide the means to pay for imports and to maintain real incomes.

Agriculture in Ireland gives employment to one-half of the occupied population as against slightly over one-quarter in industrial and commercial pursuits. The corresponding proportions for Denmark pre-war, also vitally dependent on agricultural exports, were 34 and 40.* Furthermore, relatively to most agricultural exporting countries, Ireland is a closely settled country of small farmers, most of whom are owner-occupiers. The percentage of agricultural labourers employed is less than half of that in Denmark. Consequently, a decline in demand for agricultural exports should be reflected in incomes without any time lag. The small size of the average farm (one-half are under 30 acres) makes Ireland a high cost producer and a slight decline in prices is, therefore, likely to have a very marked effect on the volume of trade and incomes. As the demand for food is highly inelastic Ireland must continue to export so long as so many of her occupied population are engaged in agriculture, unless the population is considerably increased and this is extremely unlikely. Thus, apart from the secondary effects on other income recipients, the decline in incomes of Ireland’s agricultural exporters has a widespread direct effect.

The other chief determinant of total income in Eire, in addition to changes in export prices of agricultural products, is changes in income from invisible exports. The greater a country’s net active balance on items other than trade the greater, ceteris paribus, will the total income of the community be. Income will be increased not only by the net balance but by this amount increased by the multiplier, provided that the income is spent and not merely held as idle balances.

Ireland has a high propensity to import. Imports are more in demand if incomes rise. And conversely. Imports on the average have amounted to 40 per cent. of the national income; they consist largely of machinery and other capital goods and articles of a luxury nature. The multiplier, accordingly, is not large. The incentive to invest depends more upon the level of incomes and trend of demand abroad than at home. The incomes of those engaged in industry are virtually dependent upon the level of incomes of those engaged in agriculture and this level is in turn largely dependent upon export incomes. A low marginal propensity to consume and a low multiplier, which would otherwise involve chronically low incomes and a low incentive to invest, are less to be feared in Ireland than in countries which are more nearly self-sufficient.

A decline in exporters’ incomes in Ireland, as a result of changes in demand abroad should, therefore, percolate quickly through the entire economic system. It should exercise a spontaneous corrective deflationary influence unless counteracted by a withdrawal of money balances, or by an induced revival of internal demand by subsidising export prices and/or building up secondary industries, or by government deficit spending. If imports are not reduced, however, fixed

exchanges can only be maintained so long as reserves hold out. Eventually the gap must be bridged by deflation, by borrowing or by depreciation of the rate of exchange. Under fixed exchanges the balance of payments can only be fundamentally adjusted by deflating the internal income structure or by enlarging the domestic market and thus reducing the marginal propensity to import.

The agricultural industry in Ireland is particularly liquid. Even in 1937 after years of severe depression farmers had three times as much on deposit as was outstanding in advances to them. In contrast to Denmark, where the agricultural debt pre-war was over £25 10s. 0d. per cultivated acre, the debt in Ireland, excluding outstanding Land Bonds, was only 25 shillings per cultivated acre. Farmers generally could draw on substantial money balances to maintain incomes and clearly did so during the two periods, 1924-1926 and 1932-1938 when the balance of payments became passive. See Appendix for the balance of payments figures.

During the first world war the agricultural industry enjoyed phenomenal prosperity and farmers were encouraged to seek banking accommodation to enlarge their operations. Discounts and advances of all the Irish banks increased from £44·7 million in 1915 to £119·3 million in 1921, an increase of 167 per cent. The decline in world agricultural prices which set in in 1921 undermined the prosperity of the industry and this position was aggravated by the disorganisation of markets and reduction of output resulting from the political troubles of the period and by poor harvests and disease epidemics in cattle in 1924 and 1925. Trade statistics available for Twenty-Six Counties only from 1924 show a decline of £9·2 million in exports between that year and 1926.

Between June 1922 and December 1925 deposits in the five banks with the largest business in Ireland declined by £23·1 million while, on the other side of the account, cash and investments fell by £23·4 million. As there was no large capital investment during this period, apart perhaps from that involved in the establishment of tobacco factories, it is a reasonable assumption that this latter amount was withdrawn from London by the five banks to pay off the money which the depositors withdrew to tide them over the bad times. Allowing for the business of other banks it is likely that at least £30 million was withdrawn for this purpose during this period of 3½ years. The withdrawal of idle balances, however, was not sufficient to maintain incomes as imports declined by £7·2 million between 1924 and 1926. The deflationary influence was mostly felt by the agricultural industry. The secondary repercussions were partly neutralised by the establishment of new industries under a moderate policy of protection.

