

**Minsky's Analysis, the European Single Currency,
and the Global Financial System**

by

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Abstract

The paper begins by a brief review of the main ideas associated with Hyman Minsky and their implications for economic policy and the achievement of full employment. There is a focus on the financial instability hypothesis, the role of the central bank as lender of last resort and the requirements for regulation of the financial system. The implications of these ideas for economic policy are then explored at the level of the European Union and the global economy. It is argued that the Minsky analysis would suggest that at the level of the nation state, the general drift of economic policy and changes in institutional arrangements have made the prospects for full employment bleak. For the European Union, the institutions which are emerging in the context of EMU and the euro are considered in terms of their impacts on the level of economic activity. At the global economy level, the paper considers the need for international institutions to regulate the global financial system.

Introduction

The purpose of this paper is to consider the implications of some of the key ideas advanced by Hyman Minsky for the future for the single European currency and for proposals for changes to the global financial system.

We begin by giving a brief resume of those key ideas of Minsky, and that is followed by sections in which we relate to the European Union and to the global level.

In his entry in the *Biographical Dictionary of Dissenting Economists* (Arestis and Sawyer, 1992) Hyman Minsky summarised ‘the doctrines most associated’ with him as:

1. The interpretation of Keynes as an investment theory of the business cycle and a financial theory of investment. ...
2. The ‘financial instability hypothesis’ which holds that over a period of good times the financial structures of a dynamic capitalist economy endogenously evolve from being robust to being fragile, and that once there is a sufficient mix of financially fragile institutions, the economy becomes susceptible to debt deflations.
3. The significance and necessity of Central Banks to be lenders of last resort in order to help abort and contain debt deflations and therefore the thrust towards deep depressions.
4. The cash-flow analysis of financial relations, which emphasizes the flows of incomes ... from the productive part of the economy that can validate financial obligations. ...
5. The necessity and significance of big government ...
6. The significance of financial innovations as reactions to perceived profit opportunities, and
7. The tiers approach to the balance of payments, which emphasizes the significance of international payments as shifts of profits and other incomes among national economies, and how balance of payments cash flows are necessary to validate the payment commitments on international indebtedness’ (pp. 355-6).

It can be seen that two of these ideas (nos. 2 and 3) are directly related to the question of depression and deflation, and the fifth is also related in that ‘big government’ refers to the scale of public expenditure and taxation, and the ability of the government budget to then act as an automatic stabiliser.

The validation of financial obligations by the flow of incomes from the productive part of the economy means, *inter alia*, that the profits of companies are sufficient to cover the cost of

borrowing, which in turn requires that the rate of profit generally exceeds the rate of interest. The past two decades have been ones of high real interest rates, that is high at around 5 per cent by reference to the previous historical norm of more like 2 to 3 per cent, as reflected in the statement that “Since modern capital markets came into existence, there have never been such high long-term rates as we recently have had all over the world” (Homer and Sylla, 1983, p.1). These high rates of interest can be seen to have resulted from the general pursuit of tight monetary policies in a context of at least quasi-independent interest rate determination where relative interest rates (between countries) have an impact the pattern of exchange rates. A significant route through which interest rates influence the pace of inflation is via the exchange rate : higher interest rates push up the exchange rate and lower the rate of increase of price of imports. A beggar-my-neighbour type of policy formulation then follows as interest rates are raised in pursuit of low inflation. The general rise in profitability over the past 15 years or so has in effect offset (or may be related to) the higher level of interest rates.

This paper has two main sections. In one section I discuss the institutional and policy arrangements surrounding the introduction of the European single currency using the insights provided by the analysis of Minsky. In the other section, a similar exercise is conducted for the global economy, and some beneficial institutional changes are proposed at the global level.

The European Monetary Union and the Single Currency

The Maastricht Treaty in which the framework for the introduction of the single currency was laid down was signed in late 1991, which was a time when neoliberal ideas were particularly influential and when political power was generally held by the political right. Neoliberal ideas still prevail, though they are perhaps in some decline, and left of centre parties hold or share power in most EU countries. But the neoliberal agenda has moulded the environment within which the Euro will be introduced. The euro (at least for those 11 countries which have signed up) is embedded within an institutional and policy setting which we have elsewhere described as ‘new monetarism’, which has the following essential features:

(I) the level of unemployment fluctuates around a supply-side determined equilibrium rate of unemployment, generally labelled the NAIRU (non-accelerating inflation rate of unemployment). The level of the NAIRU may be favourably affected by a 'flexible' labour market, but is unaffected by the level of aggregate demand or by productive capacity.

