Mutual Recognition: A Framework for Considering Costs and Benefits

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1. Introduction

This note discusses some frameworks for thinking through the benefits and costs of allowing mutual recognition of imputation and franking credits.

There are costs and benefits from mutual recognition.

In terms of potential gains, mutual recognition can lead to greater bilateral efficiency of investment. It will tend to increase competition in product markets. Mutual recognition also reduces incentives for artificial structuring to reduce tax such as thin capitalisation (i.e., excessive gearing of a subsidiary). It would make it less costly for businesses to set up trans-Tasman subsidiaries. Tax specialists have suggested that care needs to be taken is setting up these subsidiaries because in the absence of mutual recognition there are considerable tax traps for the unwary. This uncertainty can reduce incentives to invest. Mutual recognition would also reduce pressures on a race to the bottom in company tax rates and would be in line with the logic of a Single Economic Market (SEM).

This note focuses on the investment efficiency issue. This is not necessarily the most important issue but it is probably the easiest to begin to analyse. Even here our analysis is partial. We examine costs and benefits from a comparative static change in capital allocation. There may be dynamic gains from new products and technologies created by greater trans-Tasman investment which are not analysed.

There are also costs from mutual recognition. There will be fiscal costs to both countries, although there could be a degree of fiscal offsets to the extent that mutual recognition raises incomes. These fiscal costs involve a transfer from Australasian governments to Australasian taxpayers. Some businesses are likely to relocate as a result of mutual recognition. New Zealand may have concerns about New Zealand businesses relocating to Australia and Australia about Australian businesses relocating to New Zealand. But relocation will only occur to the extent that it is intrinsically efficient. Firms will only be migrating because an artificial disincentive to operate in the other country will have been removed. At times, when firms have an expanding shareholding base across the Tasman, mutual recognition would remove artificial incentives to relocate.

Mutual recognition is likely to have asymmetric costs and benefits for Australia and New Zealand because of differences in the amounts and types of equity capital invested from Australia to New Zealand and New Zealand to Australia.

New Zealand data for 2011 on equity stocks are as follows:

Equity Capital Stocks ($ billion)

	Direct	Portfolio	Total
New Zealand equity investment in Australia	8.7	19.5	28.2
Australian equity investment in New Zealand	31.9	5.6	37.5

Source: Statistics New Zealand

Thus, New Zealand figures would say that New Zealand equity capital in Australia is about 75% of Australian capital invested in New Zealand.[1] But there is a significant difference between the forms of equity capital. Australian equity capital in New Zealand is predominantly Foreign Direct Investment (FDI) whereas New Zealand investment in Australia is predominantly Foreign Portfolio Investment (FPI).

Finally, a question that has been raised is whether mutual recognition would require extensive harmonisation of Australia's and New Zealand's tax systems. It seems doubtful whether significant harmonisation would be required.

The structure of the remainder of this note is as follows. Section 2 outlines a basic model which shows how mutual recognition can lead to an efficiency gain for Australasia as a whole. Of course a gain for Australasia as a whole does not necessarily mean a gain for both Australia and New Zealand individually. Section 3 discusses gains and losses for both countries individually within the basic model. It also discusses the questions of whether or not it would be desirable for Australia and New Zealand to provide imputation or franking credits for foreign taxes unilaterally and of whether mutual recognition would lead to inefficient investment diversion away from third countries to a trans-Tasman neighbour. Section 4 presents an alternative model based on suggestions of the Australian Productivity Commission. This is arguably a better way of analysing the effects of mutual recognition on stocks of FPI. In this model there are the same gains for Australasia from mutual recognition but larger cross country transfers. In this section we also examine questions around the substitutability of trans-Tasman capital flows with flows from third countries. Section 5 discusses how taxes can affect income of complementary factors such as labour. Section 6 looks at a number of possible other considerations including whether or not mutual recognition would require greater harmonisation of tax systems. Finally, section 7 concludes.

2. Gains to Australasia from Mutual Recognition

The key intuition on mutual recognition is straightforward. Once profits are distributed to shareholders, the lack of mutual recognition results in the double taxation of trans-Tasman capital flows but only the single taxation of capital flows within a country. Just as it would be inefficient for NSW to not recognise imputation credits for taxes paid in Victoria or for the North Island not to recognise imputation credits for taxes paid in the South Island, it is likely to be inefficient from the point of view of Australasia as a whole for there not to be mutual recognition of imputation credits.

The size of estimated distortions will, of course, depend on models put forward. But the distortions are likely to be very similar to those that would arise if a single country double taxed one form of capital income but not another.

Any modelling of this needs to allow for the possibility of two-way capital flows across the Tasman. In the absence of risk and uncertainty, and if technology and capital were completely homogeneous, two-way capital flows would not arise. Pre-tax rates of return would need to be higher in New Zealand than in Australia for Australian firms to be willing to invest in both Australia and New Zealand. At the same time pre-tax rates of return would need to be higher in Australia than New Zealand in order for New Zealand firms to be willing to invest in both Australia and New Zealand. There is an obvious inconsistency.

[1] There are also substantial levels of debt-funded trans-Tasman investment. Some of this debt is likely to be structured as such only because of the lack of mutual recognition. Over time we might expect a larger portion of trans-Tasman investment to be funded through equity.

To allow for two-way capital flows, we assume some heterogeneity of technology and returns between Australian and New Zealand firms. This seems likely to be the main story behind two-way flows of FDI.[2] The idea of heterogeneous capital is important as it means Australian capital cannot simply take the place of lower New Zealand investment in Australia caused by the lack of mutual recognition and vice versa. The missing New Zealand capital from Australia can therefore have an important economic effect.

To explain the inefficiency caused by the lack of mutual recognition, assume that firms are paying out all of their profits to final shareholders each year. We will assume a company tax rate of 30% and shareholder tax rate of 45% in Australia. We will assume a company tax rate of 28% and a shareholder tax rate of 33% in New Zealand.