The banks did not counteract this withdrawal of idle money balances and the reduction in their reserves by a reduction in bank loans and a cancellation of credit money and thus the corrective deflationary influences which the depressed prices for exports would otherwise have exerted was not allowed to operate to its full extent. Their behaviour in the face of changing conditions appears to have been passive. Discounts and advances actually increased slightly during the period. Figures showing the trend of agricultural advances are not available, but there is no evidence that the banks called in their loans or withdrew overdraft facilities to any great extent. Their prosperity was dependent upon the prosperity of the industry and

they were slow to take any steps which might retard its recovery. In regarding the depression as a passing phase they were borne out as early in 1927 the decline in export prices was arrested and they rose in 1928 and 1929.

Equilibrium in the Irish balance of payments was not attained during this period in the sense of equality of in and out payments without continuous changes in the balance of international short-term indebtedness and consequently it is not possible to compare the applicability of the two theories during this period. As to the application of the classical theory the explanation is that the banks did not keep anything like a constant ratio between their deposits and their sterling assets. As to the application of the Whale theory it has been found in fact that Irish individual citizens and firms responded to changes in income up to a certain point by dissaving deposits covered by sterling assets and not by changing expenditure.

From 1932 the balance of payments of Ireland again became passive. The position was now very different. A catastrophic world depression had occurred and its effects were felt everywhere. Superimposed upon its effects on Irish agriculture was the economic war with the United Kingdom with its stifling influence on the volume and price of exports as a result of the penal duties on agricultural produce entering the British market. The index of agricultural prices fell to 20 per cent. below the 1914 level during the years 1933-35.

The sterling balances of the banks declined by £211⁄2 million between 1933 and 1938. The withdrawal of money balances could not this time offset the effects of the income fall which were felt throughout the entire community. Further, the banks took action to counteract the withdrawal of money balances by calling in loans and cancelling overdrafts. The outlook for the agricultural industry was not now relieved by any bright prospects for the future, rather was its position being undermined by the fact that Ireland was losing her place in the British market owing to the discriminatory duties imposed upon her produce. Bank credit was cancelled on such a scale that organised attempts were made by farmers to prevent the banks from realising the security for their loans and to force them to grant substantial remission of their liabilities. Discounts and advances of all the Irish banks declined from £959 million in 1932 to £822 million in 1936 despite increased accommodation to industry in Ireland, directly and under the cover of State guarantees, as a result of the housing drive and the intensive policy of industrialisation and self-sufficiency then being followed.

The Government attempted to maintain agricultural incomes by stabilising some agricultural prices and by granting subsidies to offset the British penal duties but a large proportion of the subsidies did not reach the agricultural producer. Attempts were made also to lessen the dependence on agricultural exports by securing a better balanced economy between agriculture and industry. While many new industries were established behind a high tariff wall the effect on incomes generally, however, was not marked and there was no real revival until the dispute with the United Kingdom was settled and agricultural incomes again increased as a result of higher prices and a greater volume of exports.

Imports fell away considerably in line with reduced export incomes but not quite to the same extent. The passive balance was mainly due to the development of the new industries which were dependent to a large extent on imported supplies of machinery and raw materials.
and to Government deficiteering for public works, particularly housing. The deflationary credit policy of the banks helped to adjust the balance of payments on current account although the relatively small indebtedness of Irish agriculture did not give the same scope to the banks in this connection as they would have in other agricultural exporting countries such as Denmark and New Zealand. As a result, the deficit appears to have been less than during the period 1922 to 1926 when conditions were not nearly so difficult but when the banks took no action to counteract the withdrawal of money balances to maintain incomes. But for the improvement in export incomes from 1938, however, the leakage of demand abroad would eventually have forced the Government to curtail its self-sufficiency and reflationary policies. The creation by Government expenditure of new incomes which increased imports without providing additional supplies of foreign exchange would have led eventually to exchange difficulties.

The discount and lending rates of the Irish banks were totally unresponsive to changes in the volume of sterling reserves. There are no market rates at all in Ireland. Emphasis is upon personal banker-customer relationship and upon customary rates which are traditionally immobile. There was no change in interest rates by the banks during the period 1932-1938. Similarly there is no evidence that price equilibrium between England and Scotland, which have separate banking systems, is maintained by the Scottish banks varying their interest rates in response to changes in their reserves.

The Irish banks have no fixed ratio for local assets to local liabilities. They are not forced to take action with a change in external trading conditions in the short run but it is in their interest to see that the changed conditions abroad are reflected in incomes, so long as so much of their interests are abroad. Assets at home are largely illiquid and this calls for a high ratio of quick assets which will only earn revenue abroad. The inter-bank indebtedness between the two countries is unique having regard to their distinct currencies. The Irish banks have, apparently, completely discounted the risk of exchange depreciation. The cancellation of credit should have improved export prospects by lowering costs, but it did not work in this way because of the penal duties and quota restrictions on Irish exports entering the United Kingdom as a result of the economic war.