(ii) inflation is a monetary phenomenon and can be controlled through the money supply. The money supply is difficult (or impossible) to control directly, but the central bank can set the key interest rate (the 'repo' rate) to influence the monetary conditions, which in turn influence the future rate of inflation.

(iii) while monetary policy is effective in the control of inflation, fiscal policy is impotent in terms of its impact on real variables. Fiscal policy should be subordinate to monetary policy in controlling inflation. It is recognised, though, that the government budget position will fluctuate during the course of the business cycle but in the context of an essentially passive fiscal policy.

(iv) politicians in particular, and the democratic process in general, cannot be trusted with economic policy formulation with a tendency to make decisions which have stimulating short-term effects but which are detrimental in the longer term. In contrast, experts in the form of central bankers are not subject to political pressures to court short-term popularity, and can take a longer perspective.

There are though three features of the proposed arrangements for the euro which stand out as running contrary to Minsky's ideas on what was required for a stable capitalist economy. The first relates to the role of the central bank as a lender of last resort, the second to the size of government and the third (not mentioned above) relates to the expansion of base money derived from a budget deficit.

The first feature is the apparent absence of the lender of last resort facility. The Protocols under which the ECB is established enables but does not require the ECB to act as a lender of last resort. The relevant article of the Protocol is:

In order to achieve the objectives of the ESCB and to carry out its tasks, the ECB and the national central banks *may*:
operate in the financial markets by buying and selling outright (spot and forward) or under repurchase agreement and by lending or borrowing claims and marketable instruments, whether in Community or in non Community currencies,

as well as precious metals;
conduct credit operations with credit institutions and other market participants with lending being based on adequate collateral.
The ECB shall establish general principles for open market and credit operations carried out by itself or the national central banks, including for the announcement of conditions under which they stand ready to enter into such transactions (from Protocol (No 3) on the Statute of the European System of Central Banks and of the European Central Bank: emphasis added).

There has been debate within the ECB and by others as to whether its proximate target should be the rate of inflation or the growth of the money stock. This debate has been resolved by in one sense adopting both, albeit with the rate of inflation as the basic target, and the corresponding growth of the money stock calculated and described as a reference level. The target of price stability is interpreted as inflation of 2 per cent per annum or less, and with an assumed trend growth of real GDP of 2 per cent per annum and a trend in the velocity of circulation of -0.5 to -1.0 per cent per annum, the reference value of 4.5 per cent for the growth of the money stock is derived.

The rate of interest (more accurately the 'repo' rate) will be set by the ECB to seek to meet the objective of price stability. It is generally assumed that raising interest rate will dampen inflation (perhaps over a two year time horizon), even though the route through which interest rates influence inflation are rarely spelt out.

The lender of last resort function requires that base money is essentially provided on request to the banking system by the Central Bank, and in particular would be supplied if reserves were low following an expansion of broader money. More generally, the lender of last resort function recognises the role of a central bank in securing a stable financial system, but that specific objective of the stability of the financial system is not included in the remit of the ECB. It is clear that on occasions, the lender of last resort function may require base money to be supplied when pursuit of a price stability target would point in the opposite direction.

In this regard, Minsky's comment on the US Federal Reserve is relevant. 'The Fed's focus on inflation is misguided. Contemporary wage-setting patterns and international competition have created an environment in which low unemployment has not brought on the threat of high inflation. ... Shared-prosperity capitalism requires that the current

monetary-policy goal of “zero inflation” be replaced by a return to the early postwar policy of low and stable interest rates’ (Minsky and Whalen, 1996-97, p. 165-66).

The use of interest rates becomes more problematic at the European Union level as compared with the national level because of the differences in financial structures, and in particular differences in the extent of variable rate and fixed rate borrowing and in the effect of interest rate changes on economic activity, mean that the effects of interest rate changes will be far from uniform across the EMU member countries. An interest rate rise may succeed in slowing down economic activity in some countries but not in others. But of further significance from a Minsky perspective is that interest rate changes may impact differentially on the financial fragility of the different countries. An interest rate rise may have little impact on the financial system in some countries at any particular time, but severely undermine confidence in others.

