GENERATING BALANCED DEMAND AND SUPPLY TO ACHIEVE FULL EMPLOYMENT AND PRICE STABILITY

by Leigh Harkness

1. Introduction

The attainment of full employment and price stability are not conflicting objectives, they are complementary. If we are to raise employment, we must raise the demand for, and supply of, products. Inflation reduces the real value of money, thereby reducing both demand and supply in the economy.

This paper explains how an economy can raise real demand and supply to bring about full employment while maintaining price stability. Full employment and price stability cannot be forced onto countries. They must want it and implement the appropriate policies, in their own time. The approach presented here can be implemented unilaterally by any country when they want it. It does not need an international organisation to police it. If it were adopted globally, it could achieve full employment and price stability in the global economy.

2. The Problem

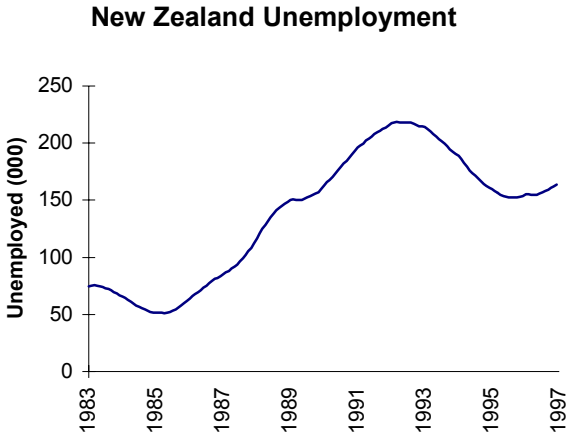
2.1 Unemployment

But before we can solve unemployment and inflation, we must explain what is causing these problems. Figure 1 shows the number of unemployed persons in the USA since 1948. It clearly reveals that since 1973, when the US floated its exchange rate, unemployment has increased and stayed high.

Figure 1.

Figure 2 shows the average number of unemployed persons in New Zealand since 1983. New Zealand floated its exchange rate in 1985. The graph reveals that it, too, experienced rising unemployment after it floated its exchange rate.

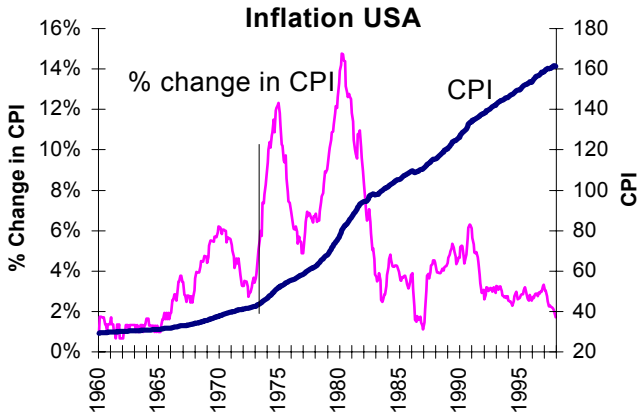
Figure 2.



2.2 Inflation

Figure 3 shows the consumer price index (CPI) for the USA since 1960. We can observe a dramatic rise in the rate of inflation after the exchange rate was floated in 1973. In more recent years, monetary policy has focussed on reducing the rate of inflation. However, we can see from this graph that despite the effort to reduce the rate of inflation, it was much lower in the early 1960's when there was little effort needed to control it. Also, when we compare Figure 1 and Figure 3, we can see that the rate of unemployment and inflation increased together.