Initially assume that there is a fixed stock of Australian-owned capital that can be allocated between Australia and New Zealand and a fixed stock of New Zealand owned capital that can be allocated between Australia and New Zealand. Let K^N be New Zealand owned capital and K^A be Australian-owned capital. New Zealand owned capital invested in New Zealand is K_N^N and New Zealand-owned capital invested in Australia is K_A^N and Australian owned capital invested in the two countries is K_N^A and K_A^A respectively.

In principle, with heterogeneous capital, the pre-tax rate of return of Australian-owned capital in Australia could be either higher or lower than the pre-tax rate of return on New Zealand owned capital in New Zealand.
For simplicity, ignore uncertainty and assume that we start from a position where the pre-tax rate of return on a marginal New Zealand owned investment in New Zealand just happens to be 10% and the pre-tax rate of return of a marginal Australian investment in Australia also just happens to be 10%. Given full imputation, New Zealand shareholders investing in New Zealand would end up with a 6.7% after-tax rate of return and Australian shareholders investing in Australia would end up with a 5.5% after-tax rate of return.

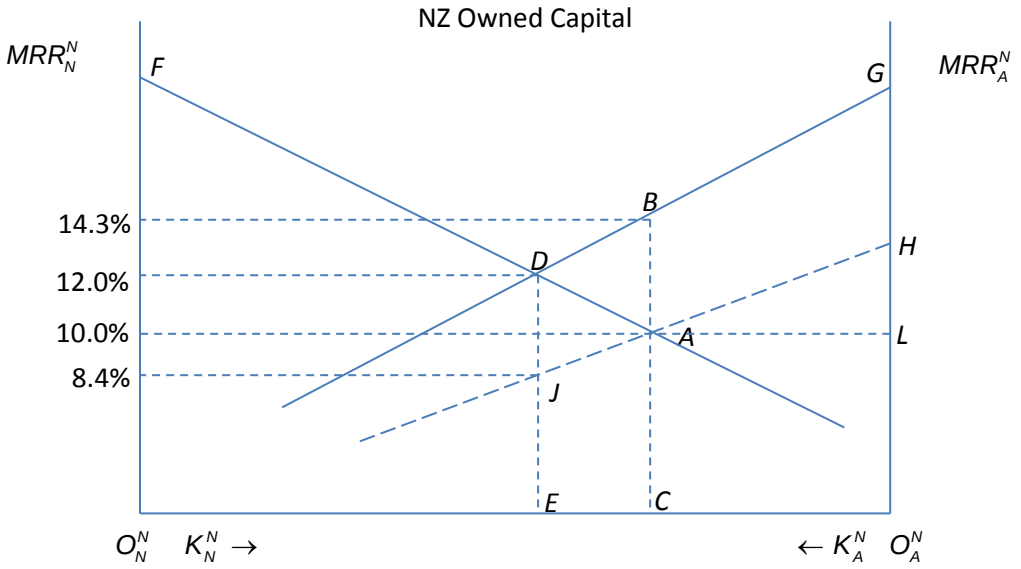
Because trans-Tasman investment flows are double taxed, there will need to be a premium on New Zealand investment into Australia and on Australian investment into New Zealand. Given Australia's 30% company rate, New Zealand investment into Australia would need to generate a pre-tax rate of return of 14.3% to provide the same after-tax rate of return to shareholders as a domestic investment earning a 10% rate of return. Likewise, given New Zealand's 28% company rate, Australian investment into New Zealand would need to generate a 13.9% pre-tax rate of return to provide the same after-tax returns to shareholders as Australian investments earning 10%.

Figure 1 below shows the deadweight loss caused by the lack of mutual recognition for New Zealand owned capital. The base of the graph (the distance from O_N^N to O_A^N) depicts the total amount of New Zealand owned capital. The marginal rate of return on the first dollar of this capital invested in New Zealand is the distance $O_N^N F$. As more capital is invested in New Zealand its marginal rate of return falls. Likewise the first dollar of New Zealand capital invested in Australia earns $O_A^N G$ before Australian company tax or $O_A^N H$ net of company tax (the after-tax rate of return received by ultimate shareholders is not shown because it adds little of importance and complicates the diagram).. As more capital is invested in Australia its pre-tax and net-of-Australian-company-tax rates of return fall.

[2] For two-way flows of FPI risk diversification could also be important but this has not been modelled in this note.

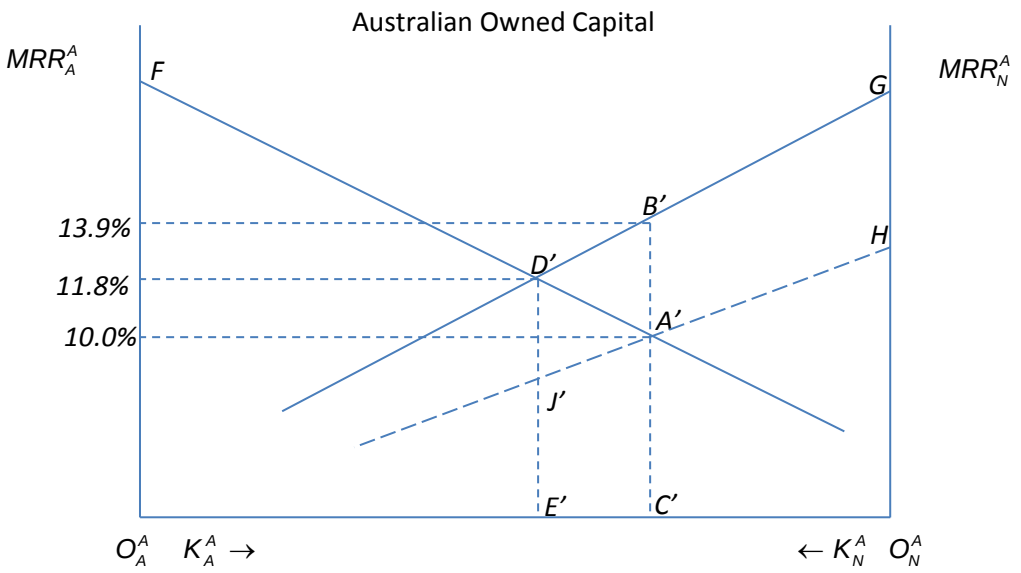
At present, investment with New Zealand capital earns a marginal rate of return of 10% in New Zealand or 14.3% in Australia. Thus, at present we have $O_N^N C$ of New Zealand capital invested in New Zealand and $O_A^N C$ of New Zealand capital invested in Australia. Mutual recognition would mean that *EC* of capital that is currently invested in New Zealand would flow to Australia until pre-tax rates of return in each country are equalised. We assume (arbitrarily) in the diagram that this just happens to occur at a common pre-tax rate of return of 12.0% and hence a rate of return net of Australian company tax of 8.4% for the Australian investments. New Zealand investments earning between 10% and an assumed 12% in the diagram are replaced with Australian investments earning between 12% and 14.3%. Australasia gains from eliminating the deadweight loss triangle *BAD*.

