THE ECONOMICS OF IMPORT/EXPORT LINKS

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The author was an advisor to the Treasurer from January 1990 to April 1993, and is now Associate Commissioner at the Industry Commission. The views expressed in this paper are those of the author.
Summary

This paper offers an introductory sketch of the economics of import/export links. A case is argued for the use of the link in a transition to free or freer trade. The link will provide assistance to exports, and accordingly may enable faster reduction of assistance to import replacement. Where this is possible, the link will promote welfare by accelerating the achievement of trade liberalisation and export orientation. Even without any change to the protectionist policies onto which it is grafted, the link is revealed to be robustly welfare improving where quantitative restrictions are in place, whereas its effect will be ambiguous where tariffs are in use.
This paper uses the framework set out in a previous paper ¹ to sketch the economics of import/export links. An import/export link provides exporters of products with entitlements to import products duty free. Initially for the purposes of analysis we assume that the import/export link operates upon imports into and exports from a given domestic industry covered by a single tariff such as the Australian automotive industry. In contrast to the situation with by-law-for-export and duty drawback schemes, imports under an import/export link need not be re-exported to gain freedom from duty. Import/export links have been used in various forms from time to time in various countries including Japan, Korea and Taiwan. Australia has used an import/export link in its automotive industry since 1979 and has recently rationalised and extended the scheme along lines suggested by the analysis in this paper.²

Import/export links have been subjected to very little scrutiny by economists. A New Zealand economist Peter Elkan suggested something which might briefly be described as regional import/export links in 1965 and added by way of footnote that it was logically possible for a country to adopt such arrangements unilaterally.³ The footnote appears to refer to something very close to what we call an import/export link here. In the light of the way in which import/export links can serve as effective ‘intra-industry trade policy’ (see below) it is ironic that Elkan’s ideas were not taken more seriously by those with an interest in the policy implications of intra-industry trade. More recently Herander and Thomas,⁴ and Rodrik,⁵ have provided two analyses of instruments which link imports and exports. However, their analysis is of import-export requirements. Given that their focus is upon instruments which provide additional constraints on firms, it is not surprising that the instruments emerge as sub-optimal in neoclassical analysis. Our own focus is upon using import/export links to remove constraints upon firms in the context of gradual trade liberalisation.⁶

³ Elkan, (1965).
⁴ (1986)
⁵ (1987)
1.1 Import/export links

Assume for the time being that an 'industry' is assisted by a single protective trade barrier - a uniform tariff or a quantitative restriction - yielding the same nominal rate of assistance to all domestic production for the domestic market. It is not important for our purposes to define the 'industry' particularly rigorously. All that is necessary for us to render our analysis coherent at this stage is for there to be two sectors in the domestic economy - 'the industry' and 'all other activities'.\(^7\) In this section we show that an import/export link within the industry will

- eliminate the home market bias of existing protection and
- provide us with an 'intra-industry trade policy' which is generally superior to traditional by-law-for-export and duty drawback schemes.

Trade barriers provide assistance by giving local producers privileged access to a domestic market in which prices have been artificially inflated. An import/export link gives exporters precisely the same privilege and so equalises the nominal rate of assistance to export and import replacement. With standard assumptions about profit maximising agents, full transferability of export linked import entitlements ensures that those entitlements are earned in the most profitable/efficient way and put to their most profitable/efficient uses. Firms may specialise in importing or exporting (or any mix of the two) by trading import entitlements.\(^8\) An import/export link will generally not impair the transparency of the trade barriers it neutralises. In one respect it will enhance transparency. The price at which import entitlements change hands provides a measure of the assistance effects of existing trade restrictions.

1.2 Import/export Links as 'Intra-industry Trade Policy'.

Traditional import for re-export schemes - by-law-for-export and duty drawback - are designed to alleviate the invidious effects which trade barriers have for those who produce for export but who use imported inputs. They have extensive

\(^7\) As a preliminary to the analysis we should assume that the import/export link is what we will call 'compatible' with the protective regime onto which it is grafted. It is customary to distinguish between trade barriers which operate on the value imported - as is the case with an ad valorem tariff or with a quantitative restriction on the value of imports - and those which operate on the volume imported - as is the case with a specific tariff or with a quantitative restriction on volume. Where the existing protective regime is based on value (volume), so too the import/export link should link the value (volume) of produce exported and imported.

