FISCAL POLICY AND THE BALANCE OF PAYMENTS: A REVIEW
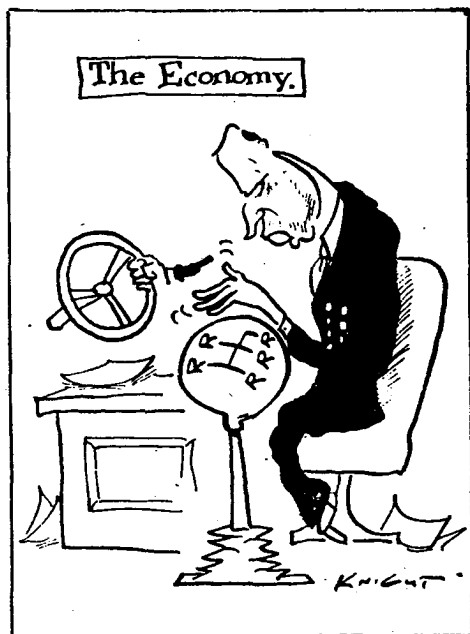
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I INTRODUCTION

The present conduct of fiscal policy in Australia has its origins in the trilogy election commitment of December 1984. At that time the Labor government promised that:

 (i) taxes as a percentage of GDP would not rise in 1985–86 or over the life of parliament;

 (ii) government expenditure as a percentage of GDP would not rise in 1985–86 or over the life of parliament;

(iii) the federal deficit would be reduced in money terms in 1985–86 and as a percentage of GDP over the the life of parliament.

However, in its 1986 and 1987 budgets the 2nd Hawke government implemented contractionary fiscal policy in order to reduce the ·fiscal· deficit to levels below those which were envisaged in the original trilogy commitment.(1) The necessity for this contractionary fiscal stance has been explained in terms of Australia's poor trading performance, and the rationale for the policy is to be found in the so-called 'twin deficits' analysis. Proponents of the 'twin deficits' proposition argue that fiscal deficits in economies which are open to foreign trade have their natural counterparts in corresponding deficits on the current account of the balance of payments. Acceptance of this proposition leads to the policy conclusion that improved current account performance in Australia can only be achieved when the government succeeds in reducing its fiscal deficit.

It is desirable to examine the current state of macroeconomic knowledge about the relationship which exists between the stance of fiscal policy and the current account of the balance of payments. The motivation stems from the degree of uncritical acceptance which has recently been accorded to

the 'twin deficits' analysis, both in Australia and in the international economic community. It is well known, for example, that the I.M.F. typically requires countries which face serious balance of payments problems to reduce their fiscal deficits as part of a comprehensive stabilisation program.(2)

Section II below presents the basic accounting framework within which the 'twin deficits' analysis is usually placed, and it sets the scene for the discussion which follows. The next two sections provide a short survey of the current state of knowledge about how fiscal policy works in an open economy which operates a market-determined exchange rate system. The types of model which have been developed can be classified in a twofold manner. Section III surveys the traditional approaches to the problems which are based on the use of macroeconomic models which employ 'postulated' behavioural relationships. By this we mean the types of model which are constructed from equations which purport to describe how the economy works in aggregate, without being derived from the behaviour of the individuals who 'make up' the economy. Section IV surveys the results from more recent approaches to the problem based on models which derive the important macro-economic relationships from the microeconomic foundations of individual optimizing behaviour. As will be demonstrated, neither of these approaches yields results which support those who propose to solve Australia's current balance of payments problems by relying on contractionary fiscal policy. The final two sections summarise the paper and draw policy conclusions.

II   THE 'TWIN DEFICITS' ACCOUNTING FRAMEWORK

It is appropriate to begin by focusing on the accounting relationship which links the current account balance to the stance of fiscal policy. This can be expressed in a number of ways which highlight various aspects of the relationship.(3) Equation (1) is the standard Keynesian identity which describes how gross national product (Y) consists of the sum of consumption (C), investment (I) and government (G) expenditures plus exports (X) net of imports (M) of goods and services and the interest which is payable on the country's net ownership of foreign assets (F). Equation (2) describes the uses to which this can be put; it can be consumed (C), saved (S^P) or paid in taxes to the government (T).