Figure 1



Likewise Figure 2 shows the diagram for Australian owned capital. Initially in the absence of mutual recognition there is $O_A^A C'$ of Australian capital invested into Australia and $C' O_N^A$ of Australian capital invested into New Zealand. Australian capital invested in Australia earns 10% before tax and Australian capital invested into New Zealand earns 13.9% before tax. With mutual recognition capital of *E'C'* flows from Australia to New Zealand and a deadweight loss triangle of *B'A'D'* is eliminated. We assume that the final equilibrium pre-tax rate of return in both countries ends up being 11.8%. Thus, mutual recognition would ensure that both New Zealand and Australian capital is allocated more efficiently from an Australasian perspective. In aggregate the gain to Australasia is $BAD + B'A'D'$.

Figure 2



In practice, things are inevitably more complex than these little diagrams would suggest. First, New Zealand and Australian capital is allocated not only to New Zealand and Australia but to other countries as well. Consider New Zealand capital. Initially capital invested in New Zealand earns 10% pre-tax. Capital invested into Australia earns 14.3% before tax and 10.0% net of Australian tax. In equilibrium, capital invested into other countries will also be earning 10.0% net of foreign taxes.

In the story outlined earlier, mutual recognition led to the pre-tax rate of return on New Zealand capital invested in Australia falling from 14.3% to 12.0% as the pre-tax rate of return on New Zealand capital invested in New Zealand rose from 10.0 to 12.0%. Once we allow for flows to third countries it becomes clear that as the pre-tax rate of return in New Zealand starts to climb the required net-of-foreign-company-tax rate of return in countries other than Australia will also start to climb. New Zealand companies will not only shift capital to Australia from New Zealand, but also from these third countries.

This complicates the analysis. For example, this would mean that if in the final equilibrium the pre-tax rate of return of New Zealand capital in Australia fell from 14.3 to, say, 11.0% and the pre-tax rate of return on New Zealand capital rose from 10.0 to 11.0%, the net-of-foreign company tax rate of return on investment into New Zealand from third countries would also climb from 10.0 to 11.0% as well. **A critical point to note is that this is perfectly efficient from an Australasian perspective.** Investment earning between 14.3 and 11.0% for Australasia is replacing investment that was earning between 10.0 and 11.0% for Australasia. This, of course does not mean that mutual recognition would necessarily be advantageous for both of Australia and New Zealand individually. This is analysed in more detail in sections 3 and 4.

A further qualification of the basic model outlined above is as follows. In the diagrams and numerical examples provided earlier we have assumed the MRR schedule for, say, New Zealand investment into New Zealand and for New Zealand investment into Australia to have similar slopes. In practice, there is much less New Zealand investment in Australia than New Zealand investment in New Zealand. It might be expected that opportunities for New Zealand firms to invest into Australia and earn high returns are small relative to the widespread opportunities for investment in New Zealand; although Australia's economy is much larger than New Zealand's, New Zealand investment in

Australia is a small fraction of New Zealand domestic investment. This means that the MRR curve for New Zealand-owned capital invested into Australia is likely to be relatively inelastic and the MRR for New Zealand-owned capital invested into New Zealand relatively elastic. In practice mutual recognition may do little to drive up the required rate of return for New Zealand firms investing at home and have bigger effects in driving down the required rate of return for these firms investing across the Tasman than would be suggested by the numbers in Figure 1. This is likely to be even more so in the case of Australian firms given the even larger disparity between Australian investment in New Zealand and Australian domestic investment.

In the numerical examples above it was assumed that New Zealand and Australian firms all distributed 100% of profits each year. In practice that is not the case. This will reduce the magnitude of the effects without affecting the basic direction of the changes reported above.

We have talked about the fact that Australia or New Zealand can export capital to third countries as well as across the Tasman. In practice, of course, they also import capital from these third countries. We examine this possibility further in section 4.

As was noted in the introduction, mutual recognition may have a number of other benefits including increasing competition in product markets or reducing incentives for artificial schemes to stream profits across the Tasman. These sorts of issues would make things more complex to analyse and are an obvious gap in our analysis. But they seem only likely to reinforce the basic conclusion that the lack of mutual recognition is inefficient from an Australasian perspective in much the same way as the North Island failing to recognise credits for South Island taxes would be for New Zealand.