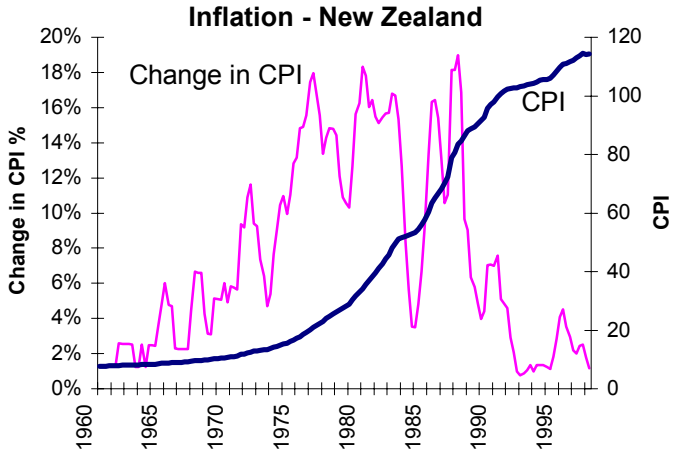
Figure 3.



It is possible to show that there has been a structural change in the relationship between monetary growth and inflation, pre and post 1973. After 1973, inflation was greater for the same increase in the money supply. So inflation has increased because there has been a change in the structure of the economy and not just because of an increase in the money supply.

Australia and New Zealand continued to use the fixed exchange rate system until 1983 and 1985, respectively. The fixed exchange rate meant that their economies imported inflation from the USA in the 1970's and early 1980's. When these two countries floated their exchange rates, they then experienced their own post float inflation. Figure 4 presents the New Zealand inflationary experience.

Figure 4.



2.3 Unemployment and inflation

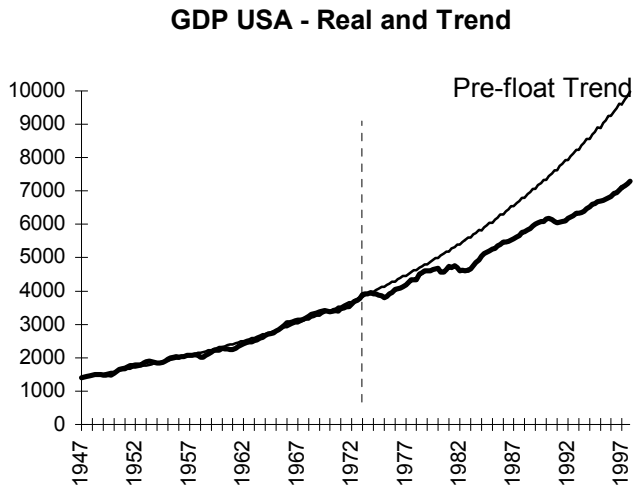
We can observe from the New Zealand experience that although in the late 1970's and early 1980's it had high rates of inflation, it still had low rates of unemployment. Its unemployment did not rise until after it floated the exchange rate. In both the USA and New Zealand, the rise in unemployment was accompanied by inflation, following the floating of the exchange rate.

Although monetary policy has focused on reducing inflation in recent years, the success so far has been achieved through restrictive policies. These have not facilitated the level of economic growth required to bring about full employment.

2.4 Economic growth

Figure 5 shows the level of gross domestic product for the USA since 1947 and GDP if at continued to grow at its pre 1973 growth rate. It reveals that the rate of economic growth has declined since 1973. Unemployment is directly linked to this decline in the rate of growth.

Figure 5



3. Causes of unemployment and inflation

If, as some say, the oil crisis was the cause of this downturn in the economy, we could expect that the economy would have picked up again and returned to its pre-1973 growth rates and levels of unemployment. But it has not, although the crisis has long passed. We would not be here discussing how to bring about full employment and price stability if the problems were just an aberration caused by the oil crisis.

It required a major change for an economy with vast resources, a fully employed and highly skilled workforce, and stable prices to suddenly experience rapid inflation and unemployment. Whatever the reason, that major change coincided with the introduction of the floating exchange rate system in the USA, Australia, New Zealand and many other countries. Rather than bringing stability and prosperity, it has brought slow economic growth, high unemployment, price instability, and rising foreign debt. If we are to explain how to attain full employment and price stability, we must first explain the problem: we must explain how the introduction of the floating exchange rate system led to increased unemployment and inflation.

3.1 Shifting spending to imports

Under the fixed exchange rate system, money entered the economy when export income (and other foreign receipts) were greater then the imports (and other foreign payments). This money increased spending. It flowed through the economy multiplying incomes before eventually leaking out again as imports. This was an environment in which rising exports raised economic activity and created employment.