In this period the Irish balance of payments did show a tendency to equilibrate itself in the sense defined and it has been shown that Whale's theory and not the classical provides the explanation of how adjustment was effected. No classical economist would of course deny that under conditions of variable reserve ratios the volume of money in a country depends upon banking policy and not on movements of reserves but it has been established that in so far as adjustment of the Irish balance of payments on current account was effected, i.e., without changes in the balance of international short-term indebtedness, the mechanism postulated by Whale was operative. The theory therefore, of a more direct adaptation of the volume of credit under fixed exchanges to what is required by international price relationships than that contemplated in the classical theory has been found to work in practice.

5. Consequences of Whale's Theory.

This explanation of the mechanism of adjustment of the Irish balance of payments towards a position of true equilibrium sheds
considerable light on the vexed controversy over the alleged financial subservience of this country to the Bank of England.

It has been contended that credit conditions in Ireland are controlled by the Bank of England. None of those who have alleged the existence of this control, however, have been able to point to the mechanism by which it is exercised. Some point to the fact that changes in the Bank of England rate have been followed, except below a certain point, by corresponding changes in the rates of the Irish banks. The self-correcting mechanism of adjustment of the balance of payments just described, however, displaces discount rate adjustments consequent upon a movement of reserves from the central position accorded to them in the classical theory. It was shown that the normal effect of a change in the balance of payments on the flow of incomes exerts, unless counteracted, a spontaneous inflationary or deflationary influence, which tends to correct the position without a change in the money rate of interest. The reaction of the commercial banks to the change in the balance of payments and consequent effect on the flow of income was found to be a major factor in the mechanism of adjustment.

Thus while the price of credit in Ireland may be largely determined by the bank rate policy of the Bank of England the volume of credit is not. Further, a very large proportion of the advances of the Irish banks is highly insensitive to the rates charged. For example, the volume of advances remained practically unchanged in 1931 notwithstanding an increase in Irish banks' rate from 3½ per cent. in July to 6½ per cent. in September to December of that year. Movements in the Bank of England rate, therefore, exert very little influence on the volume of Irish credit.

It might also be mentioned that in any event the possible limits of variation of bank rates under an alternative exchange system would not be very wide. The Bank of England rate would still operate in many respects as a pivotal rate for Ireland and the discount rate of the Irish Central Bank would still have to be fixed in close relation to it. The Swedish Riksbank, for example, found in the 'thirties that it was unable to maintain its rates of discount in opposition to the Bank of England rate.

The reduction in bank credit in the 'thirties to counteract the withdrawal of idle balances was effected without any change in rates of interest. The volume of bank credit was dependent entirely upon the policy pursued by the commercial banks and the influence of the Bank of England on this policy was negligible. Actually the Bank of England was at the time pursuing a policy of deflation and it retained its discount rate unchanged at 2 per cent. until August, 1939. Reactions of its credit policy on Irish conditions, e.g., though open-market operations can also be neutralised, even under the present pound for pound parity, by reason of the banks' large holding of sterling reserves.

The Bank of England, therefore, has no lever of real control over Irish credit conditions. It is certainly not in a position to induce an expansion or force a contraction of credit in Ireland against the wishes of the banks. The elasticity of their cash reserves position means that they are in a strong position to counteract the powers of a national central bank. There is scarcely any banking system less amenable to control by a central bank.

It is clear that the question of control by the Bank of England has been confused with the question of the correctness and adequacy of
the policy pursued by the Irish banks. The fact that Irish banking practice is in close conformity with that of Britain banking practice does not prove control. Whether the policy of the Irish banks is suitable or not they alone bear the responsibility for it.

The Currency Commission could not do anything to control the value of exports or to influence the people's propensity to import. Its successor, the Central Bank, is also powerless in this respect. Under the present fixed parity the commercial banks are responsible for whatever adjusting is done. They also cannot control either the value of exports or the propensity to import but by their refusal or grant of accommodation they can influence them. The spontaneous adjustment of income theory is of particular importance to Ireland in so far as greater scope is provided for the policy of the commercial banks because a central bank cannot be effectively operated under existing conditions and the present fixed parity of the Irish pound with sterling is likely to be maintained.

The anticipated large post-war import surplus following the opening-up of markets abroad has materialised. For the first eleven months of 1947 imports amounted to £118 million as against exports of £34 million, giving an unprecedented passive balance of trade of £84 million. Notwithstanding the large increase in sterling reserves during the war years it will not be possible to continue to enjoy for long an import surplus of this magnitude if the balance of payments is to be adjusted without strain on the exchange rate. There are distinct possibilities of substantially increased income on invisible account but real prosperity is dependent upon an increase in the volume or price of exports which would give rise to a considerable flow of purchasing power throughout the community.