$$Y = C + I + G + X - M + F \qquad\qquad (1)$$

$$= C + S^P + T \qquad\qquad (2)$$

These equations can be combined to form equations (3) and (4) by defining the current account of the balance of payments (CUR = X - M + F) and the level of government savings (S^G = T - G). The latter is the negative the government's fiscal deficit - as the fiscal deficit rises, the level of government savings (S^G) declines.

$$I = S^P + S^G - CUR \qquad\qquad (3)$$

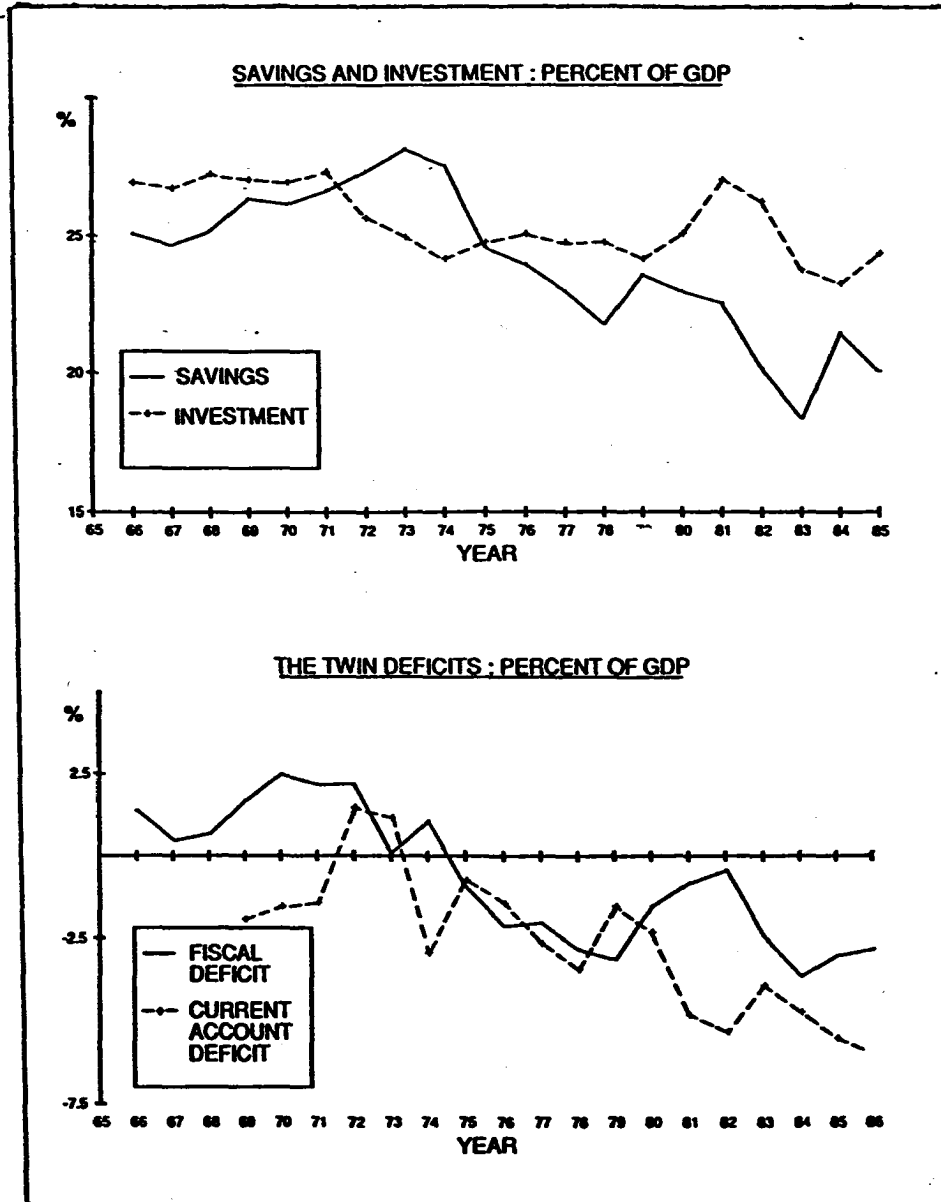$$CUR = (S^P - I) + S^G \qquad\qquad (4)$$

Equation (3) expresses the equality which must obtain between national investment and national savings in an open economy. National savings consist of savings by private residents, by the national government and by overseas residents. Put differently, it states that investment must be financed either domestically (by the private and public sectors) or from overseas. In this light, expansionary fiscal policy will, other things equal, reduce the flow of domestic savings from which investment can be financed and the shortfall must therefore be financed from abroad through larger current account deficits. Equation (4) makes this point clear in a way that focuses one's attention on the other things equal assumption. An expansionary fiscal policy which reduces government saving will result in a current account deficit of equal magnitude only if the term in brackets (investment net or private savings) remains constant.

