DEBT, DEFICITS AND FOREIGN TRADE

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Over of the past decade, net external claims on Australia have increased from less than five per cent to more than 35 per cent of Australian gross domestic product (GDP). It is not my purpose today to lecture you on foreign borrowing as either a virtue or a vice; quite enough has already been said in the press and elsewhere on that subject. The writings of Professor John Pitchford [1990] have been particularly illuminating on this subject. Rather, I want to discuss as objectively as possible some of the implications of that indebtedness for the future of the Australian economy.

For the past ten years, the *growth* in net external claims on Australia has been high; on average, the annual increase in net external claims amounted to 4.7 per cent of GDP. I arrive at this number by simply taking the ratio of the current account deficit to GDP, quarter by quarter, and striking an average. I use the current account deficit, as that deficit has to be financed either by Australians borrowing abroad or selling existing Australian assets to foreigners (such as selling a Queensland hotel to the Japanese). Note that this measures the accumulation of *net* external claims; total claims by foreigners on Australia are larger, but part of them are offset by Australians lending to foreigners and making investments abroad. But it is the net external claim position that we are interested in, because that is what must be serviced either by borrowing more abroad or spending less at home. I hasten to add, of course, that there is a *difference* between borrowing from a London bank and selling a

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hotel to the Japanese. The interest on the bank loan must be paid even if the loan can be rolled over, while the Japanese can take some money home only if they manage the hotel sufficiently well to make a profit. But to keep things simple for the remainder of this talk, I am going to treat all external claims as if they were bank loans, which constitutes the worst-case scenario.

We turn first to some of the longer run consequences sustained foreign borrowing, which are presented in Graph 1 (the upper panel labelled "Net External Claims" on the following page). The curves in that Graph are "debt trajectory curves," and they indicate the accumulation of external debt, as a per cent of GDP, under different assumptions about the rate of borrowing. The solid curve shows how that percentage would have grown had there been no borrowing until 1980, but during each year thereafter foreign borrowing is equal to five per cent of GDP. The four dashed curves correspond to borrowing rates of four, three, two, and one per cent of GDP, respectively. The shape of the curves also depends upon the rate of growth of the borrowing country's real GDP and the world inflation rate, which are assumed to be three and four per cent, respectively. If the world inflation rate were greater than four per cent or the domestic growth rate were greater and three per cent (in real terms), all of the debt trajectory curves would be somewhat lower.

You will notice that the debt trajectory curves rise rapidly at first and then begin to flatten out, and appear to approach an upper limit; that is, even if you spend five per cent more than your income each and every year (and finance it by borrowing), your debt to income ratio will not increase indefinitely as long as your income is also growing. The explanation for this is quite simple; suppose, for purpose of illustration, that your GDP is \$100 and your external debt is only \$10 (add as many zeros as you like). If you then borrow another \$5, which is five per cent of

GRAPHS 1 AND 2: DEBT DYNAMICS

NET EXTERNAL CLAIMS (NEC)

TRADE ACCOUNT DEFICIT (TAD)

GDP, your external debt increases by 50 per cent; but when your debt has reached, say, \$50, borrowing another \$5 will increase your external indebtedness by only 10 per cent. Eventually, external debt will rise to the point where it is growing, in percentage terms, at the same rate as is GDP so that the ratio of the one to the other remains constant. That is, in a growing economy, even a high rate of foreign borrowing will not necessarily put you hopelessly into debt. Put another way, it is one thing for a young person, whose annual income can be expected to rise quite rapidly for a decade or two, to be heavily in debt but quite another for a retiree, whose income is constant or perhaps even declining in real terms, to be equally heavily indebted. This, then, is the simple but fundamental dynamic of the debt cycle, and one that has not always been remembered in the popular discussion of the Australian external debt issue—and much less so in the *Financial Review*!

Graph 1 indicates just how far a country will get into debt for the various borrowing rates. If the borrowing rate is five per cent of GDP, and if the economy grows at three per cent per annum, then the debt to GDP ratio will level out at a little over 70 per cent. If the borrowing rate is only four per cent, that ratio will stabilize at a little under 60 per cent, and so on. Note that if a country borrowed indefinitely at a rate of one per cent, its external indebtedness would never reach as high as 15 per cent of GDP. So foreign borrowing is not that bad, if the economy continues to grow and as long as existing loans can be rolled over.