The floating exchange rate system isolated the domestic money supply from international transactions. Under the floating exchange rate system, any increase in exports requires a corresponding increase in imports (other things being equal). That is, domestic spending has to shift from domestic products to imported products. Hence, if rising exports raised exporters incomes, imports were required to rise also. This reduced the incomes of import competing industries, thereby offsetting the rise in national income from exports.

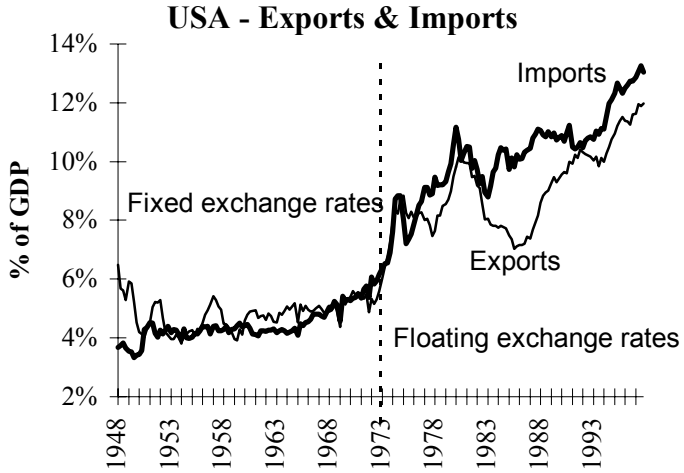
Therefore, trade, which had been a source of economic growth under the fixed exchange rate system, was removed as a source of economic growth under the floating exchange rate system. The floating exchange rate system has eliminated one of the main sources of economic growth and employment growth in our economies.

3.2 Reduced international competitiveness

The implications of the floating exchange rate system can be viewed from the perspective of its effect upon the international competitiveness of the economy. Figure 6 show imports and exports as a share of GDP in the USA. Throughout the 1950's and 1960's, imports averaged around 4% to 5% of GDP in the USA. However, since the exchange rate was floated, spending on imports as a share of GDP has tripled. In effect the floating exchange rate system has inflated the real value of the US dollar to make imports relatively cheaper. It made US products less competitive than imports so that spending shifted from domestic products to foreign products. Hence, import competing industries have lost business. Therefore, the floating exchange rate system has caused unemployment in import competing industries, such as motor vehicles and steel industries. It was that system that has caused the "rust belts".

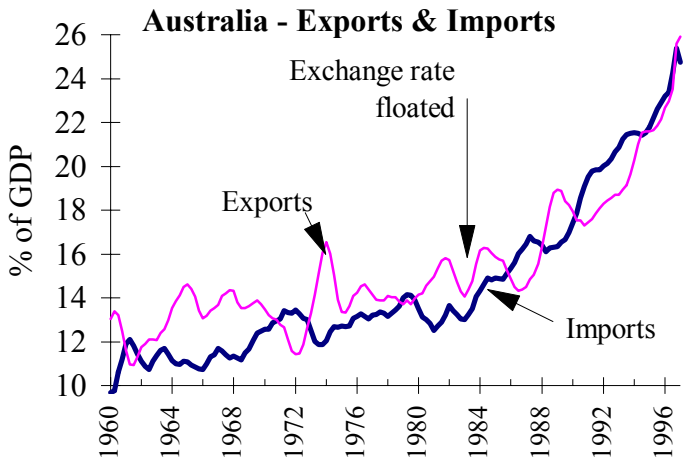
Also, the higher real exchange rate has made our exports less internationally competitive. It has reduced the incomes of exporters, particularly traditional exporters, such as farmers. Thus the system has caused unemployment in rural areas.

Figure 6.



Australia had a similar experience following the floating of the exchange rate as shown in figure 7. Spending on imports has doubled as a share of GDP since the exchange rate was floated in 1973.

Figure 7.