It is worth noting the relevance of the Ricardian equivalence theorem to this discussion, recently restated by Barro (1974). According to this theorem, reductions in government saving have no effect on output and employment because they are matched by corresponding increases in private saving. The latter comes about as the private sector saves more in order to be able to afford the anticipated higher future tax bills which are necessary to finance the projected government deficits. Latter-day 'equilibrium' economists have used the Ricardian equivalence theorem to argue against the use of fiscal stabilisation policy. It is, however, accepted by the majority of economists that this theorem is not of practical relevance insofar as the conditions which must obtain for it to hold do not exist in any real economic situation. However, even if the theorem did hold in a closed economy context, it must be amended to be applicable to an economy which is open to trade in goods and services as well as in financial assets. In this case, it is difficult to predict the extent to which the reduction in government savings is matched by corresponding increases in foreign, as oposed to domestic, private sector savings. In other words, the other things equal assumption remains crucial to the emergence or non-emergence of any 'twin deficits' relationship.

A brief glance at Figure 1 indicates that current account balances have not 'twinned' Commonwealth fiscal deficits in Australia's experience over the last quarter century. In the mid 1960s, for example, investment in Australia was approaching 30 percent of GDP while private saving did not rise much above 20 percent of GDP. A very different situation emerged in the early 1970s when both series converged prior to the short-lived investment boom which was accompanied by a marked decline in domestic saving. The implications of this variation in the relationship between saving and investment for the twin deficits are clearly visible in the lower part of the figure. This illustrates that Australia's current account performance does not mirror movements in the government's fiscal deficit and the reason for this is that the other things equal assumption does not hold. In other words, the Australian economy is like any other economy insofar as it is continually subjected to disturbances and shocks – of which changes in fiscal policy are only one element. These disturbances affect the constituents of equation (4) in different ways which prevent the emergence of a close 'twin deficits' relationship.

FIGURE 1

AUSTRALIA'S TWIN DEFICITS 1957-1982

III   MODELS BASED ON 'POSTULATED' BEHAVIOURAL RELATIONSHIPS

The classic analysis of how fiscal policy works in an economy which is open to trade in goods and services as well as in financial assets has been provided by Mundell (1963). He describes a world of perfect capital mobility in which flows of international capital are unrestricted and cost-less, and where investors regard assets which are denominated in different currencies as perfectly substitutable. If a small open economy's exchange rate is market-determined in this world, expansionary fiscal policy will appreciate the local currency until the trade balance deteriorates by an amount which exactly offsets the fiscal stimulus. This occurs because large inflows of foreign capital offset the adverse exchange rate impli- cations of the deficit on trade account. The entire fiscal expansion is therefore transmitted abroad as the deficit on current account 'twins' the government's fiscal deficit. In the case of a fiscal contraction, the trade balance will improve by an equivalent amount as the exchange rate and international capital movements respond to the tight fiscal policy. In short, the 'twin deficits' reasoning applies and works both ways.

It is important to note that this model of the economy is highly simpli- fied, insofar as it emphasises only the short-run consequences of fiscal policy which do not influence domestic productivity. The 'twin deficits' result described in this context implies that fiscal policy is powerless to affect output and employment in a small open economy which operates a floating exchange rate system with no restrictions on the international mobility of capital. This has provoked a great deal of research over the last quarter century which has sought to isolate the factors responsible for the implication that fiscal policy is impotent in such countries. It is not surprising that a considerable variety of model specifications based on 'postulated' behavioural relationships · have been analysed. In this vein Dornbusch (1976) dynamised the original Mundell-Fleming analysis in a model which endows economic agents with rational expectations. By abstracting from consideration of any type of uncertainty, this effectively attributes the economic community with perfect foresight. The results are supportive of the fiscal policy impotency result together with the 'twin deficits' analysis.