One further point is worth noting. It might be argued that even if it is accepted that mutual recognition would provide an aggregate gain for Australasia as a whole, this involves a tax cut. Most taxes will impose efficiency costs. Is there any reason to expect that mutual recognition would be better value for money in reducing efficiency costs than other tax cuts? Ultimately, of course, this is a call for each government. But around the world there are generally high concerns about investment biases caused by taxes. Both Australia and New Zealand have moved away from double taxing certain forms of income while singly taxing others. Very few would suggest that it would be efficient for NSW to only allow franking credits for taxes paid in NSW or for the North Island of New Zealand to only provide imputation credits for taxes paid in the North Island. Exactly the same logic would suggest that the lack of mutual recognition is likely to be inefficient from an Australasian perspective.

3. The Basic Model, Gains to Each Country from Mutual Recognition and the Case of Unilateral Recognition

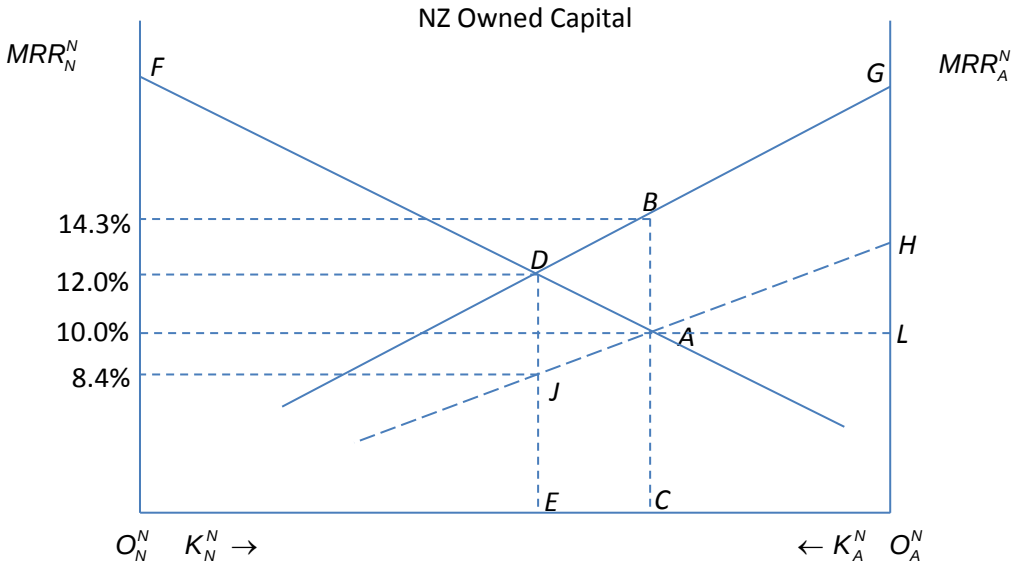
We have used the basic model outlined above to show why there are likely to be gains to Australasia from mutual recognition. We have not, however, discussed potential gains or losses to the two countries individually. This section extends the basic model to examine gains and losses for the two countries individually. It also explains why (unlike a unilateral reduction in tariffs), unilateral recognition of taxes paid in the other country (or third countries) is unlikely to be in New Zealand's or Australia's best interests.

Gains and losses to the two countries will depend on the details of the model. In this and the subsequent section of the paper we will explore two possible alternatives on how the gains between Australia and New Zealand could be split. They have different implications for the gains and losses to the two countries individually. The aggregate gains for Australasia are not affected.

Initially suppose that extra investment in a country has no effect on the returns on prior investments. This is a polar case. In reality it is likely that extra investment will have some impact on the returns of at least some prior investments. At the same time it is far from completely implausible; for example, it seems reasonable to think if NAB invests more into New Zealand that there will be little impact on the returns that Rio Tinto or Woolworths get on their New Zealand investments.

Consider Figure 1 once more (copied below for convenience) and the case where New Zealand capital can be invested only in Australia or New Zealand. The return on the first unit of capital invested in Australia is $O_A^N G$. In equilibrium, under current tax settings, CO_A^N of New Zealand capital is invested into Australia. The first unit invested in Australia is still generating $O_A^N G$ and the last unit is generating *CB*, or 14.3%. The last dollar invested in Australia provides 10.0% net of Australian company tax which is equal to the pre-tax rate of return on a marginal investment in New Zealand. New Zealand shareholders would receive an after-tax rate of return of 6.7% on either investment and hence are indifferent between the two investments which is why, of course, we are in equilibrium.

Figure 1



In this equilibrium, New Zealand investment in New Zealand is earning $O_N^N FAC$. New Zealand investment in Australia is earning $CBGO_A^N$ of pre-tax Australian income or $CAHO_A^N$ net of Australian company tax. Australian company tax on New Zealand investment into Australia is *BGHA*.

Now suppose we go to a system of mutual recognition which leads as before to *EC* of additional New Zealand capital invested in Australia and *EC* less New Zealand capital invested in New Zealand. New Zealand loses *EDAC* on New Zealand capital invested in New Zealand. From a narrow New Zealand point of view, the benefit it gets on the additional New Zealand capital invested into Australia is merely the return net of Australian company tax (because Australian company tax cannot pay for New Zealand schools and hospitals). So its additional income from this capital invested into Australia

is *EJAC*. Australia gains *DBAJ* in national income (this is also the increase in company tax payments in Australia).

The net result is that New Zealand loses *DAJ* in Figure 1, Australia gains *JDBA* and there is a net gain for Australasia of *BAD*. Similarly in Figure 2, Australia loses *J'D'A'* from mutual recognition, New Zealand gains *J'D'B'A'* and there is a gain to Australasia of *B'A'D'*. In terms of the diagrams, Australia gains from mutual recognition if $J'D'A' < JDA + BAD$. New Zealand gains from mutual recognition if $JDA < J'D'A' + B'A'D'$.

This model can be useful in examining a number of specific issues. First, we know from trade theory that it should be in a small open economy's interest to remove tariffs unilaterally. With tariffs, the cost to consumers will generally outweigh the sum of the gain to domestic producers and the tax revenue received by the government. It might be asked (on parallel lines to trade theory) why it is that each country does not just recognise foreign taxes unilaterally rather than entering into a bilateral deal to mutually recognise imputation and franking credits? Secondly we know from trade theory that a bilateral deal between two countries to lower tariffs can have inefficient trade diversion effects. Is a similar investment inefficiency likely with mutual recognition?

