Immigration, Saving and the Current Account

M. A. Taslim

September 1996

UNE Working Papers in Economics No. 33

Editor Brian Dollery

Department of Economics
University of New England
Armidale
New South Wales 2351
Australia

ISSN 1321 9081

ISBN 1 86389 376 8

Immigration, Saving and the Current Account

M. A. Taslim
Department of Economics
University of New England
Armidale NSW 2351

This is a revision of a paper presented at a workshop organised jointly by the Academy of Social Sciences in Australia and the Australian National University at Canberra on 20-21 May, 1996. The author thanks the discussant of the paper, R. Junankar and other participants for comments. The commencement of research for this paper was made possible by a research grant of the Faculty of Economics, Business and Law, University of New England. Subsequent work was facilitated by an Australian Research Council small grant and a short visiting fellowship at the Centre for Economic Policy Research, Research School of Social Science, Australian National University. The author wishes to express gratitude to all these organisations.

Abstract

Immigration, saving and the current account

There is some concern that immigration contributes to a larger current account deficit in a net borrowing country like Australia. The reason is believed to be that the immigrants on balance have a lower net saving than those born in the country. The implication is that they contribute to increasing the level of foreign debt at a rate greater than that of the local-born. However, the nexus between immigration and current account is multi-dimensional and complex. This paper uses both micro survey and aggregate data to investigate the relationship. It is shown that although the immigrants as a group have a lower propensity to save, and hence, make a greater direct contribution to the current account deficit than the local-born, the relationship is considerably weakened when indirect effects are taken into account. On balance, immigration does not appear to have a significant effect on the current account.

Immigration, Saving and the Current Account

Section I

As a country that accepts a large number of immigrants every year Australia has a healthy interest in the probable effects of immigration on the economy and the society. A substantial amount of research resources and at least one government organisation are fully devoted to the study of immigration. There is a surprising degree of consensus, at least among economists, regarding the broad economic consequences of immigration although there may be some disagreements about details. The general view is that immigration affects the economy through various demand and supply channels, and in conflicting ways.[1] It is difficult to estimate the overall net effects, but there seems to be little doubt that the net effects are relatively small in per capita terms. Furthermore, the lag with which these effects are felt is also uncertain. Hence, there is an understandable reluctance among the profession to accord immigration policy any short, or even medium, term stabilisation role. A major study commissioned by the Bureau of Immigration and Population Research strongly advocates that immigration intake should be independent of the state of the economy in sharp contrast to the popular perception and actual government response.[2]

Much of the literature on the economic effects of immigration adopts an aggregate demand-supply framework, and could be conveniently summarised by the following national income identity and aggregate production function:[3]

$$Q \equiv C + I + G + X - Z \tag{1}$$

and

$$Q = f(K, L, T, S) \tag{2}$$

---

[1] For a litany of advantages and disadvantages of immigration that are commonly advanced, see Clark (1990), Economic Research Unit (1982) and Shergold (1984).

[2] See Center for International Economics, 1990.

[3] See Argy (1990), Economic Research Unit (1982), Foster and Withers (1992), Lloyd (1982) and Wooden (1990).

where Q = GDP, C = consumption, I = Investment, G = Government Expenditure, X = exports, Z = imports, K = Capital stock, L = Labour (employment), T = technology, and S = skill. Immigration, M, is thought to impact on all these variables:

$$f_K\frac{dK}{dM}+f_L\frac{dL}{dM}+f_T\frac{dT}{dM}+f_S\frac{dS}{dM}=\frac{dC}{dM}+\frac{dI}{dM}+\frac{dG}{dM}+\frac{dX}{dM}-\frac{dZ}{dM}. \qquad (3)$$

The left side represents the supply side effects and the right side the demand side effects. Each of the supply effect terms is believed to be positive such that immigration raises output. All demand effect terms except dX/dM are also regarded as positive. Both aggregate output and demand ultimately increase by the same amount. However, this need not imply an increase in welfare of the total population and in particular, the resident population before immigration (Parmenter, 1989). For this to happen a necessary condition is that in addition to total output, output per capita of the nation must also rise; and (3) does not necessarily guarantee that.[4]

There has been some concern that regardless of the other effects, immigration has an adverse impact on national saving and consequently on the current account. Hellwig *et al* (1992) made an exhaustive analysis of the Household Expenditure Survey (henceforth HES) 1984-85 data and found that migrant households on average saved less than the Australian-born households. They also found that the saving propensity of the very recent migrants was less than the older migrants. However, they defined household saving in the conventional manner as the difference between household disposable income and consumption spending. As discussed later this concept of saving does not provide much clue regarding the real contributions of the households to the current account.

It is often argued that immigration raises import demand[5] and according to some authors, it also reduces export supply. Hence, the trade balance worsens. However, it is sometimes overlooked that this does not necessarily have implications for the current account deficit (CAD) one way or the other. The current account has three components: $CAD = TD - R + NFI$, where TD = trade deficit, R = net

---

[4] Corden (1955) defines the limits to immigration as the point at which further immigration ceases to raise the per capita income.

[5] Migrants are sometimes alleged to have a higher import propensity than the native population and hence add to the current account deficit. This is a patently false argument. What causes a current account deficit is an excess of total expenditure over income or output; a very high fraction of income spent on imports does not necessarily contribute to the deficit.

unrequited transfers from overseas and *NFI* = net factor income paid overseas. Thus, even if immigration contributed to a larger trade deficit, it could still improve the current account balance if it led to an inflow of unrequited transfers and reduced net factor income payments. Immigrants are known to transfer a large sum each year to Australia. If their contribution to the trade deficit and factor income payments is less than the unrequited transfers, the current account will improve; and obviously the converse also applies.

Many authors have taken a general equilibrium approach in modelling the impact of immigration on the current account and other variables of interest in recognition of its multifarious effects. The economy is divided into a large number of sectors, and each sector is represented by a demand and a supply equation. Changes in immigration are introduced exogenously to the model and the resulting changes in the variables of interest are noted. The CIE (1990) study did extensive experiments with the well-known ORANI model. Curiously, they found that a reduction in immigration intake would actually *worsen* the trade and current account deficits. This unexpected result occurs when the aggregate supply effects outweigh the demand effects. In contrast, a BIPR commissioned study, which used Access Economics Murphy model (Ackland 1991) found that a reduction in immigration would improve the current account. Noting such contradictory results, Wooden (1990) commented that macro models are assumption-driven: results are only as good as assumptions.

In one of the earliest quantitative studies on the economic effects of immigraion, Kmenta (1966) constructed an econometric model of Australia for the period 1948-61. He found that the structural effects of immigration were limited to changes in demand for fixed capital and imports. The accumulated dynamic effect of immigration tended to be slightly dampening on the GNP, but the impact effect was negligible.

Recently, Junankar, Kapuscinski, Mudd and Pope (1994) have also employed a time series regression analysis with macro data to assess the impact of immigration on the Australian current account. They found that although arrivals and departures appear to have some influence on the current account, net migration has little, if any, influence. Hence, both Kmenta's and their studies lead to the conclusion that immigration policy should not be employed for short term stabilisation purposes.

This study investigates the saving performance of migrant and native households in a manner that permits inference regarding the effect of each group on the current account. Saving estimates are derived from the HES 1988-89 data. Since HES data are not a complete description of either income or expenditure of households some restrictive assumptions have to be made in order to render it suitable for such an investigation. For the most part we shall restrict our attention to the *relative* and direct effects of migration on saving and on the current account in order to minimise data requirement. Aggregate time series data are then employed to examine the over-all effect of immigration on the current account.