More recent research, however, has succeeded in isolating four main determinants of the fiscal impotency and 'twin deficits' results. These are:

   i.   perfect substitutability between domestic and foreign currency denominated assets;

  ii.   exclusion of any exchange rate effects in the money markets;

 iii.   no recognition of the conditions of general portfolio balance;

 iv.   absence of uncertainty.

A few words on each of these is appropriate.

When assets denominated in domestic and foreign currency are less than perfectly substitutable, expansionary fiscal policy has the effect of raising domestic interest rates relative to their foreign counterparts. This will appreciate the currency and reduce net exports which offsets

the expansionary effect of the fiscal initiative. However, the offset is only partial in this case because the higher domestic interest rates cause domestic velocity to increase which permits output to expand with a fixed supply of money.(4) Thus the extreme form of the Mundell-Dornbusch fiscal policy result no longer holds, and neither does the strict version of the 'twin deficits' proposition. Although the current account of the balance of payments moves into deficit, its magnitude is no longer equal to that of the fiscal deficit. The relationship between the deficits now depends upon the relative responses of the current and capital accounts to the higher domestic income and interest rates. How does this ambiguity come about? The expansionary fiscal policy raises domestic incomes and interest rates. The higher incomes are partly spent on imported products which induces a current account deficit. The higher interest rates induce foreign investors to hold more $A-denominated financial assets and this induces a capital account surplus. The relative magnitude of these two effects determines the level of the exchange rate which in turn impacts on the current account balance. In summary, it is in practice very difficult to predict how the current account balance will react to changes in the stance of fiscal policy.
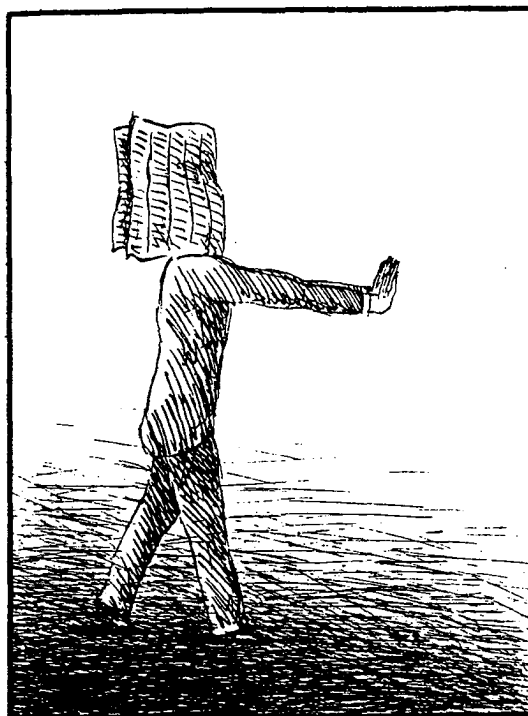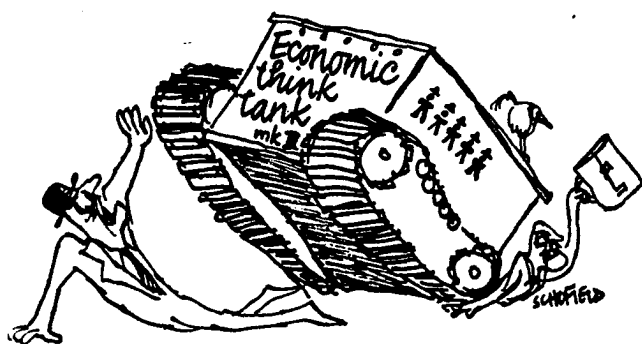
The importance of including the effects of exchange rate changes in the money markets has recently been demonstrated by Branson and Buiter (1983). These researchers point to a number of ways in which the monetary consequences of exchange rate changes can influence the output and balance of payments effects of fiscal policy. For example, the Mundell-Dornbusch analysis neglects to take account of how the domestic price level is affected by the exchange rate. This is of crucial importance in a small open economy like Australia where the government has recently sought to curb the inflationary effects of depreciation by implementing a policy of wage discounting. Suppose the government conducts an expansionary fiscal policy which raises domestic interest rates and appreciates the currency. The higher foreign exchange value of the domestic currency will erode the international competitiveness of exporting producers while making imports cheaper to purchase. The resulting downward pressure on the level of consumer prices will raise the real value of the money stock in the economy. This will raise aggregate demand and counteract the negative output consequences of the trade deficit. It is difficult to predict the eventual output and current account consequences of this policy initiative; although the qualitative effects are consistent with the traditional 'twin deficits' analysis, the quantitative magnitudes are uncertain.