Unilateral Recognition

Neither Australia nor New Zealand unilaterally recognise company tax paid in other countries when calculating imputation or franking credits. Not going down the unilateral recognition line is a quite deliberate policy. For example, the Henry Review clearly rejected unilateral recognition as an option. A fatal objection to unilateral recognition is that without imputation systems it will often be impossible to know how much company tax has been paid. Thus, it would be unclear as to how much foreign tax should be recognised. But even if this were not an overriding concern, there would be a second and perhaps more fundamental objection to unilateral recognition.

Consider the case of New Zealand providing unilateral recognition for foreign taxes. In Figure 1 it would be giving away *JDA* with no reciprocal benefits. Thus, the unilateral recognition of foreign taxes is a quite different issue from a unilateral reduction in tariffs. For a small open economy a unilateral reduction in tariffs is desirable because the cost to consumers from the tariff is bigger than the sum of gains to domestic producers and tariff revenue. By contrast, unilaterally recognising foreign taxes for imputation purposes would reduce national welfare. This is because foreign taxes do not directly contribute to national welfare since only domestic taxes can finance domestic public expenditure, such as schools and hospitals.

Trade Diversion and Investment Diversion

It is well known that a bilateral trade deal will cause trade diversion effects and this can be inefficient. Suppose you are in Country A and the cost of importing bananas from country B is $100 and from country C is $110. Initially there is a 20% tariff so importers would pay $120 and $132 respectively. Country A imports from B which is efficient.

Now suppose, however, A enters into a free trade deal with C. Now it costs importers $120 to import bananas from B and $110 from C. Importers in A will import from C even though this is inefficient from the point of view of A **and for A and C collectively**. C is producing bananas above the world price and it would be efficient for resources to be reallocated in a way which gets C to produce what it can produce efficiently at world prices.

At first sight it might seem that there are parallels with providing mutual recognition of imputation and franking credits. This will also divert, say, New Zealand investment into

Australia when this provides lower net-of-company-tax rates of return that could have been obtained from investing into third countries. Likewise it will divert Australian investment into New Zealand ahead of third countries.

But there is a crucial difference. As was discussed in section 1 page 5, mutual recognition is perfectly efficient from an Australasian point of view. **It leads to additional investment across the Tasman which leads to more aggregate income for Australasia than the investment it displaces**. By contrast the bilateral trade deal between A and C was not efficient from the point of view of A and C collectively. It led to the production of bananas when this was uncompetitive at world prices. The two countries would have jointly been better off by C no longer producing bananas inefficiently to sell them to A.

The trans-Tasman efficiency of the investment diversion created by mutual recognition is, of course, closely tied in with the other issue we have just discussed. It would have been impossible for this investment diversion to have been efficient from an Australasian point of view if it would have been efficient for both countries to unilaterally recognise foreign taxes.

The key question is as follows. Even though unilateral recognition is not desirable for either country, can there be gains by getting together and mutually recognising imputation and franking credits?

Like trade diversion, investment diversion caused by mutual recognition may possibly mean that mutual recognition is not desirable for either Australia or New Zealand individually. But unlike trade diversion, it must be of advantage to the two countries in aggregate.

In discussions of this basic model, we have received a number of comments. These include the following:

- the basic model is a better model of FDI than FPI.
- New Zealand predominantly invests FPI into Australia while Australia predominantly invests FDI into New Zealand; and
- the basic models ignores important effects of mutual recognition on complementary factors of production such as labour.

To address the first two of these concerns we now look at an alternative model based on suggestions made by the Australian Productivity Commission. What can be said about the effects of mutual recognition on complementary factors is explored in section 5.

4. Alternative Model

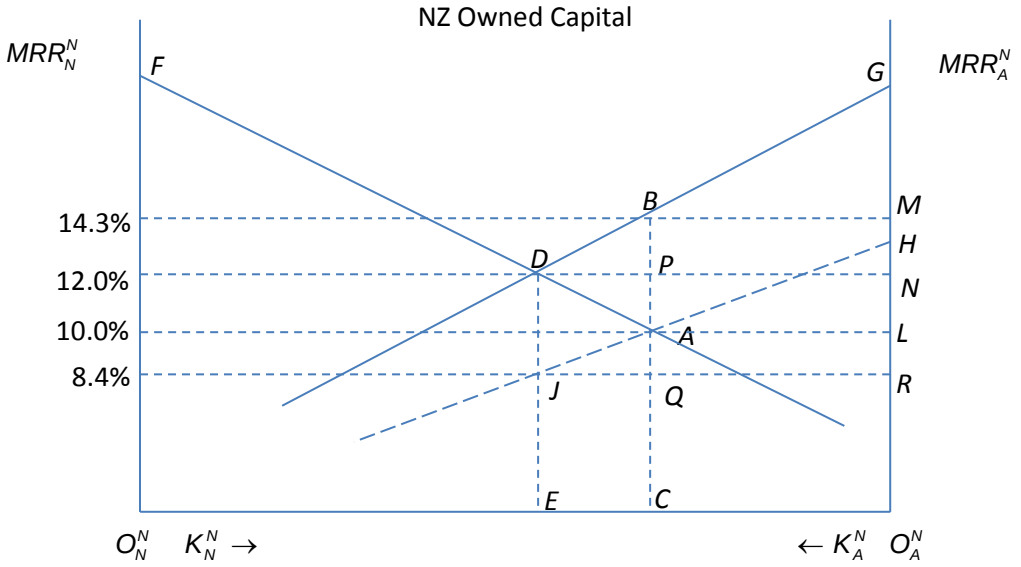
As has been discussed, the basic model employs the assumption that additional investment by New Zealand firms in Australia or by Australian firms in New Zealand has no effect on the returns on prior units of capital. This means that initial units of capital have higher returns than later units of capital. Initial units of capital provide "inframarginal" or better than marginal returns.