Section II

From national income accounting it is well known that a nation incurs a foreign liability or equivalently, runs a current account deficit, CAD, only when its expenditure, E, exceeds its disposable income, Y^d which is the sum of gross national income Y and net unrequited transfers from overseas, R,

$$E - Y^d \equiv CAD. \qquad (4)$$

The current account deficit of the economy *ex post* is the sum total of the contributions to the deficit by each individual spending unit of the economy.[6] If each such unit were to spend less than what it earned the nation would be acquiring assets (on a net basis) abroad, and the converse also applies. Thus a spending unit, such as a household, directly adds to the current account deficit if the income it earns is less than its expenditure as well as expenditure on its account. However, much care is needed in the interpretation of the terms income and expenditure as discussed below.

---

[6] One could argue that the income and expenditure pattern of one group of spending units could impose external diseconomies or economies on the other groups. If its economic activities were to result, directly or indirectly, in such changes in the income and expenditure patterns of the other groups as to affect the current account in a manner opposite to the initial effects of the former, then an *ex post* surplus group could be responsible for whole or part of the deficit of the deficit groups.

Three sets of spending units are recognised in the national accounts: households, business firms and governments. E and Y^d in (1) refer to the sum total of expenditures and disposable incomes of all three sets of units. Thus,

$$\sum_h (E_h - Y_h^d) + \sum_b (E_b - Y_b^d) + \sum_g (E_g - Y_g^d) \equiv CAD, \qquad (5)$$

where the subscripts h, b and g refer to household, business and government sector respectively. It would appear from (5) that each set of units either directly adds to or reduces the current account deficit depending on whether its income falls short of, or exceeds its expenditure, Since the national accounts provide data on each term in (5), it is an easy task to verify the identity.[7]

In some sense business firms and governments are just extensions of households. To the extent firms are owned by households, any profit or surplus they make accrue ultimately to the households. It seems natural, therefore, to attribute any net saving or dissaving they make, which contribute positively or negatively to the current account, to households. Similarly (democratic) governments are meant to be "of the people, by the people and for the people." Thus, the people, i.e. households, must bear the burden of, or enjoy the fruits of, all activities of their representatives in governments.

We may divide the households into two groups which are of direct interest to this study: Australian-born or native households and overseas-born or migrant households. We could rewrite (5) as:

$$\Sigma_i \Sigma_h (E_{ih} - Y_{ih}^d) + B + G \equiv CAD \qquad (6)$$

where i = a, m; and a refers to Australian-born and m refers to migrant households, h now refers to households in each of the two groups, and $B = \Sigma(E_b - Y_b^d)$ and $G = \Sigma(E_g - Y_g^d)$ are the total deficit of the business and government sector respectively. Expressing (6) in per household terms we have,

$$\left[\frac{\sum_{h=1}^{A} (E_{ha} - Y_{ha}^d)}{A} + \frac{B+G}{A+M} \right] \cdot A + \left[\frac{\sum_{h=1}^{M} (E_{hm} - Y_{hm}^d)}{M} + \frac{B+G}{A+M} \right] .M = \frac{CAD}{A+M} .(A+M) \quad (7)$$

---

[7] The sum of the left side terms in (2) will almost certainly not equal the right side in national accounts tables due to errors and omissions, Both sides are brought to equality by the addition of a statistical discrepancy term.

where A and M are the total number of Australian-born and migrant households. The first term in square brackets is the contribution of the average Australian-born household to the current account and the second term is the contribution of the average migrant household *on the assumption* that each group of households should bear the same proportionate burden of the deficits of the firms and governments. Later in the analysis we shall look into the actual tax payments and benefits received by the two categories of households.

If both groups of households were similar, per household disposable income and expenditure patterns would be similar and the average household in each group would make the same contribution to the current account deficit or surplus as well as the deficit or surplus of the governments and firms. Thus, we should get,

$$\frac{\sum_{h=1}^{A}(E_{ha}-Y^{d}_{ha})}{A}+\frac{B+G}{A+M}=\frac{\sum_{h=1}^{M}(E_{hm}-Y^{d}_{hm})}{M}+\frac{B+G}{A+M}. \qquad (8)$$

The average migrant household presumably contributes to a greater current account deficit if,

$$\frac{\sum_{h=1}^{A}(E_{ha}-Y^{d}_{ha})}{A}<\frac{\sum_{h=1}^{M}(E_{hm}-Y^{d}_{hm})}{M}. \qquad (9)$$

Note that the above inequality also defines the situation in which the average migrant household adds more than the average native household to the current account deficit *net* of government and business deficits.

We shall use data on expenditure and income by household category from the Household Expenditure Survey 1988-89 to test the condition above. These data are weighted by using the weights (supplied by HES) assigned to each household to make them representative of the country. The HES provides information on the birthplace of the reference person of each household. All households which have the reference person born in Australia are regarded as Australian-born or native households, while those households whose reference persons were born overseas are classified as migrant households. This classification scheme, therefore, regards the reference persons who have Australian-born parents, but were born overseas, as migrants. The number of such persons is likely to be very small, and hence, ignored without much consequence on the average figures. Households whose

reference persons are the children of migrants and born in Australia are appropriately regarded as natives or Australian-born citizens.

The disposable income of migrants are understated as the HES does not take account of the net unrequited transfers received (or brought in) by migrant households from overseas. These unrequited transfers are, for the purpose of this analysis, the same as income, and add to the ability of migrant households to spend more on consumption and investment than their other receipts, or to reduce the current account deficit. The disposable income of the migrants is, therefore, adjusted by adding to migrant disposable income, as given by HES, an amount equal to per household net unrequited transfers. Expenditures of both household categories comprise expenses on all durable and nondurable goods and services for consumption.

Although HES adopts the acquisition approach in recording household expenditure, it makes an exception to this general rule in the case of spending on the purchase of houses which is not recorded. Instead current mortgage interest and principal payments are obtained. Hence, we do not have information on how much was spent by each household group on the purchase of houses during the survey year, and consequently it is not possible to directly estimate the spending of each group on purchase of houses. We shall, therefore, follow the national accounts convention of regarding housing as investment. Just as migrants (as well as locals) have to be equipped with capital to realise their productive potential, it is also necessary to provide them with housing, and as such spending on these could be treated symmetrically. Accordingly we could include all housing investment in E_b and E_g terms in (5) and require that each household on average should bear the same proportionate burden of housing investment. As we shall see later there is not much evidence in the HES data that the two groups spend very dissimilar amounts on account of housing and hence the equal burden rule does not seem overly unjustified.

These income and expenditure figures are given in Table 1. The average migrant income and expenditure are higher than that of the native households; and their saving is lower. Both groups save only a meagre fraction of income: native households save only 2.1 per cent of disposable income while migrant households save a paltry 0.85 per cent of unadjusted disposable income and 0.80 per cent of adjusted diposable income. One might be tempted to argue that since the saving of the migrants is

lower they contribute relatively more to the current account deficit. However, as we argue later, such a conclusion would not necessarily be correct and could be potentially misleading.

Income estimates in HES differ in an important respect from that in national accounts. The latter includes imputed rental value of owner occupied housing, but the former excludes it. Thus HES estimates understate true incomes. However, this does not create much problem for us as for our purposes we require the difference between income and expenditure. Since the imputed rental value of an owner occupied dwelling is both an income and spending of the owner, the difference between income and spending remain unaffected.