The 'twin deficits' analysis also abstracts from conditions of general portfolio balance. By 'general portfolio balance', we mean the levels of interest rates and exchange rates which induce international investors to hold any given combination of assets denominated in domestic and foreign currency. Branson (1977) argues that if the economy was initially in equilibrium with a balanced current account, a fiscal expansion which raises domestic income and the demand for imports must turn the current account into deficit. It follows that the capital account will be in continual surplus as long as foreigners are willing to accumulate claims on domestic residents indefinitely, and domestic residents are happy to allow this to continue. Quite apart from any governmental interference in this process (due, for example, to concerns about the 'vicious circle' syndrome of ever-increasing current account deficits resulting from rising debt-service costs) savings behaviour will change as altered portfolio

balance conditions impinge upon domestic wealth. It is difficult to predict how the demands for various financial assets will respond to these changes in economic activity. As a result, no firm prediction can be made about how asset prices (i.e., interest rates and the rate of international exchange of the currency) will respond to a fiscal stimulus. In other words, the asset preferences and portfolio balance behaviour of international investors are so sensitive to variations in asset prices that it becomes extremely difficult to predict how the balance of payments will respond to changes in the stance of fiscal policy.

Other recent developments within the framework of models which employ 'postulated' macroeconomic relationships have emphasised the importance of expectational effects and uncertainty in explaining how fiscal policy is related to the current account of the balance of payments. The work of Greenwood (1983) and Kawai (1985) is particularly pertinent in this regard. These researchers point out that the relationship which exists between fiscal deficits, exchange rates and current account balances depends in a fundamental way on what kind of disturbances are impinging upon various sectors of the economy as well as on agents' expectations of the future course of government policies. The upshot of these studies is that no fixed immutable relationship exists between the relevant variables which can systematically be exploited by economic policymakers.

In summary, modern developments within the framework of macroeconomic models which use 'postulated' behavioural relationships do not support the traditional 'twin deficits' analysis. Rather, the 'twin deficits' result emerges only in highly stylised models with assumed characteristics which do not generally exist in any real world economies.

IV   MODELS BASED ON MICROECONOMIC OPTIMISATION BEHAVIOUR

Macroeconomists since Keynes have become aware of the need to derive their behavioural relationships from the microeconomic first principles of individual optimising behaviour. Much progress has been made in this regard on a number of fronts including consumer and investor behaviour

along with the theory of portfolio selection. A renewed sense of urgency has been injected into this endeavour since the realisation of Lucas (1976) that perceived changes in the policy regime cause individuals to alter their maximising behaviour in ways which modify many previously 'postulated' macroeconomic relationships. The significance of this development for the present discussion lies in the fact that a number of recent studies have analysed the relationship which exists between fiscal policy and the balance of payments, using models which are based on individual optimising behaviour. The results of these research efforts have implications for the 'twin deficits' proposition which are generally at variance with the analyses based on 'postulated' macroeconomic relationships.

These models fall conspicuously into a twofold classification; those which result in Walrasian market-clearing macroeconomic frameworks and those which allow for the existence of market disequilibrium. Obstfeld (1981), Sachs (1982), Dornbusch (1983) and Frenkel and Razin (1986) have constructed the former type of model, whereas Dixit (1978), Muellbauer and Portes (1978), Neary (1980), Persson (1982), van Wijnbergen (1984) and Cuddington and Vinals (1986a, 1986b), have constructed models which allow for the existence of various types of market disequilibria. Although this literature is analytically sophisticated, it remains quite under-developed. For example, many of the models describe an economy which produces and consumes only a single commodity which is traded inter-nationally. Dixit (1978) and Muellbauer and Portes (1978) are guilty of this charge and these authors also restrict the analysis to fixed exchange rate regimes. Although Neary (1980) analyses an economy which produces and consumes both traded and nontraded commodities, he also considers only fixed exchange rate regimes. These models are of little relevance to the current Australian situation.