3.3 Capital effects

Foreign capital inflow, under the fixed exchange rate system, not only increased productive capacity, it injected new funds into the economy. These funds increased demand, economic growth and employment.

But under the floating exchange rate system, any net inflow of funds from foreign capital must be balanced by a corresponding outflow of funds on the current account, such as by increasing imports or by reducing export incomes. A reduction in export income in response to the capital inflow directly reduces national income and employment. Also, any increase in imports reduces expenditure on domestic products and so reduces national income and employment.

While foreign capital may eventually raise productive capacity, its effect in reducing income is immediate and direct. It no longer raises demand and national income, as experienced under the fixed exchange rate system. Therefore, the floating exchange rate system has reduced the beneficial contribution of foreign capital to the economy and has thus raised unemployment.

3.4 Balancing demand and supply

Under the fixed exchange rate system, if there were excessive demand in a country, money would leak out of the economy on imports and reduce the money supply, and demand. Equilibrium between demand and supply was achieved primarily through adjustments in the money supply. If producers tried to raise prices in response to excessive demand, spending would shift to imports and they would lose sales. Domestic producers could only raise prices and maintain demand if import prices increased also.

However, the floating exchange rate system eliminated the money supply as part of the adjustment process. Money could no longer leak out of the economy in response to excess demand. If excess demand led to a rise in domestic prices, spending would attempt to shift to the cheaper imports. However, in response to a rise in demand for imports, the foreign

exchange market would depreciate the currency and thereby raise import prices. This would restore the relative price of imports and domestic products and so support the domestic price rise. Hence, the floating exchange rate system relies upon prices to adjust to bring about equilibrium between demand and supply in the domestic economy.

If we are to achieve price stability, we will need a means other than prices to bring about equilibrium between aggregate demand and supply.

3.5 Supply and demand for money

Our banking system is said to have started from a system where goldsmiths recorded and transferred entitlements to gold. Depositors could come to the goldsmith/bank and demand gold up to the value of their recorded deposits. The bank's accounts recorded depositor's entitlement on the liabilities side and the gold holdings on the assets side as shown in Case 1. If there were no gold assets, as did happen sometimes, the recorded deposits were worthless.

Case 1.

Assets		Liabilities	
	STG		STG
Gold	100	Deposits	100
	100		100

Our modern banking system no longer relies on gold. Its accounts record similar "deposits" but the assets comprise mainly loans, as shown in case 2. These loans are a record of debtors who have obligations to the bank.

Case 2.

Assets		Liabilities	
	$B		$B
Loans	95	Deposits	100
Government Securities	15	Capital	10
	110		110

When a person borrows money from a bank, they accept an obligation and gain an entitlement to demand products from the economy. To discharge their obligation or repay their loan, the borrower must supply products to the economy to earn money. When they repay their loan, they not only discharge their obligations, they relinquish their entitlements to products from the economy.

It is because debtors need deposits (or money) to discharge their obligations that there is a demand for deposits. This makes deposits valuable. The supply of new deposits through bank lending to borrowers to demand products and the supply of products from debtors demanding deposits to repay loans are the driving forces of our monetary system. The value of the deposits is the value of whatever the debtors will supply to obtain them. If the debtors did not need the deposits, deposits would be worthless. If all debtors were to default on their loans, the deposits would be worthless. This is the ultimate form of inflation.

2.6 Current and future supply

Foreign reserves represent foreign obligations to supply products to the economy. These reserves can be drawn upon at any time. Loans represent future obligations to supply. Case 3 presents the consolidated balance sheet of the banking system, including the central bank. The assets of the banking system are shown to include foreign reserves as well as loans.

Case 3.

Assets		Liabilities	
	$B		$B
Loans	900	Currency in circulation	80
Government Securities	100	Deposits	950
Foreign Reserves	150	Capital	120
	1,150		1,150

Under the fixed exchange rate system, deposits (money) could grow from either an increase in lending (to the public or private sector) or an increase in foreign reserves. Case 4 shows the effect of an increase of $10 billion in foreign reserves and bank deposits on the consolidated balance sheet of the banks.