At least for FPI, an "alternative model" where all capital from New Zealand invested into Australia is assumed to have the same return, and vice versa, is likely to be preferable. Again, this is a polar case. When additional capital is invested and marginal returns fall, this lowers the returns on all prior units of capital in line with the returns on the marginal unit of investment. We explore the implications of this alternative model below. Again we make the simplifying assumption (to begin with) that there are only two countries: Australia and New Zealand.

In equilibrium we assume that not only the last unit of FPI but all units of FPI to be generating the same (risk-adjusted) rates of return. Figure 1 is redrawn as Figure 3 below. Under the alternative model, the income New Zealand receives from its investment in Australia is now $O_A^N LAC$ instead of $O_A^N HAC$.

Initially we have current tax rules and no mutual recognition. The initial equilibrium is once more the case where the marginal pre-tax rate of return on New Zealand capital invested in Australia is 14.3% and the marginal pre-tax rate of return on New Zealand capital invested in New Zealand is 10.0%. Capital invested in Australia is once more CO_A^N. Now, however, the return to New Zealand on all of its capital invested into Australia is 10.0% so New Zealand income from capital invested into Australia is $CALO_A^N$. The value of total production generated from New Zealand capital is still $CBGO_A^N$. Initially, New Zealand income generated from the capital employed in the two economies is now $O_N^N FAC + CALO_A^N$.

Figure 3



Now suppose that we move to mutual recognition. Once more, the pre-tax rate of return for New Zealand capital employed in the two economies becomes 12.0% and we have *EC* of New Zealand capital migrating from New Zealand to Australia. Now the net-of-Australian-company-tax rate of return becomes 8.4% on all New Zealand capital employed in Australia. New Zealand income becomes $O_N^N FDE + EJRO_A^N$.

As in the basic model there is a gain to Australasia of *BAD* from the greater efficiency of New Zealand capital. However, in the basic model the cost to New Zealand was *JDA* and the gain to Australia was $JDA + BAD$. Now there is an extra element of income transfer. The cost to New Zealand is $JDA + JALR$. The gain to Australia becomes $JDA + JALR + BAD$. Thus, there is an additional element of income transfer between the two countries because mutual recognition now not only reduces the return New Zealand is receiving on marginal investments in Australia; it lowers the return on all investments in Australia.

There would be a parallel discussion modifying Figure 2 for Australian investment into New Zealand. The gain to Australasia from mutual recognition from Australian owned capital would be the area *B'A'D'* as before. There would be an additional transfer to New

Zealand from mutual recognition because the rate of return was falling not only on marginal but on all Australian investments into New Zealand.

New Zealand data would suggest that the majority of Australian equity capital invested into New Zealand ($31.9 billion out of a total of $37.5 billion. or 85.0%) is FDI. By contrast, the majority of New Zealand equity capital invested into Australia ($19.5 billion out of a total of $28.2 billion, or 69.1%) is FPI.

If one were to take the alternative model as a first-cut way of analysing FPI and the basic model as a first-cut way of analysing FDI, it might seem that this suggests New Zealand investment into Australia was more likely to be subject to the additional trapezium of transfer shown in the alternative model (*JALR*) than Australian investment into New Zealand. By itself this would tend to reduce the costs to Australia of mutual recognition and increase the costs to New Zealand.

But several points should be noted.

First, for FPI there is likely to be much greater substitutability between investment from New Zealand and investment from third countries. By itself, additional FPI from New Zealand would add to Australia's capital stock and lower rates of return on investment into Australia. But if the supply of capital to Australia were perfectly elastic and the net-of-Australian-company-tax rate of return were the rate of return that worldwide investors from third countries demand for investing in Australia, this could not happen in equilibrium. Additional FPI from New Zealand would be expected to crowd out the same amount of FPI from third countries. It is unlikely that these flows will be perfectly elastic (in which case there would be no change in FPI into Australia at all), but they are likely to be highly elastic. This suggests that when considering the trans-Tasman costs and benefits of mutual recognition as a result of greater investment efficiency, the major part of the analysis is likely to revolve around the impact of mutual recognition on FDI.

That said, there is an important corollary of substitutability of FPI that may lower the costs to Australia of mutual recognition even though Australia invests into New Zealand largely through FDI. In the basic model, an increase in Australian capital invested in New Zealand led to an equal and offsetting reduction in Australian capital invested into Australia. In practice the majority of Australian capital invested into New Zealand is by large listed Australian firms with considerable foreign portfolio shareholdings. If companies such as the National Australia Bank, Westpac, ANZ, the Commonwealth Bank, IAG, Telstra, Amcor, Woolworths and Rio Tinto were to invest more into New Zealand as a result of mutual recognition, this is unlikely to reduce their aggregate investment in Australia very much. While the immediate impact of extra investment into New Zealand might be lower capital invested in Australia, this is likely to be largely offset by additional inbound FPI from third countries into these firms. In the long run the amount of capital invested in Australia is unlikely to change very much.

What this means can be illustrated with reference to Figure 2. In the basic model, we assumed that the cost to Australia of boosting capital invested in New Zealand by *E'C'* was the area *E'D'A'C'* or *E'C'* x 10.9%. Suppose, however, that as described above investors from third countries are willing to be portfolio investors when Australian companies are initially earning 10% before tax or 7% net of company tax. If these FPI investors from third countries were prepared to provide additional equity investment at an after-tax rate of return of 7%, the additional investment into New Zealand might largely be financed at a cost of 7% rather than at the average cost of 10.9% in the diagram. The investment into New Zealand would not reduce the Australian capital stock.