The market-clearing equilibrium models are also of limited applicability to a world which is comprised of many disequilibrium market situations. Nevertheless a brief examination of the nature of these models is illuminating. For example, Obstfeld (1981) develops an equilibrium model of the determination of the exchange rate and current account of a small open economy which is inhabited by utility – maximising households with infinite planning horizons who consume a single good and hold only domestic money, although they have access to world credit markets. A tax-financed increase in government expenditure does not lead to higher private consumption in this model unless the authorities purchase public goods which enter the private sector's utility function. In Obstfeld's general case, consumption expenditures actually decline by an amount which is greater than the fiscal expansion. This happens because the private sector saves more in order to attain the higher level of national income at its initial level of consumption. The increased savings generate a current account <u>surplus</u> which raises national income through the additional interest payments from foreign residents. In short, the current account response to fiscal expansion from the traditional models which employ 'postulated' macroeconomic relationships is overturned in this case because private aggregate demand is more than completely 'crowded out' in the short run. In other words, the Barro neutrality theorem to which we referred above breaks down on the wrong side of neutrality – i.e. expansionary fiscal policy eases the current account deficit by contracting the economy!

This type of analysis has been extended by Frenkel and Razin (1986) who investigate the potency of fiscal policy in a general equilibrium, two-country world which is inhabited by overlapping generations of inter-temporal utility maximisers. The model permits investigation of the effects of both anticipated and previously unanticipated policy initiatives which are either temporary or permanent in nature. Amongst the major conclusions are that temporary tax-financed fiscal expansions are associated with current account deficits while permanent policy initiatives have ambiguous effects. This model also predicts ambiguous interest rate effects of expansionary fiscal policy which depend on whether the country experiences surplus or deficit in the current account of its balance of payments.

These models can be readily criticised on a number of important grounds. Indeed an exhaustive evaluation would necessitate a separate paper. The present objective is more limited, insofar as we are concerned with demon-strating that the traditional 'twin deficits' analysis is suspect regard-less of the type of model which is used. Suffice it to remark that the appropriateness of using Walrasian equilibrium models, with severely limited monetary sectors, for analysing the potency of fiscal policy is highly questionable. By not recognising the existence of unemployed resources, the rationale for implementing fiscal policy is not present in the first place. In addition, the analysis is incapable of describing the consequences of various ways in which expansionary fiscal policies can be financed. The disequilibrium models which have recently been developed are making important contributions in this regard.

The most comprehensive of these is by Cuddington and Vinals (1987a, 1986b) who investigate the effects of fiscal policy in an open monetary economy which contains classical and/or Keynesian unemployment in the short run. (In this context, unemployment is said to be 'classical' when the level of real wages in the economy is too high to induce firms to employ the available supply of labour. Unemployment is said to be Keynesian when the level of aggregate demand in the economy is too low relative to the supply of output that flows from a fully employed labour force.) Inter-temporal utility maximisers in the economy analysed by Cuddington and Vinals (1986) can consume traded and non-traded goods, and they form rational expectations about the effects of current and future probable policy initiatives of the authorities. The results of this analysis cast considerable doubt on the traditional 'twin deficits' analysis which associates fiscal expansion with corresponding current account deficits.

Consider, for example, a temporary tax-financed expansion in government expenditure on non-traded gods in an economy which suffers from Keynesian unemployment. The resulting excess demand for non-tradeables is eliminated by exchange rate appreciation which raises the relative price and production of these goods while reducing the value of tradeables. The effect is to generate a current account deficit. If the fiscal expansion is anticipated to occur in the future, higher expected future non-tradeables prices will induce a shift towards non-tradeables today and this will generate a current account surplus. The effects of a permanent fiscal expansion is the sum of the above two policies (i.e. temporary and future) and its current account effects are consequently indeterminate.

IV   SUMMARY

It is now time to summarise these various theoretical propositions. Table 1 provides a summary of the current state of macro-economic knowledge about the relationship which exists between fiscal policy and the balance of payments in open economies. The entries in the Table are selected in order to include the most recent analyses of economies which operate market-determined exchange rates. Both 'postulated' models and models based on microeconomic optimising behaviour are included. A number of different types of expansionary fiscal policy are considered, including both   temporary and permanent policy changes as well as both tax and money   financed fiscal expansions. The conclusion which emerges is that the current state of macroeconomic knowledge lends little support to the existence of any closely related 'twin deficits'. This conclusion applies both to models based on 'postulated' behavioural relationships and to optimising   models,   and   it   applies   regardless   of   whether   the   policy initiative is temporary or permanent in nature and whether it is financed by taxes or by monetary expansion.