HES estimate of income also excludes lump sum receipts and windfall gains as these are not of a regular nature. So long as income from these sources are relatively small, or both groups of households derive about the same amount of income from these sources or most of the transfers are intra-group transfers, they may be ignored without much implication for the conclusions. If these receipts of irregular nature are not small in magnitude or if these accrue to the two groups of households in significantly different amounts, then the conclusions derived from the calculations above would be modified. This caveat should be borne in mind in interpreting the findings.[8]

The above method of calculation of, or inference regarding, the contributions of each group to the current account suffers from a serious flaw. By disregarding the household's net contribution to the government exchequer, it could find a household dissaving when it is in fact saving more than others. Consider the following heuristic example: a prototype economy has two groups of households and a government. The first group earns $2000, and the second group earns nothing (say the households in this group are unemployed). The government collects $1000 from the first group in taxes and pay $600 to the second group as transfers. The first group spends $1200 and the second group $500, and the government budget is balanced. If we apply the method used above, then we would conclude that the first groups contributes $200 to the current account deficit while the second group reduces the deficit by $100. Hence, the group whose entire spending constitutes an addition to the deficit is labelled a surplus group, while the group that spends much less than its earning (less contributions to government costs)

[8] Another omission is the employers contribution to superannuation. If the difference in per capita contributions to the two groups of households is not substantial, the conclusions are not likely to be affected.

is shown as a deficit group. Hence, the conventional measure of saving should not be used to draw any conclusion about the impact of the two groups on the current account.

To avoid this problem we shall look at household expenditure in relation to the income it actually earned. Using national income identities we get,

$$W + GOS + IT - NFI \equiv GNP \equiv C + I + G - CAD - R, \tag{10}$$

where W= wages, salaries and supplements, GOS = Gross Operating Surplus, IT= indirect taxes less subsidies, NFI= net factor income paid overseas. Part of the GOS of firms accrues to households; and part of NFI is paid by households and business while the rest is borne by the governments.[9] Hence,

$$\sum_h (W_h + GOS_h - E_h) + \sum_b (GOS_b - E_b) + \sum_g (IT_g - E_g) \equiv -CAD - R \tag{11}$$

or,

$$\sum_h (Y_h - E_h) + \sum_b (Y_b - E_b) + \sum_g (IT_g - E_g) \equiv -CAD - R, \tag{12}$$

where Y_h refers to the actual income earned by households and E_h, E_b and E_g include net factor income paid overseas.[10] Dividing households between native born and migrants, we could rewrite (12) as:

$$\begin{aligned} &\sum_{h=1}^{A} (Y_{ha} - E_{ha}) + \sum_{m=1}^{M} (Y_{hm} - E_{hm}) + R_m + \sum_b (Y_b - E_b) + R_b + \\ &\sum (IT_{gA} + IT_{gM} + IT_{go} - E_{gA} - E_{gM} - E_{go}) + R_g \equiv -CAD \end{aligned} \tag{13}$$

Where IT_{gA} and IT_{gM} are the indirect tax receipts from native and migrant households, IT_{go} is the indirect tax receipts from all other sources, and E_{gA} and E_{gM} are the cost of government benefits bestowed on the two groups of households respectively. E_{go} is the government expenditure that cannot be attributed to any particular household and $R = R_B + R_G + R_M$, where R_i's represent the

---

[9] The assumption here is that the government does not own any business capital. If it does the third term on the left side of (11) will have to be augmented by GOS_g. Alternatively the business operations of governemnts may be included in the business sector.

[10] In the event net factor income is received from overseas, it may be included in the income terms.

net unrequited transfers from overseas received by businesses, governements and migrants respectively.[11] Rearranging,

$$\left[\sum_{h=1}^{A}(E_{ha}-Y_{ha})+\sum_{g}(E_{ga}-IT_{ga})\right]+\left[\sum_{h=1}^{M}(E_{hm}-Y_{hm})+\sum_{g}(E_{gm}-IT_{gm})-R_m\right]+$$

or,

$$\left[\sum_{b}(E_b-Y_b)-R_b\right]+\sum(E_{go}-IT_{go})-R_g \equiv CAD \qquad (14)$$

$$\left[\sum_{h=1}^{A}(E_{ha}-Y_{ha})+E_{gA}-IT_{gA}\right]+\left[\sum_{H=1}^{m}(E_{hm}-Y_{hm})+E_{gM}-IT_{gM}-R_m\right]\equiv CAD+B_o+G_o \qquad (15)$$

where $B_o=\sum_{b}(Y_b-E_b)+R_B$ and $G_o=\sum_{g}(IT_{go}-E_{go})+R_g$ are the surplus of firms and governments. Part of the total current account deficit is offset by business saving and excess of government earning of indirect taxes from business and government organisations and unrequited transfers from overseas over its expenses that are not directly attributable to particular households because of the 'public good' nature of these expenses. Expressing (15) in per capita terms:

$$\left[\frac{\sum_{h=1}^{A}(E_{ha}-Y_{ha})}{A}+\frac{E_{gA}-IT_{gA}}{A}\right].A+\left[\frac{\sum_{h=1}^{M}(E_{hm}-Y_{hm})}{M}+\frac{E_{gM}-IT_{gM}-R_m}{M}\right].M$$

$$\equiv\frac{CAD+B_o+G_o}{A+M}.(A+M) \qquad (16)$$

The migrant households cause, again on the assumption that both groups should bear the same proportionate burden of the deficits of business and government sectors, a greater current account deficit than the Australian-born households if:

$$\frac{\sum_{h=1}^{A}(E_{ha}-Y_{ha})}{A}+\frac{E_{gA}-IT_{gA}}{A}<\frac{\sum_{h=1}^{M}(E_{hm}-Y_{hm})}{M}+\frac{E_{gM}-IT_{gM}-R_m}{M} \qquad (17)$$

---

11 We are assuming that the native households do not receive any net transfers from overseas. This is not a very stringent assumption as the net requited transfers of the household sector as a whole in 1988-89 were not much different from net migrant transfers during the same period.

Note that direct tax payments do not enter the calculation. Since, from the point of view of the current account deficit, it is immaterial whether the households release funds through taxes or saving, the distinction does not have to be made.

The value of the terms in (17) can be calculated from the findings of Table 1 and 2. The L.H.S. =490.98 - 568.34 + 104.44 - 64.66 = -37.58, and the R.H.S. = 529.53 - 586.62 + 121.84 - 64.23 = -0.09. Since the right side is greater than the left side, we may infer that the migrant households, on average and in the aggregate, contributed more to the current account deficit than the Australian-born households.

Migrant households constituted slightly less than three-tenths of the total households in Australia in 1988-89. During the period 1952-53 to 1988-89, slightly more than three-fifths of the total increase in population was due to natural increase and the rest due to net migration. One could conjecture that the rate of change of migrant population was moderately higher than that of the native population. If so, it would imply that the incremental capital needed to employ additional migrants would be proportionately greater than the incremental capital needed to employ new native workers entering the workforce. An equal distribution of B_O among all households, therefore, understate the relative contribution of the migrants to the net deficit. This argument would have been crucial if we had found the migrant households contributing less to the current account deficit than the indigenous people or if we were estimating the actual contribution of each group of households. Since we found the migrants to contribute more to the net deficit than the rest of the households, the argument above only strengthens the finding. Furthermore, since we are concerned only with the comparison of these two groups of households, finding the actual magnitudes of their contributions are not necessary. However, it seems that even if we were to calculate the actual capital requirements of the two groups, the quantitative magnitudes may not be very different from what we get from the equal distribution of B_O rule. Just as migrants require more incremental capital to employ them, they also require much less capital to build up their human capital relative to the indigenous people. Most of the new migrants have either already completed formal education and training or need only a relatively short period of education and training to qualify them for the Australian job market. When both these

aspects of capital requirement are taken into account, the equal distribution rule may not understate the contribution of the migrants to the current account deficit.[12]

It must be emphasised that this is only a 'snapshot' view of the economy that ignores the indirect effects of migration.[13] A large number of authors believe that one of the main benefits of immigration is that it permits the economy to reap the benefits of scale economies by increasing the size of the domestic market and opening up new markets overseas. Migrants also induce technological change by bringing in new ideas and skills. The growth of the economy, as well as per capita output, are, therefore, greater than what would have been the case without any migration. If so, the surplus generated by the native households from the increse in income would be due to, and accordingly should be attributed to, immigration. The shortfall in migrant surplus would thus be smaller than what the snapshot view would suggest.