Case 4.

Assets		Liabilities	
	$B		$B
Loans	900	Currency in circulation	80
Government Securities	100	Deposits	**960**
Foreign Reserves	**160**	Capital	120
	1,160		1,160

The rise in deposits means that current entitlements, or potential demand, in the economy has increased. The rise in foreign reserves means that the current obligations of foreign economies to supply products has increased. In this case, the rise in current demand from the increased deposits can not exceed the rise in current supply, represented by the rise in foreign reserves.

When banks lend, they raise both deposits and loans. Case 5 shows the effect of a rise in bank lending of $10 billion on the consolidated balance sheet of the banks.

Case 5.

Assets		Liabilities	
	$B		$B
Loans	**910**	Currency in circulation	80
Government Securities	100	Deposits	**970**
Foreign Reserves	160	Capital	120
	1,170		1,170

In this case, the banks have increased current entitlements by $10 billion but have not increased current obligations to supply: they have increased future obligations to supply. Thus, the increase in current demand represented by the increased deposits exceeds the rise in current supply.

If loan repayments were equal to new lending, there would be no increase in deposits, loans or aggregate demand. Loan repayments represent a reduction in demand. The debtor, by relinquishing their deposits, is reducing their entitlements or demand in the economy. By lending the same amount as has been repaid, the banks maintain demand at a stable level.

Provided there were sufficient foreign reserves to finance the rise in demand for imports from increased deposits, neither increased foreign reserves or lending is likely to significantly destabilise prices. If domestic producers raised prices faster than import prices, spending would shift to imports. In that case, borrowers would not be able to sell enough products to repay their loans. So they would need to lower prices. Thus inflation would be controlled.

If foreign reserves were excessively depleted, the government could restrain credit growth and so control the excess demand without causing inflation. If they were to respond by devaluing the currency, that would be inflationary.

Under the floating exchange rate system, the only source of monetary growth is bank credit, either from commercial banks or the central bank. If bank deposits rise, it means that new loans exceed loan repayments. In that case, the additional demand for products would exceed the additional supply of products from loan repayments. As mentioned earlier, in the floating exchange rate environment debtors are able to raise prices and thereby reduce supply and still obtain sufficient money to meet their loan commitments. The floating exchange rate system responds by raising import prices. The rest of the domestic economy would respond to the higher prices and raise prices, also. Hence, the growth of bank credit growth is inflationary.

When debtors raise prices and so reduce supply, they need less resources, including labour, to produce products to earn money to repay their debts. The increase in prices in the rest of the economy also represents a reduction in supply and a reduction in demand for resources, also. Therefore, the economy experiences rising unemployment as well as inflation. This is the phenomenon we have experienced in our economies.

If we are develop a policy to attain full employment and price stability we must show that it overcomes this problem.

4. The Optimum Exchange Rate System

Any policy to achieve price stability and full employment must:

- bring about equilibrium between demand and supply without resorting to the price mechanism; and
- generate sufficient demand for domestic products to bring about full employment.

The solution that I am proposing is in two parts to deal with these two issues. The first part regulates the growth of bank credit to maintain equilibrium between demand and supply in the economy and so provide an environment conducive to price stability. The second part

manages the exchange rate to ensure that aggregate demand for domestic products is sufficient to provide full employment.

4.1 Demand management

The first part manages the bank lending to ensure that the growth of current entitlements (deposits) does not exceed the growth of current obligations. To achieve this, foreign reserves are determined to be the monetary base. Any bank that creates or issues negotiable deposits or instruments (including the central bank) is required to regulate the growth of its lending according to the increase in its net holdings of foreign reserves. To consider the first part, we will initially assume that the exchange rate is fixed.

Under this system, banks could be authorised to increase their lending by, say, $20 for every special drawing right (SDR) or SDR equivalent increase in their foreign reserves. (Another currency or basket of currencies can be used instead of special drawing rights.) This rule ensures that the supply of products from both domestic and foreign sources is sufficient to meet the growth in demand.