Graph 2 (the lower panel labelled "Trade Account Deficit") indicates how the trade account of the balance of payments behaves during the debt accumulation process. You should note that the "current" account and the "trade" account of the balance of payments are not the same thing; the main difference is that the current account includes international interest payments and profit remittances, whereas the trade account does not. The

deficit in the current account, then, tells you the rate at which foreigners are accumulating net claims on Australia, and a surplus indicates the rate at which Australians are accumulating net claims on the rest of the world. The trade account deficit is simply the excess of imports over exports. To go from one to the other, then, one must know something about the net flow of interest payments and profit remittances between Australia and the rest of the world. I am going to assume that the real interest rate equivalent of those payments is four per cent, which implies a nominal interest rate of eight to nine per cent once we take into account world inflation—roughly the rate of interest currently prevailing on foreign loans denominated in U.S. dollars.

Note from Graph 2 that a country can enjoy trade deficits for a rather prolonged period—roughly thirty years under our assumptions—after beginning to borrow abroad, but then must suffer a trade surplus indefinitely. I use the terms "enjoy" and "suffer" because the former corresponds to living beyond your means, and the latter to living short of your means. During the early phase of the debt cycle, the "new" borrowing is more than sufficient to pay the interest on the existing debt, leaving some left over to finance a trade deficit. But as the debt builds up, the interest bills become higher and higher, until they exceed the "new" borrowing and part of the interest must be paid from a trade surplus. This just reflects the basic dynamic of the debt cycle described a few minutes ago. But note that the process is very gradual; even after the trade deficit disappears, the country can still take thirty years to develop a trade surplus of a mere fraction of one per cent of GDP.

As the graph indicates, just how much pleasure and and how much pain is involved depends directly on the rate of borrowing, but it also depends inversely on the rate of growth of the economy. Indeed, if the growth rate of economy, in real terms, were greater than the real rate of interest on

GRAPHS 3 AND 4: "COLD TURKEY" SCENARIOS

the external debt, there would never be any pain because new borrowing would always be more than sufficient to pay the interest on the existing debt. A few economies grow that fast, but Australia certainly is not one of them.

The real world, however, is not necessarily like the one depicted in Graphs 1 and 2. Something might happen to make it impossible to borrow any "new" money or foreign investors may decide not to acquire any more Australian assets. Interest rates may rise or, worse yet, foreign banks may demand that the loans be paid rather than rolled over. This is precisely what happened to the developing countries in the early 1980s. In these circumstances, a country must adjust quickly rather than at the leisurely pace indicated by Graphs 1 and 2.

The adjustment that must be made when the borrowing stops is a contraction of spending. How violent that contraction must be depends upon the specific circumstances; a rather severe contraction is depicted in Graphs 3 and 4—the "cold turkey" scenarios. The solid curves in those Graphs depict the actual external claims and trade account deficit of Australia for the period 1980 until the third quarter of 1990 (the data for the fourth quarter of 1990 being not yet available at this time). The five dashed curves in either graph reflect different assumptions concerning the severity of the balance of payments "crunch", which is assumed to have started during the last quarter of 1990. In Graph 3, the curves corresponding to NEC4, NEC3, NEC2, NEC1, and NEC0 trace the trajectories of net external claims under the assumptions that foreign borrowing suddenly falls from a level in excess of five per cent to four per cent, three per cent, two per cent, one per cent, and zero per cent of GDP, respectively. (We assume, admittedly unrealistically, that the economy continues to grow at three per cent per annum).

The belt tightening is indicated in the lower panel. During the

1980s, Australia enjoyed, on average, a trade account deficit (TAD) of more than two per cent of GDP. In the worst "cold turkey" case—when no new loans are available (NECO)—we see that the trade account must spring to a surplus of about three per cent of GDP; that is, spending must suddenly contract, relative to GDP, by five percentage points—or roughly A\$ 20 billion! The magnitude of the Walsh/Keating Commonwealth budget adjustments was considerably smaller, that retrenchment was spread over three or four years. This is the down side of foreign borrowing adventures.

The "cold turkey" scenarios are not, however, highly realistic. In the first place, the balance of payments "crunch", if it comes at all, will almost certainly be fairly gradual in the sense of being spread out over a year or two. Secondly, not all of the net external claims on Australia take the form of debt and there is no contractual obligation to remit profits on foreign-owned assets in Australia. Thirdly, foreign bankers like to have their assets "performing" and are often prepared to extend new loans merely to enable the debtor to make his interest payments; indeed, much of the "new" money that has been lent to the developing countries since 1982 have served precisely that purpose. Consequently, it is worthwhile to look at some more gradual scenarios.