It is sometimes alleged that migrants make a greater demand on public services and carry a lower burden of public expenses. The HES provides data on the total tax contributions, and benefits of certain types (e.g. health care, education, pension, unemployment benefits and so on) which are received by households. These are shown in Table 2. The benefits above do not include consumption of such public goods as defence, police, bureaucracy, roads, legislature and parks. Since there is no reason to believe that any group would consume more or less of these goods than the other, each should bear the same proportionate burden of provision for these goods.

If this is the case, Table 2 provides a good indication of the relative contribution of households of each group. Native-born households pay slightly more in taxes than the migrant households, but the latter receive substantially more in benefits than the former. More than three quarters of the excess indirect benefits received by migrant households is accounted for by excess educational benefits. Migrant households make a greater use of the public educational facilities than the native households.

---

[12] If business income were proportional to business capital, Table 4 would suggest that the native households own about 14% more of the capital stock than the migrants. A case can be made that the native households should provide more of the business capital as they own more of it. An equal distribution in this view actually attributes a greater burden of the deifcits to the migrant households.

[13] The intra-group indirect effects are, however, adequately captured in the snapshot picture.

Overall, it would appear that the latter pay a greater share of the cost of the provision for the public goods.

We now look at the income and expenditure patterns of households in more detail to find if the two groups of households differ markedly in these economic characteristics. Table 3 below presents the earnings or receipts of households from various sources, Migrants earn a greater share of their income from selling labour services than the native-born households. Wages and salaries constitute 84.8 per cent of the earned income of migrant households, but 79.9 per cent of that of the native households. The latter earn more from own business, investment (except property rent) and superannuation than the former. The native born receive slightly more in pension payments but substantially less in various allowances. The average earned income of migrant households is 1.7 per cent less than that of the Australian-born households. However, when the funds brought in or received by migrants are added to migrant income, their adjusted income is 3.2 per cent higher than that of the native households. The disposable income of migrant households is only 0.9 per cent higher than the native households.

Income earned per income-earning unit in the household is much lower for migrants than the Australian-born. This is a reflection of the larger number of income earners in the migrant family relative to the other group. A noteworthy aspect is that the average wage and salary earning (per employed member) of the migrants is higher by 1.8 per cent. This appears to support the findings of some studies which suggest that the migrants have, on average, a higher educational qualification and tend to work harder (see Withers 1989, Clark 1990 and Foster and Baker 1991). Their wage income is accordingly higher.[14]

Migrant households spent more on each category of expenditure items save one listed in Table 4. In particular, they spent over 12 per cent more than the Australian-born households on current housing and edibles. The only commodity on which migrants spent less than natives is alcoholic beverages. The current consumption expenditure (including durables) of migrants was 7.8 per cent higher than that

---

[14] Pope (1982) reports a positive relation between the rates of protection and proportion of non-UK migrant workers in industries. Many of these industries are labour intensive and low paid industries. If a substantial fraction of the migrants are engaged in such industries, the average wage could be higher only if they worked longer hours relative to the native-born.

of the Australian-born households. Hence, although the adjusted income of the migrant households was higher, their expenditure was proportionately even higher, implying a lower rate of saving per household.

The size of the migrant households exceeds, on average, that of the Australian-born households by more than 10 per cent. When the expenditure of households are scaled down to account for the larger household size, the per capita spending of the Australian-born households actually exceeds that of the migrants by more than 2 per cent.[15] The per capita income of the migrants is, however, 6.6 per cent lower. The per capita net saving is accordingly lower.

These finding would seem to suggest that the migrants have, or acquired, a spending propensity similar to the native-born residents, but their income is lower. The net saving they generate is accordingly smaller.

The only real investment activity that a household engages in is housing. It is sometimes alleged that the migrant households spend a greater amount on housing than the native-born households. The HES does not provide data on the value of dwellings of households such that the total spending on housing cannot be determined. However, several interesting features regarding housing emerge from the information provided by HES. Table 5 below shows the dwelling occupancy status of households. The average number of bedrooms in a migrant home is lower than that in a native home.[16] About the same proportion of households in both groups own their dwellings outright. The proportion of Australian-born households who are part owners and are in the process of buying their dwellings is slightly higher (4.7 per cent) than that of the overseas born households. The latter live in privately rented dwellings relatively more frequently than the former. The former makes a considerably greater demand than the latter on rented dwellings owned by the governments as well as on rent-free dwellings. Migrant households make, on average, much larger rent payments than the Australian born households

---

[15] It was not attempted to construct equivalent scales for children. It is not at all evident that less is spent on children than adults. Indeed, casual empiricism would suggest that some parents spend a great deal more for their school-going children than on themselves.

[16] This might mean that the native households live in more spacious homes which might in turn mean that the native homes are more expensive than the migrant homes.

(see Table 6). This appears to be primarily a reflection of the fact that a greater proportion (by 11.1 percent) of the former live in rented premises than the latter. Furthermore, an even greater proportion (by 20.8 per cent) of the former live in the more expensive privately rented dwellings and a lower proportion in rent free accomodation compared to the latter. Mortgage payments (interest component) on housing loans of the migrants is somewhat higher (by 5.7 per cent) than the rest of the households. If interest payments on loans taken for alterations and additions to dwellings are added to the mortgage payment then the difference falls to only 3.8 per cent. There is virtually no difference between the two groups of households with regard to rate payments and repairs and maintenance costs. House and contents insurance premium of the migrant households is only marginally lower than the Australian-born households. These figures do not lend much support to the claim that migrants spend substantially more than the native born on housing.

The findings above suggest that there is not much difference between native and migrant households in terms of the economic characteristics examined here.[17] The average income earned by these households are about the same. Migrant households spend more than the native households, but this is due to larger household size of the migrants. The per capita expenditure of the native households is actually higher. The per capita income of migrants is lower than that of the native households, but the difference narrows down when migrant incomes are adjusted for the funds they bring into Australia. These findings seem to support the hypothesis that the economic effects of immigration are unlikely to be much different from that of the natural increase in population.[18] Hence, there is a case that immigration policy should be embedded in the overall population policy of the country.[19] Just as a population policy cannot target short or medium term objectives, immigration policy should also not be employed to achieve relatively short term objectives. The level and pattern

---

[17] Whatever apparent differences there are could be largely the result of sampling errors.

[18] This hypothesis is true to the extent the cultural and other non-economic factors and their interaction with economic life of the nation are ignored. Also ignored is the fact that migration permits the country to have as trained manpower without having to spend (anything or as much) on education and training. If this were to be taken into account, immigration might appear to contribute even less to the deficit in the current account. See Foster and Baker (1991).

[19] The data of the HES are contingent on the policy environment that actually prevailed in the country in the past. A different environemnt could have produced different data. For example, if business and skill migration were to be discontinued and refugee and family migration increased, it is most unlikely that the income and expenditure pattern would remain the same as found above.

of immigration should be set up consistent with the long term goals of the nation, and these should not be greatly influenced by short term fluctuations of the economy along the business cycle.[20]

Section III

The analysis above apparently suggests that migrant households, as a group, have a lower propensity to save than the Australian-born households. The difference in saving is due to all relevant household specific characteristics in addition to the origin of the household head. If there is a systematic difference between the two groups of households with respect to any of these characteristics, it is likely to impact on the saving propensity. In order to isolate the effect of origin on the saving behaviour we could perhaps group the HES data according to these specific characteristics and then compare the saving performances. However, this may entail too many divisions and subdivisions of the population, and there may not be sufficient cases in each cell. A better approach is to conduct a regression analysis with all the characteristics including origin as arguments in the saving equation.