\(^8\) We assume hereafter that an import/export link is administered in such a way as to ensure that entitlements earned under the link are freely transferable.
administrative and compliance costs frequently of the order of 5% of export turnover, and sometimes considerably more. There are also difficulties in defining what constitutes ‘embodiment’ of imported inputs into exports. Traditional import for re-export schemes often fail to influence incentives throughout the production chain preventing what Balassa calls the ‘backward integration’ of export orientation.

Perhaps most importantly of all, import for re-export schemes are irredeemably partial in their capacity to ameliorate the way in which traditional protection imposes costs on intra-industry trade. They are unsuited to facilitating the vast bulk of intra-industry specialisation which does not directly involve import for re-export. At a time of growing diversity in the demand for both final and intermediate goods, firms will face many decisions concerning the degree to which they specialise which are not directly related to the extent to which they import to re-export. A producer in an industry might wish to specialise in the production of a particular kind of (final or intermediate) good necessitating the importation of other products which are close substitutes in production in the short and medium term. For instance a firm might wish to achieve economies of scale in manufacturing a particular kind of product - say a particular grade of steel or type of motor vehicle. With short or medium term constraints on capacity this will necessitate the importation of other kinds of products of a similar type. Here imports are in some sense necessary to sustain export activity. But traditional import for re-export policies do not alleviate the problem.

Providing an import/export link operates over a domain which is sufficiently broad to link imported inputs with exported outputs, it can more efficiently and rationally perform the function currently performed by import for re-export schemes. It operates solely on information available as goods pass through customs. The existing import/export link for the Australian automotive industry has administrative costs

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10 As Balassa puts it: Extending . . . rebates to indirect inputs is especially important, both to reduce the cost of exports and to ensure the backward integration of the production process through the process of domestic production of inputs for export. [Balassa, (1989), p. 43.]
12 Credel and Lloyd, (1975), pp. 145-6. Many difficulties in the pursuit of integrated regional development of industries could be avoided by the realisation that plants, processes and products making up an ‘industry’, such as the steel industry, are extremely heterogeneous and that substantial economies of scale are available in the production of many important product lines. . . Australia simultaneously exports and imports many iron and steel products which are close substitutes in production.
well below .02% of export turnover.\textsuperscript{13} It also 'backwards integrates' export orientation throughout the production chain. Exporters enjoying assistance from trade barriers will direct that assistance towards suppliers of inputs for export production to economise on the use of valuable import entitlements.\textsuperscript{14} An import/export link exempts that portion of trade which is intra-industry trade - the import activity in the industry which is matched by export activity - from the costs which barrier protection would otherwise impose on it. It accordingly facilitates intra-industry trade and specialisation in both intermediate and finished products which does not involve direct physical import for re-export.

\section*{2.1 The Economics of an Intra-industry Import/export Link}

The rest of this paper outlines an analysis of the resource allocation implications of import/export links and certain variants thereof in various trade policy regimes. This and the next section continue the analysis of the situation where an import/export link is introduced to an industry or a sector \textsuperscript{15} which operates under a single uniform protection regime - in one case quantitative restrictions in the other case tariffs. To enable us to compare intra and inter-industry welfare effects we assume that the 'industry' is the only assisted activity in the economy. Our analysis is discursively oriented around the classical and neoclassical assumption that in the absence of good reasons to the contrary, equity and efficiency are well served when all productive activities receive the same level of assistance, leaving competition to determine the relative allocation and use of resources. Although it would be cumbersome to bring this out formally, the analysis appearing below invokes a general equilibrium model of an economy with with perfect competition and factor mobility in the long run.

Also, we assume that the most sensible way of equating the level of assistance between activities is to bring the level of assistance enjoyed by each activity to zero.\textsuperscript{16} This underpins the case for free trade which, in the absence of other instruments, we

\textsuperscript{13} Confirmed in conversation with Australian Customs officials in the Automotive Plan Administration Section in Melbourne, 1990.

\textsuperscript{14} Nevertheless, it should be noted that where an industry imports protected products from outside what is taken to be 'the industry' - products to which the import/export link does not attach - there remains a case for the traditional import for re-export schemes. Some further comments are offered on this in § 7.4.

\textsuperscript{15} In many circumstances the analysis can be extended to an entire economy with a uniform protective regime.

assume reduces the assistance to activities in the traded sector to zero. We assume also that trade liberalisation will necessarily be gradual, either because this is economically sensible or because it is politically inevitable. We largely ignore adjustment costs and distributional considerations. However, it is worth noting in passing that intra-industry resource movements often have significantly less severe impact in terms of both adjustment costs and income distribution to factors of production than inter-industry resource movements.\textsuperscript{17} We also assume that the terms of trade are not effected by policy.\textsuperscript{18}

Accordingly, assuming initially that all available protection is fully used by the local industry - that there is no water in the tariff - reduced protection in the industry would

- improve resource allocation both within\textsuperscript{19} and between industries and
- generate domestic welfare gains in consumption by moving relative domestic prices closer to their free trade levels.