Three such scenarios, labelled (A), are depicted in Graphs 5 and 6 where foreign borrowing is gradually reduced to a level of one per cent of GDP. In the case corresponding to "NEC4" in the upper panel and "TAD4" in the lower panel, that borrowing is assumed to decline from the 1990 level (of over five per cent) to four per cent of GDP by the fourth quarter of 1992. The NEC3-TAD3 and NEC2-TAD2 cases require a more severe adjustment in that foreign borrowing must decline from the 1990 level to three and two per cent of GDP, respectively, by the fourth quarter of 1992. A similar set of gradual scenarios are presented in Graphs 7 and 8; this

GRAPHS 5 AND 6: ADJUSTMENT SCENARIOS (A)

GRAPHS 7 AND 8: ADJUSTMENT SCENARIOS (B)

NET EXTERNAL CLAIMS (NEC)

TRADE ACCOUNT DEFICIT (TAD)

second set, labelled (B), differs from the one labelled (A) only in that the level of foreign borrowing gradually approaches a level of zero instead of one per cent of GDP. The trajectory of foreign borrowing corresponding to the two sets of scenarios is presented in Graphs 9 and 10. As can be seen, the adjustment is quite gradual in that, even in the most severe case, foreign borrowing does not approach the final target level (1 and zero per cent of GDP, respectively) until late in the decade of the 1990s. During the initial adjustment period (1991-92), the two sets of scenarios are very similar; it is only much later that they diverge significantly.

Nevertheless, the required adjustment is quite severe in those cases in which the capital inflow declines to two per cent of GDP within two years (NEC2 and TAD2). As can be seen from the Graphs 6 and 8, this implies that trade must balance by late 1991, which requires a contraction in spending, *relative to GDP*, of about A\$ 10 billion in five quarters.

But the contraction in spending is only the beginning of the story. Not only must spending decline—relative to output—in this scenario by A\$ 10 billion in a little over one year, *all* of that contraction must fall on goods and services that are traded *internationally*. More precisely, the only way in which the Australian trade account can move towards surplus is for Australian spending on *traded* goods to decline A\$ 10 billion, or for Australian production of those goods to rise by A\$ 10 billion, or some combination of the two that sums to A\$ 10 billion. That is, the required adjustment can be achieved through shifts in supply as well as demand, and the speed and ease with which that adjustment will take place depends critically upon the degree to which the supply shifts actually occur—which in turn depends upon the structure of the traded goods industry. It is this consideration that links the debt issue with commercial policy reform in Australia.

By developed-country standards, Australian commercial policy is highly

GRAPHS 9 AND 10: CAPITAL INFLOW SCENARIOS

CAPITAL ACCOUNT SURPLUS: A

CAPITAL ACCOUNT SURPLUS: B

protective. Everyone is aware of the fact that, owing to high tariffs, Australian-built cars cost about 50 per cent more than do comparable vehicles in other countries. But cars are just one example; protection of Australian industry is very high and widespread. Protection obviously reduces imports, but as the level of protection and the trade balance are not correlated in the long run, countries that restrict their imports ultimately restrict their exports as well. Consequently, a clear indicator of the extent of protection is the volume of international trade itself, and the evidence indicates that, among the OECD countries, Australia is a conspicuous "non-trader." Consider the trade data for a number of OECD countries which are presented in the Table below.

TABLE

Ratio of Exports to Gross Domestic Product:
Average of Quarterly Data for 1980s
(in per cent)

COUNTRY	OBS	MEAN	MINIMUM	MAXIMUM
Australia	40	15.9	13.3	18.4
Canada	40	30.5	26.0	34.6
France	40	22.5	20.9	25.1
G. Britain	40	28.3	26.8	29.7
Italy	39	22.0	19.2	25.2
Sweden	37	33.5	27.7	37.0
Switzerland	40	39.7	36.7	44.1

During the decade of the 1980s, Australian exports were, on average, only 15.9 per cent of GDP and, on a seasonally adjusted basis, having reached as much as 18 per cent in only two out of forty quarters. In contrast, two of the smaller OECD countries, Sweden and Switzerland, had exports that, on average, were 33.5 and 39.7 per cent of their respective GDPs. Canada and Great Britain, both somewhat larger than Australia in terms of population, had exports that averaged 30.5 and 28.3 per cent of their respective GDPs. Even Italy and France—both notorious for cleverly

disguising their blatant protectionism—exported 50 per cent more, relative to GDP, than did Australia, and the hapless Kiwis, so often the object of Australian scorn, out export their Australian neighbors by nearly a two to one margin. These observations are all the more striking in view of nature's great generosity towards Australia, a generosity that, had it not been despoiled by a wrong-headed commercial policy, would have made Australia to be *primus inter pares* in international trade.