For reasons discussed earlier net household savings is defined as earned income less consumption expenditure of the household on goods and services plus net indirect taxes paid. Note that unlike what was done in the previous section, we do not adjust migrant earned income for the funds they brought in from overseas. This is because we do not have information regarding which households brought in funds and the amount they brought in.

In the spirit of the theories of consumption and saving, we posit that net saving is a function of income and the number of persons in the household that the income supports. To find if the country of origin of the head of the household influences the saving decision, we include a dummy variable that assumes a value of unity when the household head is born overseas and zero otherwise. Thus,

$$ns_h = \alpha + \beta y_h + \eta x_h + \lambda D_h$$

---

[20] If the very recent migrants of a particular category are found to have lower job market prospects initially than the migrants of another category, one might argue that the latter should be given preference for migration to Australia during recessionary times in order not to blow out the government budget. However, if the former are more skilled and have better economic prospects in the longer term, then the short term benefits of restricting their entry could be outweighed by the longer term disadvantages of such a policy. If these migrants also happen to bring in more funds, the short term objective of balancing the government budget would be in conflict with the objective of balancing the current account.

where ns_h = household net saving as defined above, y_h = earned income of the household, x_h is the number of persons in the household and D_h is the dummy variable. α, β, η and λ are coefficients. The estimates of the coefficients and the associated standard errors are given in Table 8. All coefficients have the expected signs and all are highly significant. Households which have higher incomes (regardless of whether the head is native or overseas born) tend to have a higher net saving. A larger household size on the other hand reduces net saving. The coefficient of the dummy variable is significantly negative suggesting that migrant households have a tendency to save less out of their unadjusted income

To find if the age of the head of the household has any influence on saving, an age variable, a, is introduced into the equation. HES does not give the actual age, it groups the reference persons of households in 5–year age intervals. Two proxies for age are tried. The first utilises the dummy variable method as used by Hellwig *et al.*; but this provides rather poor results and hence not reported. The second regards the midvalue of each interval as the age of the corresponding household head. This provides better estimates as shown in the third column of Table 8. It is sometimes argued that the advent of credit cards have raised spending of many households who are spending beyond their means. Such households may be expected to make more liberal use of credit cards. Hence, we added a credit variable, c, defined as the number of credit cards held by the households. The result is shown in the fourth column. The coefficient is significantly negative implying that those who use more credit cards have a lower saving.[21]

Next, the square of income and square and cube of age are added to the equation to capture any nonlineraities. The estimates indicate that both the age and income variables have some non-linear effects on saving. The addition of the three variable a, y^2 and a^2 only marginally improve the fit of the regression equation. The estimates of the coefficients of the income variables suggest an increasing propensity to save with an increase in income. other things remaining the same, net saving appears to rise with age during the earlier part of the life cycle, then falls and rises again toward the very end.

---

[21] We also used interest payments on credit card purchases as a proxy of c. The results are similar.

It has been suggested that migrants tend to have a high propensity to spend during the early years of settlement. As the length of residency increases their saving rises to the rate of the native households. To test this claim, the dummy variable D was replaced by a set of dummy variables d_i (i = 1, 2, ..., 5) each representing the period of arrival of the migrant. d_1 assumes a value unity if the migrant arrived before 1950 and zero otherwise. Similarly other dummy variables d_2, d_3, d_4 and d_5 represent arrival periods 1950–59, 1960–69, 1970–79 and 1980–88 respectively. We would expect the coefficient of a dummy variable to have a smaller value the more recent the arrival of the migrant household.

The regression estimates apparently bear out this hypothesis. The smallest (highest negative) value occurs in the case of the most recent migrant and rises as the period of residency increases. The highest value of the coefficient occurs for the migrants who came into the country during 1950-59. It falls for the oldest migrants - those who arrived before 1950. Most of the migrants who arrived before 1950 were toward the end of their life cycle in 1988 and perhaps retired. It is not unexpected that their saving would be lower than the average native household.

The most important aspect (for our purpose) of the results given in Table 8 is that the coefficients of the dummy variable representing the origin of the head of the household is significantly negative. Its absolute value in the complete equations is about 40.[22] Although the saving of the migrant household converge to that of the native households over time, the net effect of all migrant households is negative. The total net dissaving of the migrant households would have been $3.3 billion more than the native households even if they had identical other household specific characteristics. Part of this would have been offset by the net migrant transfers of $2.2 billion during 1988–89.

Section IV

The foregoing sections show that the migrant households on average save less (or a smaller proportion of earned income) than their indigenous neighbours. Since current account deficit is usually identified with a lack of saving, such findings are frequently taken to imply that the migrants

[22]The weighted average of the coefficients of d_i's is also of this magnitude.

contribute less(more) to the current account balance(deficit) of the country. However, such a conclusion might be hasty since these findings show only the direct and intra–group indirect contributions of the households to the current account. The total effect of immigration on the current account also include inter-group indirect effects. For example, suppose that the saving ratio is directly related to income, and that migrants push the local-born households up the income ladder by taking up low-paid labour-intensive jobs. The saving propensity of the native households would rise and at least part of this rise is attributable to migrant households. This contribution of migrants to the increase in native, and therefore national, saving will not be captured by the HES data. In order to fully account for such effects we resort to time series analysis of aggregate data.

The current account (CAB) has three components: net exports *(NX)*, net unrequited transfers (R) and net factor income paid overseas (NFI). Net exports are determined by both domestic and world income, Y and Yw respectively, and the terms of trade, T. An increase in domestic income raises import demand reducing net exports, while an increase in world income raises export demand adding to net exports. An improvement in the terms of trade reduces export demand, but it also raises the value of exports as exports are relatively dearer. Hence, the final effect is uncertain.

The two most important components of net unrequited transfers are Australian foreign aid and net migrant transfers. The former is assumed to be exogenously determined while the latter depends on the level of net migration, M.[23] Net factor income paid overseas is determined by the country's net investment position, NI, the interest rate, r and the exchange rate, e. The greater the net foreign investment in Australia, the greater the net factor income payments. For a given level of net investment, net factor income payments would be higher the higher the interest rate and the lower the exchange rate.[24]

A central concern of this paper is whether migrants have a significant (negative) effect on the current account. As discussed earlier many people are of the opinion that migrants reduce net exports and increase net factor income payments to overseas as well as raise national debt. To test the validity of

---

[23]A regression of M on net migrant transfers, MR, produces the following equation: MR= −159.89 + 8.35M, (345.76) (3.81)** adjusted $R^2 = 0.10$.

[24]For a net creditor country a higher interest rate would lead to a higher (lower) current account surplus (deficit). The same would be the effect of a lower exchange rate.

the claim we add a migration variable m to both the net exports and net factor income functions. Now combining all three parts of the current account we get,

$$CAB = NX(Y,Y^w,T, m) + R(M) - NFI(NI, r, e, m)$$

or $$CAB = CAB(Y,Y^w,T, m, M, NI, r, e)$$

where m is the ratio of migrant population to total population of the country. The reason for using this ratio rather than the more common net migration (or arrival and departure etc.) is that what is commonly claimed is that the migrant community as a whole (as distinct from new migrants) is a net contributor to the current account deficit. It is possible that the migrants would be deficit households during the early years of settlement, but as the period of residency increases they may gradually become surplus households.* The question is then whether they are net deficit (surplus) households over their entire life cycle or not. If they are, then the greater the fraction of the population who are migrants, the greater(smaller) would be the current account deficit(surplus). We could make a locally linear approximation of the current account function and write:

(1) $$CAD = -CAB = \beta_0 + \beta_1 Y + \beta_2 Y^w + \beta_3 T + \beta_4 m + \beta_5 M + \beta_6 NI + \beta_7 r + \beta_8 e$$

Three problems are encountered in estimating this equation. The first is the estimation of the ratio m. The Australian Bureau of Statistics has started publishing estimates of local–born and foreign-born residents only recently such that we do not have a sufficiently long series for this ratio to match the other series. Second, net investment is itself determined by the rate of interest and the exchange rate such that it may not be proper to regard it as an explanatory variable in a reduced form equation.[25] Finally, since we are using time series data, it has to be ensured that all variables are integrated of the same order and there are no spurious regression problems.