This suggests that a potentially important issue in determining costs and benefits of mutual recognition can be the extent to which firms have access to international capital

markets and inflows of FPI. While there is more FDI from Australia to New Zealand than vice versa, it seems likely that the Australian firms investing into New Zealand have greater ability to access international FPI which, other things equal, will tend to reduce the costs to Australia of mutual recognition. Ideally we would have models which allow us to consider firms with considerable ability to access international capital markets separately from those only limited ability to access international capital markets.

Thus, there may be some assumptions in the basic model which understate or overstate the costs of mutual recognition to Australia or New Zealand.

At the same time it seems far from clear as to how best to allow for international inflows of portfolio capital when analysing the effects of our current rules. If portfolio investors from third countries really were the marginal equity investors into Australian companies, it might be thought that the lack of mutual recognition should not be affecting investment decisions because non-resident shareholders gain no benefits from franking credits. In this case, it might be argued that if Australian firms were earning 10% pre-tax by investing in Australia, they should be willing to invest into New Zealand at the same pre-New Zealand tax rate of return. Either investment would provide the same return to the marginal foreign investor who is unable to benefit from franking credits. But the New Zealand investment would clearly be inferior from the point of view of the firm's Australian shareholders. We suspect that a substantial required premium on returns into New Zealand is the better assumption to be making. But it is clear that investment decisions will currently involve a trading off of conflicting objectives between shareholders.

5. A Single Form of Homogeneous Capital and Factor Incomes

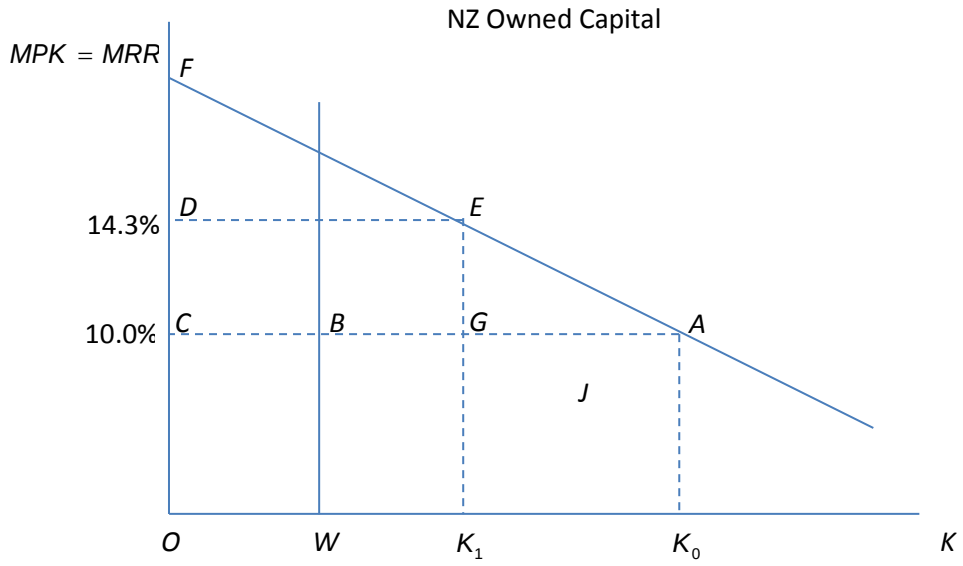
To examine the efficiency effects of mutual recognition and to allow for two-way capital flows, it has been helpful to allow for heterogeneity of returns. This has allowed us to set out a model with two sectors operating in both economies. But it is not very clear how this should be modified to take account of changes in factor incomes.

To gain some understanding of possible implications we now move to a simple model with a single homogeneous form of capital. We assume that goods are produced in the economy using capital and a single other factor (labour) by competitive firms under a constant returns to scale technology. With constant returns to scale all production is paid to factors of production.

Suppose, for simplicity, that there is a fixed stock of domestic capital shown by the distance *OW*. The economy imports capital at a world price of 10% which is what non-residents demand after any domestic taxes for investing into the economy. The supply of capital to the economy is assumed to be perfectly elastic.

In the absence of any domestic company tax, firms would invest until the point where the marginal rate of return was 10%. This is shown in Figure 4. Capital employed in the economy would be K_0 and domestic output would be given by the area under the marginal product of capital or MRR schedule, namely $OFAK_0$. Under a constant returns to scale technology (a bit like the alternative model) all capital earns its marginal product and there are no economic profits. This means that total capital income would be given by the area $OCAK_0$, viz. 10% x K_0. Of this residents would earn *OCBW* and non-residents would earn $WBAK_0$.

Figure 4



The area *FAC* would be production which is not capital income. This will be labour income.

Now suppose that a company income tax of 30% is imposed. In order for non-residents to be willing to invest in the economy, the pre-tax rate of return would need to rise to 14.3% and capital would fall to K_1. In this case the government gains *DEGC* in company tax revenue and labour income falls by *DEAC*. There is a deadweight loss of *EAG*. It should be noted that in this simple story domestic and foreign capital owners end up completely unaffected by the tax. They earn 10% on their capital both before and after the company tax being imposed. It is labour that bears the burden of the tax. With less capital (fewer computers, tractors and factories) labour becomes less productive.

All of this is a reasonably standard story. It makes clear that changes in capital can have important effects on factor incomes.

It might be thought that one could take account of this sort of analysis and make simple modifications to the alternative model outlined in section 4 to take account of changes in factor incomes. But this is unlikely to be very sensible. For example, in Figure 3 it might be thought that we might be able to say that the extra capital employed from New Zealand as a result of mutual recognition would tend to boost labour income in Australia from *GBM* to *GDN*. Conversely, it might be thought that one could say that the flow of New Zealand capital away from New Zealand would be reducing labour income in New Zealand. Of course, similar arguments would arise for Australian-owned capital.