The diagram used is derived in Gruen (1993).

2.1.1 Quantitative Restrictions

Assume that an import/export link is introduced into an industry protected by quantitative restrictions upon the volume of imports. In figure one, domestic production for the domestic market and domestic consumption take place at \( B' \) on the \( S_d \) curve and at \( D' \) on the \( D_d \) curve respectively. These levels of production and consumption correspond to the domestic price level which equals the world import price plus unit quota rent \((p_w + qT)\). The domestic industry also produces at \( C \) on its \( S_e \) curve corresponding to the world import price \( p_w \).

\textsuperscript{17} Grubel and Lloyd, (1975), pp. 127-9. Cf. Krugman, (1978), p. 15. There are more likely to be the same distributional implications of changes in consumer prices and we offer a brief note on this below.

\textsuperscript{18} This is reasonable for a small country, but it will often be reasonable for a large one as well particularly where levels of production and consumption remain the same in the domestic industry but balanced trade in similar commodities increases.

\textsuperscript{19} Reduced protection reduces (but does not eliminate) the inward orientation of the protected industry.
The industry adjusts to the import/export link in two distinct stages.

2.1.1.1 Stage One: Increasing Imports, Falling Prices

If the industry already exports some of its produce (as is the case in the illustration above) that produce will now earn import entitlements. This increases the number of imports into the industry. Increased imports must be cleared in the domestic market. Domestic prices accordingly fall, and with them the rate of assistance accorded by existing protection. This produces the clear welfare gains set out in §2.1 above. The industry moves down its $S_d$ schedule. Consumers move down their $D_d$ schedule.

2.1.1.2 Stage Two: Intra-industry Trade Adjustment

Once the above process has run its course the situation changes. If domestic prices have not yet fallen to their free trade level, quota rents are still positive and exporters receive assistance from the import/export link. Every additional unit exported generates entitlements to import an additional unit. This entitlement can be sold to other possibilities. There may be no exports initially. In this case there is no stage one and the adjustment path begins in stage two. Also the import entitlements which are generated from existing exports may be sufficient to reduce the rate of assistance to import replacement to zero. In this case the introduction of the import/export link is equivalent to the removal of protection the industry and there are no further adjustments beyond stage one.
importers for an amount close to the remaining unit quota rent. Accordingly exporters can export products which would not be competitive at free trade because they can be cross-subsidised from the profits made from the import entitlements they generate. Exports and imports increase by the same amount. The industry moves down its $S_d$ schedule and up its $S_e$ schedule. Note that as this 'intra-industry trade adjustment' proceeds, domestic prices must fall to clear increased imports in the domestic market. This reduces quota rents and the rate of assistance to both import replacement and export accordingly falls. Intra-industry trade will expand under the link until profits can no longer be made by exporting in order to import duty free. This occurs - equilibrium emerges - when the (rising) level of disability of export activity meets the (falling) level of disability of import replacement activity at the new (equilibrium) quota rent - $qr(e)$ - as illustrated in figure two.

**Figure Two**

![Diagram depicting price and quantity relationships](image-url)

Because in the intra-industry adjustment stage the increase in imports is matched by the increase in exports, the relationship

$$(B' - B') + (D' - D') = (C' - C)$$

governs the extent of falls in the transfer prices of import entitlements and so, nominal rates of assistance. Generally speaking, the steeper both the $D_d$ and the $S_d$ curves, the more assistance will have to fall to allow import growth. And the flatter
the $S_e$ curve, the more exports will grow with the assistance they receive from the import/export link.

The 'intra-industry trade adjustment' stage of the process produces four separate effects on welfare. Welfare is improved in the following three ways.

- Resource allocation deviations from what we are assuming is the free trade optimum are
- eliminated within the industry and
- reduced between industries.
- Relative domestic prices move closer to their free trade relativities producing consumption gains.

However as 'intra-industry trade adjustment' takes place the industry's size will grow. This is because as intra-industry trade expands so does domestic consumption in the industry. Accordingly additional imports in the domestic market will replace some domestic production for the domestic market but they will also feed increased domestic demand. Thus, although the activities within the industry which took place at the highest levels of disability have been eliminated, activity in the protected industry increases and this impairs welfare by drawing resources from the rest of the economy. This establishes a case for additional measures to directly reduce protection sufficiently to ensure that the industry does not grow in size.