Since, net investment is a function of the interest and the exchange rate, NI = NI(r,e), its effects on the current account can be subsumed under r and e so that it is possible to exclude it from the equation. Hence, (1) is rewritten as:

---

[25] See Kouri and Porter (1974) for a similar argument.

(2) $CAD = \alpha_0 + \alpha_1 Y + \alpha_2 Y^w + \alpha_3 T + \alpha_4 m + \alpha_5 M + \alpha_6 r + \alpha_7 e$

We shall use annual data for the period 1957–58 to 1993–94 for estimation of (2). All the variables are found to be integrated of the order one. Since the number of observations is not sufficiently large, formal cointegration tests would lack power and hence is not considered appropriate. However, we still have the problem that one of the variables that is of prime concern is not estimable. Fortunately, we can get around both problems by differencing (one period) all variables in (2):

(3) $\Delta CAD = \alpha_1 \Delta Y + \alpha_2 \Delta Y^w + \alpha_3 \Delta T + \alpha_4 \Delta m + \alpha_5 \Delta M + \alpha_6 \Delta r + \alpha_7 \Delta e$

Now, note that $m_t = MP_t/TP_t$, where MP_t = total migrant population and TP_t = total population in the t-th period. Accordingly, $\Delta m = MP_t/TP_t - MP_{t-1}/TP_{t-1}$. Since $TP_t = TP_{t-1}(1+g)$, where g = growth rate of total population, we have $\Delta m_t = M_t/TP_t$. on the assumption that the natural growth rates of the migrant and the rest of the population are the same. Since, data are available on both net migration M and the total population TP, Δm is measurable even though m is not.

In the past it has been the case that the authorities have reacted to widening current account deficits; an increase in the deficit has led to tightening demand management policies; the most recent example being the tight monetary policy of the late 1980s. To capture such a response of the authorities we include a one-period lagged current account variable such that the final estimating equation is

(4) $\Delta CAD = \gamma_0 + \gamma_1 \Delta Y + \gamma_2 \Delta Y^w + \gamma_3 \Delta T + \gamma_4 \Delta m + \gamma_5 \Delta M + \gamma_6 \Delta r + \gamma_7 \Delta e + \gamma_8 \Delta CAD_1 + \varepsilon$

where ε is the residual term.[26] Since the first difference of I(1) variables are I(0) variables, all the variables appearing in (4) are I(0), and hence the residual term should be stationary, too.

For estimation of this equation, world income Y^w is proxied by the real GDP of the USA. The interest rate variable is the short term treasury bill rate of the USA.[27] The exchange rate is the SDR

[26] An alternative interpretation of (4) is that there is a desired level of the current account deficit which depends on the variables in (2), and the actual current account deficit adjusts to the desired through the well known gradual adjustment mechanism.

[27] We also considered long term USA and Australian government bond rates, but excluded them as the first differences were not I(0) variables.

rate since 1970 and the US dollar rate before 1970.[28] Both Australian GDP and CAD are expressed in real terms.

The OLS estimate of equation (4) is given in the second column of Table 9. The coefficients of the income and immigration variables are all insignificant, but the rest are significant at 10 per cent level or higher. The coefficient of the terms of trade variable is negative indicating that an improvement in the terms of trade improves the current account balance. The valuation effect thus dominates the substitution effect in trade. The coefficient of interest rate is significantly positive. Since Australia is a net debtor country, an increase in the interest rate raises interest payments worsening the deficit. An appreciation of the Australian dollar on the other hand improves the current account. A higher value of the dollar implies a smaller payment obligation on all debts denominated in depreciating foreign currencies and a lower value of imports. This valuation effect of appreciation appears to offset the substitution effects. The lagged dependent variable has a significant negative coefficient suggesting that a blowup in the current account deficit prompts (RBA/government) action to reduce it and about 30 per cent reduction is achieved within a year.[29]

An estimating problem with regard to this equation is that the two immigration variables are extremely closely correlated giving rise to multicollinearily problems. To avoid these problems we exclude ΔM from the equation and reestimate it.[30] As shown in the third column of the table, this improves the fit of the equation. Adjusted R^2 rises and AIC falls. The coefficient of the remaining immigration variable is still insignificant although the t-value is now substantially higher. Since, the world income variable is very insignificant and of the 'incorrect' sign, next we drop it and restimate the equation.[31] Adjusted R^2 increases and the AIC decreases further suggesting a better fit. Although ΔY and Δm are still insignificant at 10 per cent level, the t-values rise (they are significant at 20 per cent level). They both have the expected sign. Finally, we drop the remaining migration variable from the equation. Now the coefficients of all the variables are significant at 5 per cent level or

---

[28]The US dollar for the entire study period is not an I(1) variable and hence was not used in (4). Furthermore, what we need is a general measure of the exchange rate rather than a particular one, and SDR rate serves the purpose well.

[29] The alternative interpretation is that about 70 per cent of the gap between the desired change in the current account and the actual outcome is eliminated in the current period.

[30] We could also assume that net unrequited transfers are a function of m instead of M.

[31]This variable is moderately correlated with the interest rate variable. A higher US rate appears to have been associated with a lower income.

higher. However, adjusted R^2 and AIC decrease marginally relative to the regression equation in the fourth column. The coefficients of the migration variables in all these equations are consistently insignificant implying that migration does not have much impact on the current account. Even though the net saving of the migrants is lower than the indigenous households, the indirect effects would appear to offset the direct effects.

Section V

This study has analysed the saving behaviour of migrant and Australian-born households to draw an inference regarding the contribution of each group to the current account balance. It has been argued that the concept of saving relevant to an analysis of the contribution of the households to the current account is different from the common defintion of household saving which makes no allwance for government transfers. On the basis of an analysis of the HES 1988-89 data the migrant households have been found to save relatively less than the native households such that the direct contribution of the former to the current account balance is less than that of the latter. Part of the difference in net saving could be explained by household specific characteristics such as income, household size, age. and credit habit. A regression analysis utilising the same HES data showed that even when the effects of these characteristics are netted out, migration still has a negative influence on saving. Much of this is, however, offset by the funds brought in by migrants.

The direct effect of migration on saving could be partly offset, or augmented, by indirect effects. To find the overall effect of immigration on the current account we have made use of aggregate time series data. Regression analysis of the data suggests that migration does not have a significant influence on the current account. This would imply that the direct effects of immigration on saving, and hence, on the current account, largely offset the indirect effects, or that the difference in the *ex post* contributions found from the HES data is statistically not significant .

References

Ackland, R. (1991). *Immigration as a Short-Term Macroeconomic Policy Instrument: Results from the Access Economics Murphy Model*, Bureau of Immigration and Policy Research, AGPS, Canberra.

Argy, F. (1990). 'Immigration and the current account deficit', in M. Easson (eds) *Australia and Immigration: able to grow?*, Labour Council of New South Wales, Pluto Press Australia.

Baker, L. and Miller, P. (1987). The Economics of Immigration: Proceedings of a conference at the Australian National University 22-23 April 1987, Department of Immigration, Local Government and Ethnic Affairs, AGPS: Canberra.

Bensusan-Butt, D.M. (1950). 'Investment and immigration in Australia in the 1950's: Some problems of theory', *Economic Record*, vol. 26, pp. 201-216.

Brain, P. J. (1979). 'Immigration and the economy: A theoretical framework,' in P. J. Brain, R. L. Smith, and U.P.Schyers, (eds). *The effects of immigration on the Australian economy*, Croomhelm: London.