The rise in foreign reserves means that there has been an increase in foreign obligations, or savings, available to be drawn upon. In such an environment, it is possible to increase current entitlements through bank lending without causing an excessive supply of money that might cause inflation.

The central bank should regulate its issue of currency on the same basis, also. Other banks should be required to pay for their domestic currency requirements with foreign exchange.

To explain the implications, we will consider the consolidated balance sheet of the banking system shown in Case 6. It shows bank lending comprises loans and government securities that total $890 billion. The foreign reserves are $60 billion which is equivalent to SDR 30 billion (assuming that SDR 1 is equal to $2). We will assume that at this time, the banks' lending capacity is fully committed.

Case 6.

Assets		Liabilities	
	$B		$B
Loans	840	Currency in circulation	45
Government Securities	50	Deposits	820
Foreign Reserves (SDR 30)	60	Capital	85
	950		950

If exports were to rise above imports and increase foreign reserves, it means that current obligations to supply products have increased. Under the proposed system, bank lending could increase to increase current demand, also. For example, Case 7 shows an increase in foreign reserves of $20 billion (SDR 10).

Case 7.

Assets	Liabilities

	$B		$B
Loans	840	Currency in circulation	45
Government Securities	50	Deposits	**840**
Foreign Reserves (SDR 40)	**80**	Capital	85
	970		970

The banks are now able to increase their lending. As they do so, they increase imports and reduce foreign reserves. If each dollar lent increased imports by one dollar, then the banks would be able to increase their lending by $18 billion. That lending would have increased deposits by $18 billion but the spending on imports would have depleted deposits and foreign reserves by $18. Hence the net outcome of the rise in foreign reserves and lending is that deposits have increased $20 billion, loans increased $18 billion and foreign reserves increased $2 billion as shown in Case 8.

Case 8.

Assets		Liabilities	
	$B		$B
Loans	**858**	Currency in circulation	45
Government Securities	50	Deposits	840
Foreign Reserves (SDR 31)	**62**	Capital	85
	970		970

The system ensures that when banks confer entitlements for people to buy products, there are goods and services there to buy at current prices. The system ensures that the demand for products does not exceed supply. It ensures price stability, as far as any market system can, without fixing prices.

Under these arrangements, if debtors were to raise prices, it would have the same effect as under the fixed exchange rate system: spending would shift from domestic products to imports. This would leave debtors with inadequate demand for their products to earn sufficient money to repay their debts. Thus they would need to reduce prices.

4.2 The optimum exchange rate

The second part of the system ensures that demand for domestic product is sufficient to provide full employment. It does this by managing the exchange rate. The assumption of a fixed exchange rates can now be removed.

We have seen under the floating exchange rate that when exports rise, the exchange rate rises to shift spending from domestic products to imports, and cause unemployment. That same exchange rate, with appropriate motivation, can be made to direct spending towards domestic products and provide employment.

The form of motivation may vary from country to country, depending upon the opportunities and characteristics of the economy. One way to appropriately motivate the market in countries such as Australia, Canada and possibly the United States is to authorise banks to increase their lending by the $20 per SDR only while there is full employment. We will assume for the purpose of this example that full employment means that unemployment does not exceed two percent unemployment.

If unemployment were to rise above the full employment rate, then the amount that banks would be authorised to lend could be reduced by, say, two dollars for every one per cent, or part thereof, that unemployment exceeded the full employment level. Thus, if unemployment were 5 percent, three percent above the full employment rate, banks would be authorised to lend only $14 for every SDR increase in their foreign reserves.

In their attempt to maximise their profits, banks would seek to drive the exchange rate to a level that would create full employment. The banks' motivation to do this comes from their desire to maximise their holdings of high income earning loans relative to their low income earning foreign reserves.

Banks would be reluctant to sell foreign exchange at less than the full employment exchange rate. This would reduce their capacity to lend and they are likely to speculate that the foreign exchange could be sold at the higher full employment exchange rate at a later date. Also, they would be unwilling to buy foreign exchange above the full employment rate as it would represent an exchange rate risk for them. These pressures would force the market exchange rate to the full employment level.