It is outside the scope of this paper to consider the question of a flexible parity for Ireland or parity with sterling other than on the present pound for pound basis. The real cause of the agitation to alter the present fixed parity during the late 'thirties was that while manufactured goods were in general produced for what may be called "administered" markets, farmers had to produce for a free market, to which, owing to the economic war, they could only gain access on most disadvantageous terms. Monetary flexibility in such circumstances was considered essential to keep up the demand of the agricultural classes for the relatively high-cost home-manufactured goods. But while the level of incomes can, ideally, be maintained by revaluing the currency in terms of other currencies to the point at which the relationship of home efficiency rewards to prices abroad gives a full employment position the effect of this on the balance of payments is not simple and direct. The proper parity is that which combines a full employment position with an even balance of payments.

APPENDIX.

ESTIMATE OF BALANCE OF PAYMENTS OF IRELAND.

NOTE.—Up to 1933 there were many gaps in the official estimates and no totals were given. The banking returns, however, indicate general trends of the balance of payments position in so far as the difference between their total assets and the amount for loans and premises gives an approximation of the value of sterling holdings. In any event the net error in a comparison from year to year would be negligible. Since 1932 the banks have differentiated between their assets and liabilities within and outside Ireland and these returns provide very nearly a complete picture of the balance of payments position as virtually all monetary transfers to and from Ireland are handled by them.
Sterling holdings for the years 1926 to 1931 of the Bank of Ireland, National, Provincial, Munster and Leinster, Hibernian and Royal banks, i.e., the six banks transacting most of their business in Ireland. Of the remaining three banks, the Belfast Banking Company is confined to Northern Ireland and the Northern and Ulster banks have most of their business in that territory.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>TOTAL £ million</th>
<th>CHANGE £ million</th>
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<tbody>
<tr>
<td>1926</td>
<td>92-2</td>
<td>—</td>
</tr>
<tr>
<td>1927</td>
<td>86-4</td>
<td>—5-8</td>
</tr>
<tr>
<td>1928</td>
<td>82-5</td>
<td>—3-9</td>
</tr>
<tr>
<td>1929</td>
<td>83-5</td>
<td>+1-0</td>
</tr>
<tr>
<td>1930</td>
<td>82-4</td>
<td>—1-1</td>
</tr>
<tr>
<td>1931</td>
<td>81-2</td>
<td>—1-2</td>
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### Table II.

Summary of the Balance of Payments position of Ireland in Current Account, 1933-1939.

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<tr>
<th></th>
<th>1933</th>
<th>1934</th>
<th>1935</th>
<th>1936</th>
<th>1937</th>
<th>1938</th>
<th>1939</th>
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<tr>
<td>Income from foreign investments</td>
<td>13-3</td>
<td>14-1</td>
<td>13-7</td>
<td>13-5</td>
<td>13-4</td>
<td>13-4</td>
<td>12-7</td>
</tr>
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<td>Income from other invisible items</td>
<td>10-4</td>
<td>9-5</td>
<td>9-1</td>
<td>9-5</td>
<td>9-5</td>
<td>9-2</td>
<td>8-3</td>
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<tr>
<td>Total income from invisible items</td>
<td>23-7</td>
<td>23-6</td>
<td>22-8</td>
<td>23-0</td>
<td>23-0</td>
<td>22-6</td>
<td>21-0</td>
</tr>
<tr>
<td>Outgoings on invisible account</td>
<td>8-2</td>
<td>8-7</td>
<td>9-0</td>
<td>9-2</td>
<td>9-1</td>
<td>8-2</td>
<td>8-0</td>
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<tr>
<td>Net credit balance on invisible account (+)</td>
<td>15-5</td>
<td>14-9</td>
<td>13-8</td>
<td>13-8</td>
<td>13-9</td>
<td>14-4</td>
<td>13-0</td>
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<tr>
<td>Balance on visible trade(—)</td>
<td>16-8</td>
<td>21-2</td>
<td>17-4</td>
<td>17-4</td>
<td>21-3</td>
<td>17-2</td>
<td>16-5</td>
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<tr>
<td>Net position on income account</td>
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<td>—6-3</td>
<td>—3-6</td>
<td>—3-6</td>
<td>—7-4</td>
<td>—2-8</td>
<td>—3-5</td>
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### Table III.

Movements of net external assets of the Irish Banks, excluding the Belfast Banking Company, during the years 1932-39.

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<td>67-8</td>
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<td>—6-4</td>
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<tr>
<td>1939</td>
<td>65-4</td>
<td>+4-0</td>
</tr>
<tr>
<td>Year</td>
<td>Imports</td>
<td>Domestic Exports</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>------------------</td>
</tr>
<tr>
<td>1924</td>
<td>68.9</td>
<td>49.7</td>
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<tr>
<td>1925</td>
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<tr>
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<tr>
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<tr>
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