Centre for International Economics, (1990). *Immigration and Economic Management: Short Term Economic Consequences of Minor Variations in Immigration*, AGPS, Canberra.

Centre for International Economics, (1989). *Immigration, Trade and Capital Flows*, AGPS, Canberra.

Clark, D. (1990). 'The immigration debate,' in M. Easson (ed) *Australia and Immigration: able to grow?* Labour Council of New South Wales, Pluto Press, pp. 103-111

Corden, W. M. (1955). 'The economic limits to population increase', *Economic Record*, vol. 31, pp. 242-260.

Corden, W.M. (1968). 'Australian economic policy discussion in the post-war period: A survey', *American Economic Review*, vol. 58, pp. 89-138.

Dixon, G.L.R. (1975). 'The relationship between immigration and external balance', *Australian Economic Review*, 2nd quarter, pp. 10-16.

Economic Research Unit, Department of Immigration and Ethnic Affairs (1982). 'Selected notes on the history of Australian Immigration and its economic effects,' Appendix 1 in D. Douglas (ed). *The Economics of Australian Immigration: Proceedings of the Conference on Economics of Immigration*, Department of Immigration and Ethnic Affairs and the Department of Adult Education, University of Sydney, pp.183-208.

Foster, W. (1992). *Macroeconomic Effects of Changes in the Size and Composition of Australia's Migrant Intake: Results from the Extended Access Economics Murphy Model*, Bureau of Immigration Research, AGPS: Canberra.

Foster, W. and Baker, L. (1991). Immigration and the Australian Economy, Bureau of Immigration Research, AGPS: Canberra.

Foster, W. and Withers, G. (1992). 'Macroeconomic consequences of international migration', in G.P. Freeman and J. Jupp (eds), *Nations of Immigrants*, Oxford University Press, Melbourne, pp. 90-110.

Hellwig, O., King, A., Manning, I. and Perkins, J. (1992). *Immigrant incomes and expenditures*, Bureau of Immigration research, AGPS, Canberra.

Joske, S. (1989). 'The Economics of Immigration: Who benefits?' Legislative Research Service, Commonwealth Parliamentary Library, Canberra.

Junankar, P.N., Pope, D., Kapuscinski, C.A. and Mud, W.A. (1994). *Immigration and Australia's External Account Balances*, Bureau of Immigration and Population Research, AGPS, Canberra.

Kmenta, J. (1966). 'An econometric model of Australia 1948-61,' *Australian Economic Papers*, vol. 5, no. 2, pp. 131-164.

Kouri, P. J. K. and Porter, M. G. (1974). International capital flows and portfolio equikibrium', Journal of Political Economy, vol. 82, pp.443-467.

Lloyd, P.J. (1982). 'The effects of immigration on economic growth via technological change and economies of scale', in D. Douglas (eds), *The Economics of Australian Immigration: Proceedings of the Conference on Economics of Immigration,* Department of Immigration and Ethnic Affairs and the Department of Adult Education, University of Sydney, pp. 57-66.

Maani, S. A. (1993). 'Immigrants and the use of government transfer payments, *Australian Economic Review*, 4th quarter, pp. 65-75.

Neville, J. (1984). 'Population growth and the economy,' in R. Birrell, D. Hill and J. Nevill (eds) *Populate and Perish? The Srtess of Population Growth in Australia,* Fontana/Australian Conservation Foundation, Melbourne 1984, pp.169-199.

Parmenter, B. (1989). 'On the economics of immigration, Presidential address delivered to the Economic Society of Australia, Victoria branch, October.

Shergold, P.R. (1984). 'Immigration today: fact and fiction', in F. Milne and P. Shergold (eds). *The Great Immigration Debate*, Federation of Ethnic Communities Councils of Australia, pp. 29-51.

Smith, R. L. (1979). 'The effects of immigration on the Australian economy,' in P. J. Brain, R. L. Smith, and U.P.Schyers, (eds). *The effects of immigration on the Australian economy*, Croomhelm: London.

Withers, G. (1989). 'The immigration contribution to human capital formation', in D. Pope and L.J. Alston (eds) *Australia's Greatest Asset: Human Resources in the Nineteenth and Twentieth Centuries*, The Federation Press, pp. 53-71.

Wooden, M. (1990). 'The economic impact of immigration,' in M. Wooden, R. Holton, G. Hugo and J. Sloan. (eds) *Australian Immigration: A Survey of Issues*, Bureau of Immigration Research, pp. 110-157.

Table 1: Disposable income and expenditure of households, HES 1988-89

	Australian-born households	Overseas-born households	All households
Number of households	3,872,007	1,548,408	5,420,415
Number of persons in the household	2.688	2.958	2.765
Disposable income	501.34	506.10	502.73
Adjusted disposable income	501.34	533.81	510.64
Earned income	568.34	558.91	565.55
Adjusted earned income	568.34	586.62	573.56
Expenditure	490.98	529.53	501.87
Adjusted disposable income *less* expenditure	10.36	4.28	8.77
Adjusted earned income *less* expenditure	77.36	57.09	71.79

Table 2: Taxes and benefits, HES 1988-89

	Australian-born households	Overseas-born households	All households
Direct tax payments	135.71	128.09	133.54
Income tax	129.28	121.88	132.86
Indirect taxes	64.66	64.23	64.53
Direct benefits	61.20	69.19	63.48
Indirect benefits	104.44	121.84	109.41
Education	44.39	57.85	48.24
Health	46.08	48.80	46.86
Total tax payments (direct and indirect)	198.64	194.28	197.40
Total benefits received (direct and indirect)	165.64	191.03	172.89
Tax payments *less* benefits	35.00	3.25	24.51

Table 3: Souces of income of households, HES 1988-89

Source of income	Australian-born households	Overseas-born households	All households
Wages and salary	454.37	473.81	459.92
Own business and self employment	61.08	52.56	58.64
Interest	21.77	15.11	19.87
Investment	17.11	5.50	13.79
Property rent	4.50	6.92	5.19
Children's earned income	0.09	0.03	0.07
Superannuation	9.42	4.98	8.15
Earned income	568.34	558.91	565.55
Pensions	45.87	44.91	45.60
Allowances	10.33	16.12	11.98
Income from all sources	635.36	636.15	635.59
No. of employed persons	1.267	1.298	1.276
Wages and salary per employed person	358.62	365.03	360.44
Earned income per employed person	501.63	490.10	498.11

Table 4: Expenditure by Household Category (weighted), HES 1988-89

Expenditure items	Australian-born households	Overseas-born households
Current housing costs	69.3	77.71
Fuel and power	12.73	13.14
Food and nonalcoholic beverages	92.24	103.73
Alcoholic beverages	17.65	15.13
Tobacco	6.73	7.20
Clothing and footwear	29.82	32.49
Household furnishing and equipment	36.56	39.33
Household services and operation	23.64	25.28
Medical care and health	21.62	21.88
Transport	74.82	78.97
Recreation and entertainment	58.31	61.99
Personal care	9.83	10.16
Miscellaneous commodities and services	37.73	42.09
Total consumption expenditure	490.98	529.53
Per capita consumption expenditure	182.68	179.03

Table 5: Dwelling Occupancy Status (per cent), HES 1988-89

Occupancy status	Australian-born households	Overseas-born households
Owned outright	42.98	42.25
Being bought	30.30	28.94
Renting		
Private	17.32	20.92
Government	6.58	5.71
Total	23.90	26.63
Occupied rent free	2.81	2.18
Total	100.0	100.0
No of bedrooms in dwelling	2.84	2.80