2.1.2 Tariffs

Assume an import/export link is introduced into a simple uniform *ad valorem* tariff regime operating across an industry.

2.1.2.1 Stage One: Displacement of Tariff Revenue

Existing exporters will sell their duty free entitlements to those who would otherwise have to pay tariffs. This simply displaces tariff revenue and, for as long as any tariff revenue remains to be displaced, imports do not rise as a result of the import/export link. This produces an income transfer from the government to existing exporters.
2.1.2.2 Stage Two: Export Expansion Further Displaces Tariff Revenue

If existing exports are insufficient to displace all initial tariff revenue, exports increase in response to export assistance. They continue to displace tariff revenue and no significant increase in imports takes place.\textsuperscript{21} Exporting will expand to a point where the level of disability of exporting equals the cross-subsidy available from import entitlements. If this point is reached before all tariff revenue is displaced, imports will not expand and production for export will take place up to the same level of disability as production for import replacement which equals the tariff rate.

So far the import/export link has improved resource allocation within the industry but it has done so by simply increasing assistance to export and so increasing the size of the industry. Under our assumptions this produces clear inter-industry resource allocation losses to offset intra-industry gains. Which effect dominates cannot be determined in principle. However it may be worth noting that, from a dynamic perspective, export orientation \textit{within} industries may be more important to productivity growth than export orientation between industries.\textsuperscript{22}

2.1.2.3 Stage Three: Intra-industry Trade Adjustment

Assume that exporting has expanded to displace all tariff revenue, but that exporting can still take place at a level of disability lower than the cross subsidy available from the import entitlements it generates. Now `intra-industry trade adjustment' takes place in a way which is analogous to stage two of the above analysis concerning quotas. See §2.1.1.2.

2.1.3 'Water in the Tariff'

Now assume there is 'water in the tariff' - or the quota regime as the case may be. Export assistance now makes export destinations more attractive than the domestic market. Accordingly some existing production may be switched from supplying the domestic market to supplying the export market. Falling supply to the domestic market drives prices up, and they may rise to the point at which there is no longer water in the tariff and imports are able to discipline domestic prices. Under our assumptions this clearly impairs welfare by exacerbating existing production and

\textsuperscript{21} This is a slight simplification. Where exports have imported inputs, there will be an increase in imports (though a greater increase in exports).

\textsuperscript{22} There are no direct changes in consumption with domestic prices remaining the same. (However this assumes that revenue foregone by the government can be costlessly collected by some other means)
consumption distortions. The rate at which this occurs will reflect the speed with which producers can switch from supplying the domestic to supplying export markets. They can do so quickly to the extent that their produce is traded internationally as a standard ‘commodity’. Where switching takes longer, the relaxation of tariffs or quantitative restrictions can be timed to eliminate ‘water in the tariff’ before switching is possible.

2.1.4 A Note on Factor Income Distribution and Equity

The expansion of intra-industry trade can have distributional implications. Where imports and exports in an industry have differing factor proportions, intra-industry trade will enable a domestic economy to move to a lower cost use of factors. According to standard Heckscher-Ohlin assumptions the industry uses trade to substitute the internationally relatively cheaper factor for the relatively expensive factor in production. This increases both the total amount and the rate of factor payments to the relatively cheaper domestic factor (and does the opposite for the relatively more expensive factor).

Increased intra-industry trade is also likely to change relative prices. This can have significant distributional consequences where price falls necessary to accommodate increased imports are be concentrated amongst goods which are predominantly purchased by a particularly wealthy, or a particularly poor class of domestic consumers. In developing countries it will often be the case that there is a higher proportion of luxury goods amongst imports than amongst domestic manufactures. In developed countries the reverse may be the case. Where such circumstances exist, it may be sensible to supplement the policy with additional policies aimed at redressing any undesired income distributional arising from the introduction of the link. Where ameliorative policy focuses on changing relative prices within the industry the sales tax system offers a more rational means of addressing the issue than restricting imports. Alternatively, compensation for undesired effects can be offered more broadly through the income tax and welfare systems.

III

3.1 Variations on a Theme

The administration of an import/export link can be manipulated in various ways to achieve various policy objectives.
3.1.1 'Incremental' Import/export Links

If one wishes to optimise the extent to which tariff revenue foregone stimulates export growth in the short to medium term, one can use an 'incremental' import/export link which would provide exporters with import entitlements in proportion to increases in their export performance over a 'base year'. This was initially the way the Australian automotive import/export link was administered. (In 1992 a 'full' scheme replaces the initial incremental one.) With an incremental import/export link, existing exports do not earn import entitlements. Thus the adjustment process begins at the second stage in both tariff and quota scenarios. See §§ 2.1.1.2 and 2.1.2.2.