The second feature relates to the role of government in respect of fiscal policy. There is, of course, a sense in which there will be ‘big’ government within the European Union in that the ratio of public expenditure to GDP will generally continue to be over 40 per cent in EU member countries and over 50 per cent in many. But the significance of ‘big’ government for Minsky arises from the stabilising properties which such government brings, and that is rather diminished by the Stability and Growth Pact to which governments have subscribed. The ability of national governments to run deficits will be circumscribed by that Pact. A country which fails to keep its budget deficit within the 3 per cent limit will have to pay in the first instance a penalty equivalent to the payment of a non-interest bearing deposit. If the situation persists the penalty becomes a fine equivalent to between 0.2 and 0.5 per cent of GDP, depending on the size of the ‘excess’ deficit. The penalty clause would add to the deficit it is meant to cure, and as such it could generate national opposition. This constraint on the budget deficit effectively precludes the use of national fiscal policy for demand management purposes. The budget position can clearly fluctuate over the business cycle in a stabilising manner, but there would be difficulties in dealing with severe recessions (noting that, for example, the deficit in the UK rose to near 8 per cent of GDP in the early 1990s).

At the EU level, the budget at present represents around 1.5 per cent of EU GDP, and the EU is constrained to run a balanced budget on an annual basis Articles 199 and 201 of the

amended Treaty of Rome (EU, 1998) require that 'the revenue and expenditure shown in the [Community] budget shall be in balance' and that 'the budget shall be financed wholly from own resources'. Thus in no sense can the EU be seen to constitute 'big government' and act to stabilise the level of economic activity.

In order to meet the upper limit of 3 per cent of GDP on national budget deficits during a recession, it is likely that member governments would need to run significant surpluses during economic upswings, and over the course of the business cycle the average budget deficit will be small or perhaps zero. The 3 per cent of GDP rule for budget deficits may well mean that over the business cycle the budget position is balanced or in surplus. 'National governments will need to aim at a balanced budget or surplus, or the deficit limit of 3 per cent could well prevent the proper working of fiscal stabilisers over the economic cycle. This means that governments could be required to raise taxes, or cut government spending, as the economy moves into recession, thereby exacerbating the downturn' (Currie, 1997, p. 13). In the past decade, the budget position in the UK has swung from a surplus of 1 per cent of GDP to a deficit of nearly 8 per cent. If a comparable swing in the budget position occurred in the future, with the largest deficit constrained to 3 per cent, then the surplus would be 6 per cent, with an overall surplus averaging around 1 per cent of GDP. A more cautious government which aimed for say a maximum deficit of 2 per cent to provide a margin of error would clearly run a somewhat larger surplus. Table 1 provides some broad indicators on the variation of experience across the EU countries and across time in terms of the budget position (relative to GDP). To illustrate the point we seek to make here, suppose that countries wishing to keep to the terms of the *Stability and Growth Pact* aimed for a maximum deficit of 2.5 per cent of GDP. Applying that to the experience of the past decade would have meant that countries would have operated a much tighter fiscal policy. Leaving aside the cases of Greece and Sweden who are the outliers but who will not join the single currency in the first wave, the fiscal tightening involved ranges from 1.3 per cent in the case of Germany (their budget deficit in 1996 being the largest for at least two decades) to 3 per cent to 5 per cent in most cases to 5.3 per cent in the case of the UK and 9.6 per cent for Italy. The budget deficit for the EU as a whole reached 6.5 per cent in 1993, and that provides a rough indicator of the average tightening which would have been necessary, that is 4

per cent of GDP. The budget deficit for the EU as a whole would then have averaged just under one half of a per cent of GDP.

This simple calculation points to two important likely consequences of the budget deficit rule. First, in a significant number of countries, there would on average be a budget surplus, which would mean that government debt is being retired and the outstanding debt would fall to zero within a few decades, eliminating the bond market and the possibilities of open market operations. Second, and perhaps rather obviously, governments are being ordered to apply some combination of tax increases and expenditure reductions which would have amounted in total to at least 4 per cent of GDP in the economic circumstances of the past decade. Since these are heavily deflationary measures, GDP would fall as a result (unless there were some offsetting changes as discussed in the next point), requiring further tax increases and expenditure reductions if the budget deficit targets are to be reached.