But it seems to us that this is taking these models well beyond their point of usefulness. To the extent that, say, extra Australian investment into New Zealand does lower rates of return on investment in New Zealand, it would be likely to do so not only for Australian owned capital employed in New Zealand but also for New Zealand owned capital employed in New Zealand. Unless the types of labour used by Australian and New Zealand firms investing in New Zealand are different, there would be important interactions between the MRR curves for Australian investment in New Zealand and New Zealand investment in New Zealand. This is not easily captured in the alternative model as outlined in Section 4. Of course, the basic model as outlined in Section 3 abstracts from factors of production other than capital entirely.

Thus, the diagrammatic basic and alternative models outlined in sections 3 and 4 are at best back of the envelope first cut ways of attempting to look at the gains or losses from mutual recognition. They ignore the impact of mutual recognition on factor returns, savings and labour supply. In particular, the effect of additional capital on labour incomes is likely to be an important issue. But once we get into these more complex considerations it seems unlikely that there will be a simple and adequate diagrammatic representation. The only way of picking these up would seems to be through more sophisticated modelling such as the NZIER/CIE CGE modelling commissioned by the ANZLF.

6. Other Considerations

One question about mutual recognition is whether or not it might require greater harmonisation of tax systems between Australia and New Zealand. In particular, there is a question of whether there would be particular problems because Australia has a capital gains tax while New Zealand does not.

It is difficult to see that this is a very significant issue. Moreover, if anything, mutual recognition would tend to reduce rather than magnify the effects of differences in tax rules. Currently there is a relatively large attraction for Australian firms to invest into New Zealand in ways that produce tax-preferred forms of income such as tax-exempt capital gains. Currently if an Australian company invests into a New Zealand subsidiary which generates tax-free capital gains, these profits will be taxed when they are eventually distributed as dividends to the final shareholders of the firm. If the subsidiary invests instead into fully taxed areas, the profits would also be taxed when paid as dividends to final shareholders.

Under mutual recognition, the tax treatment when a subsidiary invests in assets which generate capital gains would not change. These would continue to be untaxed until dividends are distributed to the final shareholders of the Australian parent company. At that stage the profits would become taxable. But the tax treatment when the subsidiary invests into fully taxed activities would be improved. Effectively we would be retaining the status-quo of single taxation (on final distribution) of profits generated by capital gains that have not been taxed. On the other hand we would be moving from double taxation to single taxation of profits that have been fully taxed in the subsidiary's hands.

This seems to be evening up the tax treatment of forms of income that are taxed or not taxed in the subsidiary's hands.

There could be some minor issues where some degree of alignment in rules or dates made sense. For example, it might be sensible to align balance dates and possibly elements of anti-streaming provisions so that each jurisdiction was satisfied that credits could not be streamed in the other country in a way which is contrary to their own policy. But any of these issues could be worked through when designing a system of mutual recognition if there were a decision to move in that direction.

A second issue is how mutual recognition would work for KiwiSaver and Australian Superannuation Funds. There would appear to be no difficulty that we can see in applying mutual recognition to KiwiSaver. KiwiSaver funds would obtain credits for Australian taxes in exactly the same way as they get credits for New Zealand taxes at present.

Australian Superannuation Funds could potentially also get credit for New Zealand taxes in exactly the same way as they get credits for Australian taxes. However, there is an important issue for Australia. This is whether or not it would allow refunds to

Superannuation Funds and other taxpayers for New Zealand taxes.[3] If Australia does not, this would lead to some increase in complexity. For example there would most likely need to be stacking rules to determine whether dividends were being paid out of income sourced from Australia or New Zealand. But any decision here is obviously a discrete policy choice for Australia and does not fundamentally impact on the viability of implementing mutual recognition.

A further question is what would happen if either country were to abandon imputation. This would clearly lead to abandonment of mutual recognition. Mutual recognition only makes sense as long as both countries continue with imputation. Thus, if either country were committed to repealing imputation in the near future, this would be a reason for not agreeing to mutual recognition. However, imputation systems have been operating in the two countries since the late 1980s and may well continue for many years into the future. Neither country is committed to repealing imputation even though this was an option that was discussed in the Henry Review.

7. Concluding Comments

There are strong reasons to believe that mutual recognition is likely to lead to economic gains for Australasia as a whole. The paper has looked at investment inefficiency and the gains from no longer double taxing trans-Tasman flows on this margin. Our basic model provides a simple representation of these bilateral gains. But the gains we have analysed are not the only, or even necessarily the most important, gains. Mutual recognition will boost product market competition, reduce incentives for artificial tax structuring, make it less costly for businesses to set up trans-Tasman subsidiaries and reduce pressures for a race to the bottom in company tax rates. Our investment efficiency analysis is comparative static and ignores further dynamic gains that can arise from new products and processes. It is likely that the various initiatives flowing from the Single Economic Market agenda will have effects that may be bigger than the sum of the parts. Each part will encourage cross-border interactions, tending to reinforce the benefits of the other measures.

There are important differences between mutual recognition and a bilateral free trade deal. While it will generally be in a small open economy's own best interests to remove tariffs unilaterally, it will not generally be attractive for either Australia or New Zealand to unilaterally recognise taxes paid in other countries for imputation and franking purposes. But mutual recognition is still likely to provide aggregate benefits for the two countries. Unlike inefficient trade diversion, any investment diversion as a result of mutual recognition will be advantageous for the two countries collectively.

A harder thing is to determine the likely gains or losses for the two countries individually. It may be impossible to resolve this sort of issue without much more sophisticated modelling than has been possible in this paper.

We have looked at two simple models with differing conclusions. Important questions are how relevant the models are for considering trans-Tasman flows of FDI and FPI, the importance of substitutability of additional trans-Tasman investment for investment from third countries and the extent to which additional trans-Tasman investment will promote additional inbound FPI and the effects of mutual recognition on factor returns.

[3] Some entities, such as Australian Superannuation Funds, are currently allowed refunds of excess franking credits.