An incremental import/export link may produce some practical problems. It will not equalise the level of assistance between import replacement and export.\(^{23}\) It will not free up intra-industry trade as simply and effectively as a full import/export link. It is also likely to be administratively difficult, politically contentious, and arguably economically irrational to assist some export activity and not other similar or identical activity simply because that activity was under-way before the introduction of the import/export link. Note also that unless indexed the 'base year' decays exponentially as a proportion of total exports where exports grow at some constant rate and the scheme gradually approaches a 'full' scheme.\(^{24}\)

3.1.2 Hastening the Onset of Intra-industry Trade Adjustment

Where an industry receives tariff assistance, the sooner it moves into the stage at which there is 'intra-industry trade adjustment',\(^{25}\) the lower the equilibrium level of assistance and production an import/export link will produce. In a tariff regime this stage begins at the point at which tariff revenue is exhausted. It is however possible to bring on this stage of adjustment earlier by converting the tariff regime into a hybrid tariff quota regime. Existing tariffs remain but are supplemented by quota entitlements. If quotas are set to displace all tariff revenue then any imports generated under the link must be in addition to imports entering under issued quotas. Intra-industry trade adjustment commences immediately. Revenue loss can be minimised by auctioning quota entitlements. Imports would enter either under

\(^{23}\) All production for the domestic market continues to receive assistance whereas only increases in export production receive assistance.

\(^{24}\) The decay is likely to be faster where the 'base year' is measured in money terms rather than in 'real' terms or in volume. In the former case inflation reduces the significance of the base year.

\(^{25}\) covered in § 5.1.2.3
issued quotas or by way of export linked import entitlements. Importers would continue to have the option of paying tariffs. But once a surplus of export linked import entitlements led to a reduction in their price (and the price at which quota sold), tariffs would become largely redundant. They would generally present a higher cost means of importing than buying quota or export linked import entitlements.26

3.1.3 Import/export Links as Simple Export Assistance

Where one is seeking to use the import/export link as part of a strategy to increase production in a particular industry, a surfeit of import entitlements may be undesirable. The government can prevent the link increasing imports and reducing the rate of assistance to the industry by permitting holders of export linked import entitlements to simply redeem them with the government for some cash value greater than or equal to the value they would have to importers. This keeps the adjustment process to increasing exports as outlined in § 2.1.2.2.27 In this case the import/export link has the same economic effect as a simple export subsidy. It may (or may not) be simpler to administer than an export subsidy.

3.1.4 Providing Differential Levels of Assistance within the Industry

Import/export links can also be used to provide differential rates of nominal assistance between different activities within an industry. It is administratively easy to discount or ‘over-count’ the earning or the use of import entitlements to achieve a pro or anti-export bias of any degree. This may (or may not) be justified on the standard grounds of externalities and/or ‘learning’ economies in the presence of imperfect capital and insurance markets.

3.1.5 Import/export Links Across Different Protection Regimes

An import/export link can be used to unify rates of assistance between activities operating under different protective arrangements. An import/export link was used in the Australian automotive industry to reduce the level of assistance to component manufacture which, until the late 1980s had taken place under a highly protective local content plan. Governments of both major political parties had been

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26 Of the tariff scenarios examined so far, this is the one in which the ‘assistance discounting’ effect of import/export links begins to operate earliest and so the one in which the final rate of assistance is lowest.

27 Imports do not increase because it will be more profitable for an exporter to ‘cash in’ any import entitlements it earns instead of selling them at a discount to importers.
unprepared to remove the local content plan directly, but from 1979 on were prepared to allow automotive exporters - of either components or built up vehicles - to import otherwise highly assisted products duty free under an import/export link.

3.1.6 Import/export Links and Voluntary Export Restraints

An import/export link could be applied in the case of voluntary export restraints. There are various ways this could be done and the effects on trade creation and trade diversion would be complex. To take Japanese VERs with the United States for example, various intriguing prospects arise. Japan would implement the link for America! It would increase its exports to America to the extent that the American industry had succeeded in exporting.28

These considerations are clearly not exhaustive and various combinations of these options are possible. It will often be possible to manipulate the administration of the link in various ways to achieve various results. The following final section seeks to explore the issues which arise in a more complex context where we begin with a non-uniform trade policy in which different activities receive different levels of tariff and/or quota assistance.