TABLE 1

RECENT THEORETICAL PREDICTIONS OF THE CURRENT ACCOUNT

RESPONSE TO EXPANSIONARY FISCAL POLICY

AUTHORS	CURRENT ACCOUNT IMPLICATIONS OF EXPANSIONARY FISCAL POLICY	
	Tax Financed	Money Financed
(A) 'POSTULATED'MODELS		
Branson and Buiter (1983)[b]:		
temporary	n.a.[a]	n.a.
permanent	Deficit	?
Kawai (1985)[b]:		
temporary	n.a.	n.a.
permanent	?	?
(B) OPTIMISING MODELS		
Frenkel and Razin (1986)[c]:		
temporary	Deficit	n.a.
permanent	?	n.a.
Cuddington and Vinals (1986a, 1986b):		
temporary :) Keynesian	Deficit	0
permanent :) Unemployment	?	Surplus
temporary :) Classical	0	Surplus
permanent :) Unemployment	Surplus	Surplus

a   'n.a.' denotes not applicable; '?' denotes ambiguous effect.

b   Branson and Buiter (1983) and Kawai (1985) do not consider temporary fiscal expansions.

c   Frenkel and Razin (1984) do not consider money-financed fiscal expansions.

In summary, the main reasons why there is not necessarily a close relationship between the government deficit and the balance of payments are as follows:

i   Private savings do not mirror private investment, as evidenced by the non-existence of a stable relationship between the variables over the last quarter century (Figure 1). In terms of equation (4), the term in brackets varies over time in a way which mitigates the existence of a close and stable relationship between the 'twin deficits' which would be necessary for the government to solve Australia's balance of payments problems by fiscal restraint.

ii   The composition of fiscal and current account deficits determines the nature of the relationship which exists between them. A budget deficit which results primarily from current expenditure programs, for example, will affect the current account balance in a different way to a budget deficit of similar size which results primarily from capital expenditure programs. Analogously, the composition of a given current account deficit (between visible and invisible balances) will determine how it responds to a given fiscal stimulus.

iii   The method used to finance the fiscal deficit will determine the nature of the current account's response. A deficit which is financed by monetary expansion, for example, will impinge more upon the tradeables balance of the current account (by increasing domestic inflation) than will a deficit of similar size which is debt-financed. The latter will primarily affect the capital account and the current account invisibles balance by an amount which depends upon who purchases the debt.

iv   Other factors influence the level of the variables which are contained in the 'twin deficits' equation (4). That is, the other things equal assumption expounded in Section II does not hold in practice. For example, exchange rates and the terms of trade are subject to continual change, and these changes have implications for the current account balance which are independent of shifts in the stance of fiscal policy.

v   The dynamics of adjustment of the current account to changes in the government's fiscal deficit (or any other change in the economic environment) will generally exhibit cyclical tendancies. Kearney and Madconald (1986) demonstrate how this has occured in the U.K since the floating of sterling. The cyclical behaviour of the current account balance is highly unlikely to correspond to the cyclical pattern of the government's budget deficit.

vi   To predict the current account response to a decline in the fiscal deficit, it is necessary to know whether the policy initiative has been anticipated prior to implementation. The rational expectations literature on macroeconomic policy makes this point forcefully: if the fiscal policy change is anticipated then the impact on the balance of payments will be zero. It is also necessary to know whether the policy is perceived to be temporary or permanent in nature (Table 1).

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V   CONCLUSION

The current state of macroeconomic knowledge about how the balance of payments on current account is related to the stance of fiscal policy does not support the existence of a close 'twin eficits' relationship. Rather, the types of model which yield 'twin deficits' predictions are highly stylised and outdated. Recent analyses of the effects of fiscal policy on the current account balance, both those based upon 'postulated' macroeconomic relationships and those which derive their important macroeconomic relationships from microeconomic optimising behaviour, do not yield 'twin deficit' predictions.

1.   See Budget Report (1986) for statements which rationalise this policy initiative.

2.   See also OECD (1983), especially p. 40, for views which are consistent with this analysis.

3.   Sachs (1981) gives a more detailed treatment of the 'twin deficits' accounting relationships.

4.   This result emerges insofar as the demand for money balances depends positively on the level of income and negatively on interest rates. Higher interest rates lead to reductions in the demand for money which, with a fixed supply, permits output to expand until the demand for money is once more equal to its supply.

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