Table 6: Housing Expenses, HES 1988-89

	Australian-born households	Overseas-born households	All households
Rent payments	20.24	26.13	21.93
Mortgage (principal) payments	6.98	7.03	7.00
Mortgage (interest) payments	26.15	27.64	26.57
Rate payments	10.31	10.30	10.31
House & Contents insurance	3.65	3.51	3.61
Repairs and maintenance payments	8.41	8.39	8.41
Interest payments on loans for alterations and additions	1.42	0.98	1.30
Body Corporate payments	0.23	0.28	0.25

Table 7: Migrant transfers at 1988-89 prices

	1984/85	1985/86	1986/87	1987/88	1988/89
Potential funds brought in by migrants	1049	1620	2418	3596	4303
Actual migrant transfers from overseas	1402	1676	1918	2249	2580
Actual migrant transfers to overseas	395	368	354	346	349
Net migrant transfers	1007	1308	1564	1903	2231

Sources: O. Hellwig *et al* (1992). *Immigrant Incomes and Expenditures,* AGPS, Canberra ABS, *Balance of Payments.*

Table 8: Regression estimates of the household net saving function

Constant	-131.75 (0.24)	-114.26 (0.47)	-85.75 (0.47)	-367.30 (2.46)	-365.46 (2.46)
D	-32.07 (0.24)	-31.47 (0.24)	-39.05 (0.23)	-40.51 (0.23)	
y	0.76 (0.0002)	0.75 (0.0002)	0.79 (0.0002)	0.75 (0.0003)	0.75 (0.0003)
x	-96.89 (0.08)	-97.80 (0.08)	-96.86 (0.08)	-99.74 (0.09)	-99.65 (0.09)
a		-0.30 (0.007)	-0.34 (0.007)	19.19 (0.17)	19.57 (0.17)
c			-42.47 (0.10)	-41.81 (0.10)	-42.17 (0.10)
y^2				0.00001 $(8.8(10)^{-8})$	0.00001 $(8.7(10)^{-8})$
a^2				-0.38 (0.003)	-0.39 (0.003)
a^3				0.002 (0.00002)	0.002 (0.00002)
d_1					-36.15 (0.63)
d_2					-17.03 (0.42)
d_3					-28.12 (0.41)
d_4					-35.99 (0.44)
d_5					-93.73 (0.47)
$\bar{R}^2$	0.71705	0.71714	0.72706	0.72870	0.72960

*All coefficients are significant at 1 per cent level.

Table 9: Times series regression results

Dependent variable = ΔCAD				
Constant	- 913.17	- 917.84	- 803.97	- 1171.1
	(789.80)	(770.72)	(697.25)	(656.09)***
ΔY	0.13	0.13	0.16	0.21
	(0.13)	(0.13)	(0.11)	(0.09)**
ΔY^w	0.003	0.003		
	(0.007)	(0.007)		
ΔT	- 121.67	- 121.60	- 116.62	- 127.85
	(56.97)**	(55.97)**	(53.56)**	(53.77)**
Δm	335.89	280.12	290.16	
	(1128.9)	(211.85)	(207.09)	
ΔM	- 4.08			
	(81.05)			
Δr	684.34	683.09	572.35	694.00
	(340.10)***	(386.49)***	(243.37)**	(230.86)*
Δe	15091	- 15128	- 15023	- 15049
	(5445.6)*	(5303)*	(5218.9)*	(5299.3)*
ΔCAD_{-1}	- 0.28	- 0.28	- 0.28	- 0.30
	(0.13)	(0.13)*	(0.13)**	(0.13)**
R^2	0.419	0.439	0.455	0.44
AIC	15.30	15.34	15.29	- 15.30
DW h-stat	- 0.52	- 0.52	0.33	- 0.20

An asterisk indicates significance at one per cent, two at five per cent and three at ten per cent level.

UNE Working Papers in Economics

1. Baldry, J.C. and Dollery, B.E. 1992. *Investment and Trade Sanctions against South Africa in a Model of Apartheid.*

2. Wallis, J.L. and Dollery B.E. 1993. *The Economics of Economics: a Model of Research Discourse.*

3. Schulze, D.L. 1993. *Financial Integration and Financial Development: A Conceptual Framework.*

4. Dollery, B.E. and Whitten, S. 1994. *An Empirical Analysis of Tariff Endogeneity in Australia, 1904-1978.*

5. Schulze, D.L. and Yong, Jong-Say. 1994. *Rational Expectations and Monetary Policy in Malaysia.*

6. Pullen, J.M. and Smith, G.O. 1994. *Major Douglas and the Banks.*

7. Pullen, J.M. 1994. *Toward a Mathematical Model of Malthus.*

8. Dollery, B.E. and Jackson, C. 1994. *A Note on Methodological Parallels Between Accounting and Economics.*

9. Anwar, S. and Shamsuddin, A.F.M. 1994. *Effects of Terms of Trade Changes in a Public Input Economy.*

10. Siriwardana, M. 1994. *Recovery from the 1930s Great Depression in Australia: a Policy Analysis Based on a CGE Model.*

11. Dollery, B.E. 1994. *Perspectives in Wolf's Theory of Nonmarket Failure.*

12. Harris, G. 1994. *Resolving the Productivity Puzzle: a Review of the Determinants of Research Productivity.*

13. Harris, G. 1994. *Research Performance Indicators in Australia's Higher Education.*

14. Gow, J. and Davidson, B. 1994. *A Public Choice Perspective on Agricultural Adjustment Assistance.*

15. Kaine, G. and Gow, J. 1994. *Supply Response in Grape Production to a Vine Pull Scheme.*

16. Gow, J. 1994. *An Empirical Investigation of Public Choice Theory: the Case of the Rural Adjustment Scheme.*

17. Siriwardana, M. 1994. *The Economic Impact of Tariffs of the 1930s Australia: the Brigden Report Re-examined.*

18. Taslim, M.A. 1995. *Saving-Investment Correlation and International Capital Mobility.*

19. Dollery, B. and Hamburger, P. 1995. *The Dunleavy and Niskanen Models of Bureaucracy: The Case of the Australian Federal Budget Sector 1982-92.*

20. Worthington, A.C. and Dollery, B.E. 1995. *Fiscal Federalism in Australia: Equity/Efficiency versus Public Choice Approaches in Explaining Intergovernmental Grants.*

21. Gow, J. 1996. *A Review of Drought Policy in Australia 1989-1995.*

22. Worthington, A.C. 1996. *Renters, Public Goods and Fiscal Outcomes.*

23. Wallis, J. and Dollery, B. 1996. *A Reappraisal of the Economics of Government*

24. Shamsuddin, A.F.M. 1996 *The Effect of Unionization on the Gender Earnings Gap in Canada: 1971-1981.*

25. Shamsuddin, A.F.M. 1996. *Labor Market Participation and Earnings of Female Immigrants in Canada.*

26. Anwar, S. and Shamsuddin, A.F.M. *Government Spending, Trade, Capital Mobility and Variable Returns in the Presence of Unemployment.*

27. Shamsuddin, A.F.M. and Holmes, R.A. 1996. *Cointegration Test of the Monetary Theory of Inflation and Forecasting Accuracy of the Invariate and Vector ARMA Models of Inflation.*

28. Dollery, B.E. and Worthington, A.C. 1996. *The Review Complexity Hypothesis: Issues of Variable Specification.*

29. Dollery, B. and Wallis, J. 1996. *Counteracting Agency Failure in the Public Sector Through Leadership.*

30. Dollery, B. and Fletcher, M. 1996. *Modelling Poverty Traps for Young Part-Time Workers in Australia.*

31. Barnes, N. and Dollery, B. 1996. *Section 94 of the NSW Environmental Planning and Assessment Act of 1979: Equity and Efficiency.*

32. Worthington, A.C. 1996. *Technical Efficiency in Property Finance Intermediaries: An Application Using the Australian Building Society Industry.*