The third feature arises from the observation that a government budget deficit can be financed by borrowing or by issuing base money (M0), and the expansion of the economy involves some expansion of the stock of money. Credit has to be available to permit the expansion of expenditure to be financed, and an expansion of national income will usually generate a greater transactions demand for money. The expansion of the form of money (say M1) which is largely used to finance transactions is of particular significance. In his later writings, Minsky pointed out that there was a necessity for government to run a budget deficit which was partially monetised in order that base money (M0) increased. A growing economy required an expansion of the stock of money (say M1), and such an expansion requires the underpinning of a growth in M0 to prevent a continuous decline in the reserve ratio (between M0 and M1 in this instance). In the context of EMU, there is a complete separation between the fiscal authorities and the monetary authorities, and moreover the appropriate fiscal authorities are barred from running any deficit.

As EU budget must be balanced each year, there can be no (base) money creation from that direction. It may well be that over the cycle there would be no net budget deficits at the country level (for the reasons indicated above). But in any case deficits run by member States must be covered by borrowing for they cannot be monetised since that would require credit to be

granted to the national government by the ECB. This is clearly prohibited : ‘Overdraft facilities or any other type of credit facility with the ECB or with the central banks of the Member States (hereinafter referred to as ‘national central banks’) in favour of Community institutions or bodies, central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of Member States shall be prohibited, as shall the purchase directly from them by the ECB or national central banks of debt instruments’ (Article 104 of the Treaty of Rome).

There would seem to be three possible responses by the ECB to this apparent inability of the ECB to create high powered euros. The first is that in effect the ECB does actually monetise national government debt through open market operations. The quote from article 104 of the Treaty of Rome given above rules out the direct monetisation of national government deficits (the prohibition of ‘purchase directly’) but to leave open the possibility of indirect purchases, that is through open market operations. Bonds would be sold by national governments, and then at some later stage sold on to the ECB (or to one of the national central banks). The ECB could justify this on the grounds that their stated objective is price stability, which is compatible with growth of the stock of money in line with the growth of national income.¹ Under this scenario, the ECB would gradually accumulate the bonds of national governments: the interest on the bonds being paid by the national governments to the ECB, which then makes a profit, which is paid to its ‘shareholders’, the national governments (cf. Article 32 of the Protocol).

The second is that the ECB permits the ratios of broader money (e.g. M1, M3) to base money M0 to grow over time. This would mean that the ECB foregoes the imposition of any reserve ratio requirement which would run counter to their recent statements. The growth of these broader measures of money would be driven by the demands for those moneys, and in particular the growth of M1 would be driven by transaction requirements. This could only continue if the banks were willing to collectively become less liquid over time in the sense that the ultimate source of liquidity is base money, and the ratio of base money to broader measures

¹ This should not be read as supporting a monetarist view on inflation, though the ECB and others appear to adhere to an essentially monetarist view of inflation and hence could use an argument akin to growth of money supply equal to growth of national income.

of money would decline.

The third is that the ECB imposes reserve ratio requirements on banking and other financial institutions as it is permitted to do under article 19 of the Protocol which prevents the reserve ratios from falling. The ECB has announced a reserve ratio on M3 of 2 per cent. The clear consequence of this would be that the necessary monetary expansion to underpin economic growth could not occur (unless M1 grew even though the broader notion of M3 did not). Even if real growth did occur, it would be accompanied with price deflation. This is not to accept any simple $MV = PT$ formulation, but rather to accept that expansion of the economy requires credit creation and usually increased requirements for in effect the transactions demand for money. In this extreme form, any growth of output would have to be offset by declining prices. Further, the ability of the European financial system to grant credit to finance investment and expansion would be severely limited. A post Keynesian approach would stress the role of credit creation in investment, and without the credit creation investment would be blocked off, and thereby any hope of economic growth.

The approach of Minsky would surely suggest rather different policy arrangements for the ECB and the operation of the euro. It would see a clear requirement for the ECB to operate as the lender of last resort, and more generally to accept a responsibility for the stability of the financial system. The lender of last resort function may be delegated to the national central banks for operational purposes, but nevertheless the commitment of the ECB to act in this manner is required. The regulation of the European financial system in the interests of stability is fraught with difficulties as different national systems, structures and regulations are brought together. But it would require a commitment by the ESCB to regulate the financial systems in the interests of their stability and of their ability to provide credit to finance expansion.