IV

4.1 Using Import/export Links in Trade Liberalisation: Dealing with Existing Complexity 29

Imagine an economy in which there are many different assistance rates corresponding to many different customs categories operating under different protection regimes. Here, we assume that the two kinds of piecemeal reform

28 The link could operate multilaterally - according to American exports to all destinations - or bilaterally - according to American exports to Japan. In each case the welfare implications are complex, but the link could clearly be a useful part of a trade liberalisation program for the industry providing it was used as such and not as some device to extend assistance. Certainly American exports of vehicles look set to increase significantly (including exports to Japan) and it seems opportune to liberalise the market for imports at the same time. A bilateral import/export link would create assistance for firms based in America to export to Japan and for those based in Japan to import from America! Such incentives could easily be useful - at least more useful than the incentives prevailing at present - though one would hope to continue moving toward freer trade than would be promoted by the indefinite maintenance of such partial arrangements.

29 This section is an elaboration of an analysis developed for the Australian Department for Industry Technology and Commerce in October and November of 1990. The Government was at that time considering a scheme, which would have generalised the export facilitation scheme across all tariff assisted manufacturing activity. See comments below.
sanctioned by neoclassical theory are robustly welfare improving: 'Tops down' reform, or what Corden has called 'concertina method' tariff dismantling,\(^{30}\) where the rate of assistance to the most highly assisted activities is reduced, and 'across the board' assistance reform where the rate of assistance to all activities is reduced by some proportion.\(^{31}\) In addition, action which reduces disparities of assistance within sectors of the economy by either a 'tops down' or an 'across the board' approach will be welfare improving providing this involves no changes to the relative size of such sectors. Imagine further that we seek to use import/export links to improve the reform path towards trade liberalisation and export orientation.

4.2 'Customs Category Specific' Import/export Links

The simplest way of dealing with existing non-uniformity is to attach a separate import/export link to each customs category. This equalises assistance rates to export and import replacement across the customs category, but may increase or reduce existing non-uniformities between different customs categories.\(^{32}\) In many circumstances it will be desirable to bring activities which receive different levels of tariff assistance within the same import/export link. One can suggest two alternatives.

4.3 Generalised Import/export Links: 'Dollar for Dollar' and 'Customs Currency' Import/export Links.

Take two industries, A and B, assisted by a 5% tariff and a 10% tariff respectively.

- A 'dollar for dollar' import/export link would enable the exporter of $1.00 of Industry A goods to import $1.00 of goods from industry A or B.
- A 'customs currency' import/export link would provide the exporter of $1.00 of good A with a 5 cent credit with customs - which would be good to pay the duty on either $1.00 of good A, or 50 cents of good B.

Clearly both schemes can be 'generalised' to any degree. They can operate over exports and imports in any subset of the economy (including the whole economy).

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32 In those customs categories where 'intra-industry trade adjustment' will take place, the rate of assistance will fall. In other customs categories the rate of assistance will remain the same.
4.3.1 The Economics of a 'Dollar for Dollar' Import/export Link

Wherever an import/export link is introduced, export based import entitlements will go to their most profitable uses. Where a 'dollar for dollar' scheme is in operation, import entitlements will be used to import products into whichever activity within the import/export link receives the highest nominal assistance. Where the most highly effectively assisted industry is protected with quantitative restrictions, the import/export link will increase imports. See § 2.1.1.1. Where it is protected by tariffs, export linked imports will initially displace tariff revenue. See §§ 2.1.2.1, 2.1.2.2. Once all tariff revenue from the most highly assisted industry has been displaced, imports in that industry will increase. This produces 'tops down' protection reform.

In addition the implicit assistance now given to exporting will increase export production. Producers will expand that activity which requires the lowest nominal rate of assistance 33 with the import entitlements thus earned displacing the most highly (nominally) assisted activities remaining after the first phase of 'tops down' reform. Here we have both 'tops down' and 'bottoms up' assistance reform: a symmetrical attack on existing disparities of assistance within the dollar for dollar import/export link, which is, incidentally, more in keeping with the image of the concertina! We digress briefly to observe that an economy wide dollar for dollar import/export link could be expected to provide a response to a foreign exchange crisis which was more broadly based and less distorting than the traditional inwardly oriented interventions sanctioned by the 'emergency' provisions of the GATT. 34

Nevertheless, a 'dollar for dollar' import/export link may involve difficulties. In many countries, a broadly based 'dollar for dollar' scheme which included highly assisted industries could be politically unacceptable. In practice, highly assisted industries may be able to avoid adjustment where they can successfully lobby the government to limit the use export based import entitlements to import into highly assisted industries. 35