Under the optimum exchange rate system, banks would build up large foreign reserves. These reserves would enable them to defend the exchange rate against speculators. Under the fixed exchange rate system, banks speculated against the government or central bank on the exchange rate. Under the optimum exchange rate system, banks would be defending the exchange rate against other speculators.

Few, if any, speculators would have the resources to speculate against the banks. To beat the banks, they would need better information and more resources than the banks. Therefore, speculation against the exchange rate would be unlikely. Thus, the volume of short term international capital flows would be likely to decline.

Under the optimum exchange rate system, the market can change the exchange rate at any time. If the banks were aware of any reason why unemployment might increase, they could adjust the exchange rate. It is likely that under this system, banks would use their extensive sources of information to continually monitoring the economy. If they had any reason to suspect unemployment could rise above the full employment level, they would modify the exchange rate, or modify the direction of their lending, to ensure full employment.

This system requires banks be able to demand that other banks settle their inter-bank commitments in foreign exchange. This ensures that any bank that deals extensively in domestic currency does not lend excessively, thereby reducing other banks' foreign reserves. The central bank could facilitate these transfers through a foreign exchange account. Some countries may choose to require commercial banks to hold most of their foreign reserves in an account with the central bank. The optimum exchange rate system is sufficiently flexible to meet these different needs and circumstances.

The optimum exchange rate system can be implemented at any time. Banks do not need to hold minimum levels of foreign reserves against their existing loans or deposits. It is only the growth in lending that is regulated by this rule. Even a bank with net foreign liabilities could be authorised to increase their lending if they reduced their net foreign liabilities.

If a country's banks had inadequate growth in their foreign reserves to meet their lending requirements, they could raise interest rates and attract foreign investment. However, once a higher level of lending was established, the higher level of loan repayments would mean that the country could service the higher lending rate from loan repayments (domestic savings) rather than foreign savings, and so interest rates could fall. Hence, foreign capital is used in this system to establish a higher sustainable level of national income and employment.

Under the floating exchange rate system, a country that was attractive to foreign investment is likely to have an inflated exchange rate. This would make its products internationally uncompetitive. However, under the optimum exchange rate system, a country that was

attractive to foreign investment would have low interest rates. This would raise investment spending in the country, and would be likely to raise the level of productivity and incomes in the country.

Exchange rates would be more stable under the optimum exchange rate system. The banks can stabilise the foreign exchange rate because they hold foreign reserves. They are unlikely to need to change those rates on a daily basis, except to the extent that other currencies vary against each other.

The optimum exchange rate system does not require countries to cut costs or wages to become internationally competitive. The basis of trade is a comparative advantage, not absolute advantage. Even countries with high wages could have an exchange rate that would enable them to become internationally competitive and profitably trade on the world market.

The system increases international trade, also. The floating exchange rate system discourages growth in exports by raising the exchange rate to reduce the income of exporters and raise export prices. But the optimum exchange rate system encourages countries to trade and to profit from it. Initially the system might lower the exchange rate to increase exports and lower the proportion of income spent on imports. But in doing so, it raises domestic incomes and eventually increases the total demand for imports. At equilibrium, imports would have increased to equal the now higher level of exports. Hence, poorer countries that look to trade to drive their economic growth should not fear the system. Rather they should adopt it as it provides a stable foundation for rapid economic growth and full employment.

5. Conclusion

We have seen that since the floating exchange rate system was adopted, the rates of unemployment and inflation have increased. These outcomes can be attributable directly to the floating exchange rate system. It reduces the rate of economic growth and relies upon price instability to achieve equilibrium in the economy. The optimum exchange rate system is designed to achieve rapid economic growth and full employment. It manages the growth of bank credit, and thereby the money supply, to ensure that demand and supply are at equilibrium in the economy. This removes the pressure on prices and so provides price stability. It is a system that can achieve full employment and price stability in the global economy.