Minsky (1986) posed the question of 'how big should big government be?', and answered it in terms of 'big enough to ensure that swings in private investment lead to sufficient offsetting swings in the government's deficit so that profits are stabilized. This means that government must be of the same order of magnitude as or larger than investment' (p. 297). In the context of the United States, Minsky in effect argued that the Federal government expenditure 'may be too large' and 'government should be about 20 percent of GNP' (p.299)

(though recall that State and local government expenditure accounts for a further circa 15 per cent of GNP with a generally balanced budget). In contrast to the USA, the federal budget (i.e. at the EU level) is small and balanced while the national governments' (here compared with the States) budgets are large and generally have been in deficit. This would suggest that there should be a significantly larger EU budget to act to some degree as an automatic stabiliser. In this regard we can recall the recommendations of the McDougall report for a budget of the order of 7 per cent of GDP, and some have suggested that the required degree of stabilisation could be achieved with a somewhat smaller budget. But for the EU budget to perform the function of an automatic stabiliser to any significant degree it would need to be larger than at present, structured in a more progressive manner (that is taxation positively related to income and expenditure negatively related to income, whether at the individual level or the regional level) and with a possibility of deficit during down turns. It would also suggest that there have to be mechanisms for a degree of monetisation of budget deficits to enable the monetary base to grow. This degree is likely to be relatively small : for example, the monetised deficit could be of the order of 0.2 per cent of GDP from using the formula $DM0/Y = [DM0/M0] \cdot [M0/Y]$ with the first term 0.05, and the second (in the UK) 0.03 would give 0.0015.

The general post Keynesian analysis would also suggest that limits on national budget deficits should be dropped as budget deficits have a positive role to play as stabilisers of demand over the business cycle and to sustain the general level of demand, with the extent of those deficits dependent on private net savings.² It is, though, argued that there have to be limits on the borrowing of each government as 'excessive' borrowing by one government in euros would bid up the interest rate paid by other governments, also borrowing in euros. There is a basic post Keynesian response to this, namely that the level of interest rate is set by liquidity and monetary considerations, and not by loanable funds consideration. Specifically the level of interest rates will depend on the rate set by the ECB in pursuit of its objectives. Bonds issued by different national governments, denominated in euros, may attract different credit ratings and hence

² In contrast, Minsky (1986) argued that 'the taxation program should balance expenditures at the target unemployment rate' (p.300).

different interest rates (though it would not be expected that such differences would be large). National governments will no longer have the ability to 'print money' to pay interest on bonds, and their ability to pay depends on their ability to levy the necessary taxation.

The relatively closed nature of the European Union in terms of international trade (with imports and exports amounting to less than 10 per cent of GDP) means that variations in the exchange rate of the euro will have much less impact on prices than in the more open economies. In that respect, in so far as monetary policy operates through effects on the exchange rate, the effects of monetary policy are more muted. But fiscal policy becomes more potent in that leakages of demand outside of the European Union becomes much smaller (as compared with national fiscal policy). This re-emergence of a much less open economy should swing the balance back towards the use of fiscal policy over the use of monetary policy. But in contrast the arrangements within the EMU would be to neuter fiscal policy and to elevate monetary policy to prime position as the only European level policy instrument.

Global Economy

The crisis which has engulfed many East Asian countries and elsewhere over the past 18 months has been seen by many as a vindication of the analysis of Minsky (cf. Kregel, 1998). There are no doubt differences in the precise nature and cause of the economic and financial crisis between countries. But the international features (e.g. the role of borrowing in foreign currency) and the contagion effects clearly point to a need for the reform of the global financial system, which would put into place institutional and policy arrangements more conducive to economic stability. In one of his last papers, Minsky argued that 'essential features of a more secure and prosperous international finance system include: stable exchange rates; an accommodative mono-reserve set-up; and an international lender of last resort' (Minsky and Whalen, 1996-97, p. 166).

Minsky's own analysis was generally conducted at the national level and in effect with a closed economy. The global economy can be considered as the ultimate closed economy (until trade is opened up with Mars), and exchange rates introduce a further set of relative prices.