33 Import entitlements are earned on the total value of exports rather than domestic value added in those exports. To do otherwise would probably be administratively difficult.
34 Article XII.
35 The Australian Federation of Automotive Products Manufacturers for instance requested that 'export credits' arising from the export of built up cars not be eligible to provide duty free importation of components. These submissions were rejected in favour of the less interventionist approach suggested in Green (1990). [Australian Industry Commission, (1990), Report, p. 118.]
A dollar for dollar link can also intensify existing disparities in effective assistance rates. Where a producer can acquire inputs at world prices, simply transform them and sell them with the assistance of tariffs or quantitative restrictions in the domestic market, the effective rate of assistance exceeds the nominal rate of assistance the producer receives. A dollar for dollar import/export link extends this assistance onto the export market. This will exacerbate existing resource allocation distortions particularly for a small country facing very elastic export demand schedules. This can be prevented in various ways. In the Australian automotive export facilitation scheme, exporters have been required to satisfy a number of requirements to earn import entitlements under the scheme at the full rate. A less ad hoc response is a 'customs currency' import/export link which was at the centre of the proposed Australian ATLAS program.

4.3.2 The Economics of a 'Customs Currency' Import/export Link

A 'customs currency' import/export link ties the nominal rate of export assistance for specific products to the nominal rate of assistance to import replacement. Sometimes activities corresponding to different customs categories receive differential nominal rates of assistance in order to broadly unify effective rates of assistance to secondary processing. If, for instance sheet steel has a tariff of 5%, pressed sheet steel has a tariff of 10% and coated pressed sheet steel has a tariff of 15%, this may provide effective assistance of (say) 20% to 'value added in secondary industry'. To the extent that such arrangements can be justified, the 'customs currency' link will be justified. It will replicate on the export side the non-uniformities of nominal assistance which exist on the import replacement side.

The symmetry of the customs currency approach enables us to analytically separate the economic effects of different policy tools. The (customs currency) import/export link is the appropriate way of ensuring that any activity which is assisted to supply the domestic market is assisted at the same effective rate to export. One can then manipulate effective rates of assistance by manipulating nominal tariff rates or quota settings.

36 Those requirements included the amount of value added in the automotive industry, and the diversity of the manufacturing operations embodied in exports. More recently the Australian Industry Commission has recommended that 'export credits' (import entitlements), be related in value to the manufacturing value added in the product exported. This recommendation was accepted by the Australian Government in its statement on the 12th of March 1991. The Government announced that a 'typical' complex automotive product such as a car or an engine would count as 100% value added in the automotive industry. This enables the import/export link to equalise the effective the rate of assistance between import replacement and export.
The economic effects of a customs currency import/export link operating over all tariff protected industries would be as follows. (Note that one would need to make special arrangements to bring industries assisted by quantitative restrictions within the operation of the link. One could stipulate some 'proxy tariff rate' to apply to imports and exports from that industry for the purposes of participating in the customs currency link.) Existing exports from protected industries earn customs currency which displaces tariff revenue. See §2.1.2.1. At some stage - either immediately or after exports expand following the introduction of the import/export link - exports may become sufficient to displace all tariff revenue. See §§2.1.2.1, 2.1.2.2. Beyond this point a surplus of customs currency leads to it selling at a discount to its 'face value' with customs. This produces the effect of an across the board tariff cut and an across the board dilution of the value of export assistance. A surplus of import entitlements could occur immediately on the strength of existing exports or could emerge after exports increase in response to the implicit assistance they now receive. In the latter case we now have 'intra-industry trade adjustment' or perhaps 'intra-sectoral trade adjustment'. Here both imports and exports increase. As this occurs the discount against customs currency increases which leads to continuing across the board reductions in assistance to both import replacement and export.

4.3.2.1 Highly Assisted Industries and a Customs Currency Import/export Link.

Where disparities of nominal assistance broadly unify effective assistance to value added in secondary industry and this is itself justifiable, it will be sensible to include highly nominally assisted industries within the customs currency import/export link. Where this is not the case, the following comments may be offered.

- permitting the highly protected industry access to the link will reduce the inward orientation of that industry but probably at the expense of worsening inter-industry resource mis-allocation.
- An alternative is to confine import entitlements arising under a link in a highly protected industry to use for imports into that industry itself. This reduces to the cases considered in Section 2 - §§2.1.1 and 2.1.2.