{ An important consequence of Australia's protectionism is her excessive, indeed singular, dependence on natural-resource based exports, together with an import-substitution sector that cannot compete internationally. } This comes about because, as is becoming increasingly well known, { the protection afforded the industrial sector in a country such as Australia is, to a very large extent, shifted (by the exchange rate) onto the export sector in the form of an implicit tax on output—a tax that causes the production of exportables to diminish. } The general case has been treated by Professor Kenneth Clements and myself [1984], and Choi and Cumming [1986] have made estimates of the degree of that shifting in the Australian case. As a result of that tax, { the only export activities that survive are those with the highest comparative advantage; in Australia, those are the natural-resource based activities. } { Unfortunately, natural-resource based industries are notoriously slow in their ability to increase output in the short run, and hence the Australian export sector can offer only a very limited response to balance of payments crises } On the other hand, imports cannot be contracted sharply, as much of what Australia does import consists of raw materials and intermediate inputs absolutely essential to the functioning of the heavily protected import-competing sector (such as car production).

The upshot is that most of the short-term adjustment in response to a balance of payments crisis will have to come mainly from the expenditure

side. While expenditure responds to both income and relative prices, in the Australian case the response to relative prices (i.e., a major depreciation of the Australian dollar) is weak for two reasons. In the first place, as the domestic consumption of your mining products is tiny in comparison with production, even a drastic reduction in that consumption will have only a small effect on your exports of those products. Secondly, apart from wool (and we all know the sorry wool story), your agricultural exports are mainly food products, and food consumption is not very responsive to its relative price. The implication is that even a major depreciation of the Australian dollar would be but a mild palliative in the event of a balance of payments crisis—most of the response would have to come from the income side—which means a major recession. { While recession obviously is an inefficient manner for an economy to adjust its balance of payments, the fact remains that recession is currently the principal adjustment mechanism available to the Australian economy. } { For that to change, Australia must rethink its commitment to protectionism. It is high time for Australians to consider joining the trade liberalization movement that is sweeping the rest of the world. }

APPENDIX

A. Debt Trajectory Curves

Let C be the nominal value of net external claims each year, Y be the nominal GDP of the borrowing country, g be the growth rate in real terms of that GDP, and π be the inflation rate both at home and abroad. For simplicity we assume a fixed exchange rate so that the currency of denomination of external claims is of no consequence. Defining $c \equiv C/Y$, the continuous time rate of change of c is clearly:

$$\dot{c} = \dot{C}/Y - c \cdot (\dot{Y}/Y)$$

$$= \alpha - c \cdot (g + \pi),$$

where $\dot{C} \equiv \alpha \cdot Y$ defines α as the borrowing rate expressed in units of GDP. It is this equation (in discrete time) that defines the debt trajectory curves in Graph 1.

Taking α , g and π as constants, clearly c converges to a steady state level of $\tilde{c}$:

$$\tilde{c} = \alpha / (g + \pi);$$

that is, the ratio of net external claims to GDP will approach the ratio of the borrowing rate to the rate of growth of nominal GDP.

B. The Trade Account Balance

Let T be the trade account balance, r be the real interest rate equivalent on net external claims and $i = r + \pi$ be the nominal interest rate equivalent on those external claims. The trade account deficit will be the difference between the capital account surplus and the service account deficit; we take the latter to be simply nominal debt service: $i \cdot C$. Therefore:

$$T = \alpha \cdot Y - i \cdot C.$$

Defining $t \equiv T/Y$ as the trade account deficit in units of GDP, we have:

$$t = \alpha - i \cdot c.$$

It is this equation (in discrete time) that generates the trade account deficit curves in Graph 2.

The steady-state value of t is $\tilde{t}$:

$$\tilde{t} = \alpha - i \cdot \tilde{c}$$

$$= \alpha \cdot [1 - i / (g + \pi)]$$

$$= [\alpha / (g + \pi)] \cdot (g - r).$$

If $g > r$, then the trade account will remain in deficit throughout the debt cycle, and if $g < r$, the country will initially experience a trade deficit but ultimately will have to develop a trade surplus.

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