Expanding on point 7 in the list of key ideas quoted above, loans incurred in a particular currency have to be repaid in that currency. Thus, it is not only a matter that there have to be profit flows to validate borrowing, but also that those profits flows are in or can be converted into flows in the relevant currency. At the national level, securing sufficient profits to validate loan repayments and interest appears to depend on the success of the individual enterprise, though given the way in which investment expenditure determines profits at the aggregate level it also depends on a continuing flow of investment expenditure.³ But at the global level, the requirement is that the sum of the balance of trade surplus plus the capital inflow is sufficient to finance the loan commitments which are set in foreign exchange terms. There are numerous examples (e.g. many Eastern European countries in the second half of the 1980s, some Asian economies in the past year) where a combination of a failure of the trade surplus to emerge and access to capital inflows faltered threatened the ability to repay foreign loans.

The massive increase in the volume of foreign exchange transactions over recent years has accompanied, if not contributed to, volatility of those exchange rates. The volume has increased by 50 per cent in each of the three year period 1989 to 1992, and 1992 to 1995 (Source: Felix, 1996). In 1995 the flows were estimated to be of the order of \$300 trillion per annum, which amounts to 60 times the volume of international trade. The growth of foreign exchange transactions relative to the volume of international trade will have meant that the financial transactions influenced by differential interest rates and by the prospects of exchange rate movements have grown relative to those exchange transactions related to international trade. The volatility of exchange rates (real as well as nominal) which has been observed in post Bretton Woods era is not unconnected with the increased volume of foreign exchange transactions. The degree of volatility can be illustrated by the following figures. We calculate for each year the monthly standard deviation of the sterling/DM rate for the period 1980 to 1995, based on figures from *International Financial Statistics*, which gives an annual average of 3.9 per cent. The ratio of the maximum to minimum during a year varying between 5 per cent

³ In a closed private sector economy in which workers do not save, then the equality between savings and investment becomes $s.P = I$ where s is the propensity to save out of profits P and I is investment, with the assumed direction of causation being from investment to profits.

(in 1991 the only full year for which sterling was a member of the ERM) and 22 per cent (the standard deviation is only used here as broad indicator of variability; the underlying distribution may be far from symmetric). Comparable figures for the dollar/yen rate are 5.2 per cent for the standard deviation relative to the mean, and a ratio of maximum to minimum up to 30 per cent.

It is difficult to think of comparable price volatility within a national economy. The general level of stock market prices do, of course, fluctuate but the significance of that volatility is generally muted (and confined to the wealth effect on consumer expenditure). For many countries, international trade will account for a quarter or more of GDP, with the consequent disruptive effects of exchange rate movement on international trade flows.

The possible costs of volatility are well-known even if they are difficult to quantify and are subject to some debate. Volatility engenders a degree of price uncertainty, making effective decision-making more difficult. The price (of currency) uncertainty may lead firms to be reluctant to engage in international trade and thereby reduce the volume of international trade. Others (e.g. Krugman, 1989) suggest that uncertainty over exchange rates generates incentives for firms to postpone investment in export (or import substitution) capacity that would be difficult to reverse. In the context of exchange rate volatility, there may be asymmetric responses to the upward and downward movements of the exchange rate. An over-valued exchange rate reduces export demand, leading to a decline in the domestic tradable goods sector and a reduction of capacity (or a failure to invest) in that sector, and this may not be fully compensated by the stimulus of export demand coming from an under-valued exchange rate in terms of the opening of new capacity. The effect of volatility on policy-makers can be a further concern in so far as volatility generates uncertainty and deflationary responses. If say a fall in the exchange rate (arising from the volatility of the exchange rate and unconnected with real variables) generates a deflationary response (e.g. increase domestic interest rates) there are detrimental effects on the domestic economy. This may, of course, be offset by a reflationary response to a rising exchange rate, and if the policy responses are symmetrical there would appear to be no net damage. Even so, there may still be some harm insofar as sudden and frequent changes in exchange rate movements generate changes in the economic policy stance, and thereby a more uncertain economic environment.

However, the costs of volatility of exchange rates on trade and on international investment overlooks the role of volatility in the generation of financial crises (and the heavy costs associated with those crises). It is also the case that consideration of costs of volatility have focused on relatively small movements in the exchange rate and not the massive changes in exchange rate such as those experienced by a number of East Asian economies in 1997. These two features are not unrelated in that the volatility of the exchange rate can threaten the calculations of either the lender or the borrower (when they are located in different countries).

The Minsky analysis translates to the global level in a relatively straightforward manner. Drawing on the list of Minsky's key ideas enumerated above (and assuming that 'big' world government is not a realistic possibility in the near future), the policy and institutional requirements for stability can be read off.

First, we would suggest the need for measures to reduce financial flows across the foreign exchanges which are not related to trade or to foreign direct investment. These financial flows are likely to be stimulated by the prospect of exchange rate movements and interest rate differentials, and those flows which are related to exchange rate movements (that is flow into a currency whose price is rising, thereby causing the price to rise further) are prone to generate volatility.

A tax on foreign exchange dealings (say of the order of 0.1 or 0.2 per cent), that is the so-called Tobin tax, is clearly one way of discouraging foreign exchange flows. We have argued elsewhere (Arestis and Sawyer, 1997) that such a tax would be technically feasible (that is, for example, the relevant transactions could be defined) but faces considerable political obstacles as it would have to be introduced on a virtually universal basis. It could also generate significant sums of tax revenue (of the order of \$150 to \$200 billion per annum). How far it would reduce volatility has been a matter of considerable dispute, and it can be readily acknowledged that such a tax would not have much effect on a crisis such as that which struck the Mexican peso in late 1994 or the Indonesian rupiah in 1997.

Second, the regulation of global financial institutions is more appropriately undertaken at the global level rather than delegated to the national government to regulate institutions within their jurisdiction. The transnational operations of financial institutions and the nature of the

relationships between financial institutions suggests that global rather than delegated national regulation is now required.

Whatever the desirability of these type of policies, the political constraints on their introduction are severe. Both a foreign exchange transactions tax and global regulation of financial institutions would require a high degree of agreement between countries. Further, both would challenge the power of financial markets and the neo-liberal ideology.

Third, the operation of some kind of lender of last resort in a manner which does not impose a deflationary bias on the global economy nor which serves to bail out the consequences of 'irresponsible' economic policies. The former has been a continuing Keynesian theme since (at least) the construction of the Bretton Woods system, albeit one which has not been to the fore in the past quarter of a century. The latter reflects the danger of any lender of last resort, namely that greater risks are taken in the knowledge that losses will be bailed out and in effect the losses socialised. It would also have to be acknowledged here that there are differing perceptions of what constitutes irresponsibility: countries which only a few years ago were praised for the strength of their economies and for borrowing to finance development are now blamed for incurring foreign debts.

The experience of the post Bretton Woods floating exchange rate era has involved some countries running substantial current account deficits (and others, of course, corresponding surpluses) with compensating capital inflows. This experience has, of course, gone alongside volatile exchange rates. The accounting identities which link together the current account deficit and the capital account deficit to equal zero, and the necessary links between the deficits and surpluses of different countries means that the underlying cause of a particular deficit cannot be readily ascertained as it may in effect have been generated by the occurrence of a surplus elsewhere in the economic system. Sudden changes in one country's exchange rate or perceived credit rating can lead to major problems for that country, but also for others whose current and capital account positions change as a result. This suggests to us the need for a form of international agreement over the appropriate set of exchange rates (and of mechanisms for bringing that set of exchange rates about) and over the acceptability of the corresponding pattern of trade deficits and surpluses and of capital inflows and outflows. Further, there would

have to be agreement over how 'imbalances' of trade and capital flows are to be resolved without resort to deflationary tactics, whether of the form of demand deflation or of interest rate wars.

Conclusions

We have argued that the current institutional and policy framework for the introduction of the single European currency are deflationary, and do not pay sufficient regard to building economic stability. We have also indicated some changes, which are seen as consistent with the approach of Minsky, for the operation of the euro and for the regulation of the global financial system.

**Table 1 General Government Financial Balances
As Percent of GDP: 1988–1997**

Country	Average	Maximum	Minimum
Germany	-2.56	0.1	-3.4
France	-3.4	-1.2	-5.7
Italy	-8.76	-3.0	-11.0
UK	-3.58	1.0	-7.9
Austria	-3.4	-1.8	-5.0
Belgium	-5.33	-2.5	-7.1
Denmark	-1.17	1.5	-2.8
Finland	-1.52	6.3	-7.9
Greece	-11.28	-5.0	-16.1
Ireland	-2.02	-0.2	-4.5
Netherlands	-3.62	-2.0	-5.1
Portugal	-4.6	-2.5	-6.7
Spain	-4.43	-2.5	-6.8
Sweden	-3.02	5.4	-12.3
EU countries	-4.34	-2.5	-6.4

Note: Deficits signed as negative, surpluses as positive.

Source: OECD *Economic Outlook*, no. 62, December 1997.

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