37 but not generally in equal proportions. The relationship which governs their respective values is that the 'customs currency' value of exports (their price times the tariff rate applicable to their customs category) equals the 'customs currency' value of imports (their price times the tariff rate applicable to their customs category).
• Of course it is possible to allow the highly assisted industry to earn export linked import entitlements at a rate which is less than the rate it would need to earn to neutralise the home market bias of existing protection. This reduces both the inter-industry resource allocation losses and the intra-industry gains associated with the link. The import/export link recently introduced into the Australian textiles, clothing and footwear industries is such a discounted scheme. This may well be justified for clothing and footwear because of the relative unimportance of scale economies in those industries. The more important economies of scale and export learning are in an industry, the more important it is not to compromise the extent to which the import/export link can remove the inward orientation of traditional protection. Providing intra-industry adjustment costs are small it will generally be preferable to give the industry a full import/export link if this can be traded off against sufficiently large additional reductions in the rate at which tariffs and/or quantitative restrictions are removed.

4.4 Generalised Import/export Links and Import for Re-export Schemes

In the previous section it was argued that import/export links can replace and rationalise import for re-export schemes. It is likely that a broadly based import/export link would do this as it provides assistance to all export activity coming within the link. Exporters could conceivably be put in a worse position than under a duty drawback scheme if their exports did not come within the import/export link, or earned import entitlements at a very low rate and inputs were tariff assisted at a higher rate. If this is the case it may be sensible to retain such schemes for those who can benefit from them. One would generally wish to ensure that firms did not 'double dip' by earning import entitlements with exports at the same time as using the same exports to gain duty drawbacks.

4.5 Bounties, Effective Rates and Intermediate Goods.

Consider an industry producing intermediate goods in an economy with two sectors - an assisted sector and an unassisted sector. Assume that the decision has been taken to assist this industry in a way which avoids inward orientation. This leaves us with the choice of bounties or of traditional protection plus compensatory export assistance. Bounties avoid increasing the output prices of the assisted industry. Accordingly where the assisted industry sells to downstream users who are predominantly unassisted, bounties are best. But where downstream users are predominantly assisted a bounty will increase (or fail to reduce) the effective
assistance rate they enjoy.\textsuperscript{38} Accordingly if one were to introduce a bounty one would want to reduce effective assistance to downstream user industries. Where this is not possible an import/export link has attractions. Within a customs currency import/export link, the nominal tariff rate for the intermediate good industry can be set to achieve the desired rate of effective assistance.\textsuperscript{39} The intermediate good industry then receives assistance - for both import replacement and export - but assisted downstream users face a price for their inputs which reduces their effective rate of assistance.

V

5.1 Conclusion

One might add that import/export links, like other intra-industry trade policies, are neither an alternative, nor an administrative obstacle to removing traditional protection. As trade barriers are reduced, their effects in raising domestic prices are reduced and assistance to both import replacement and export declines correspondingly. Until the day they become redundant - in that long run in which all trade restrictions cease to exist - import/export links provide excellent 'intra-industry trade policy', and accelerate the transition to export orientation.\textsuperscript{40} They will frequently provide significant trade liberalisation on their own, and whether they do or not, they complement reductions in traditional protection.\textsuperscript{41}

We have suggested elsewhere that, proving such instruments are reasonably simple and are implemented in the context of trade liberalisation, they offer relatively little danger of rekindling protectionism. This is not to say that protectionism is not a danger, but rather that the kind of policies set out here are unlikely to add to that danger. Protectionism tends to raise its head when factories close and trade deficits mount. It is rarely a response to export success. Readers who think that a broadly based import/export link \textsuperscript{42} would somehow advance the political cause of protectionism, might like to ask themselves whether replacing tariffs by bounties

\textsuperscript{38} The Australian woollen yarn spinning industry exemplifies the issue. It is a potential export industry for Australia. For this reason bounty assistance has been preferred to tariff assistance. But this advantage is purchased at the cost of inflating the effective rate of assistance to the domestic customers of yarn spinners - generally textile and clothing manufacturers - who already receive very high levels of protection.

\textsuperscript{39} Note the downstream user industry may or may not have access to this import/export link.

\textsuperscript{40} which would not otherwise be complete until all tariffs and quantitative restrictions are entirely removed.

\textsuperscript{41} Australian Industry Commission, (1990), Draft, p. 75.

\textsuperscript{42} amongst moderately tariff assisted items.
which has the same effect on the production side) would do the same. They might like to ask themselves whether those industries assisted by bounties rather than tariffs are more protectionist than those assisted by tariffs.

Given their simplicity and obvious appeal to managers and policy makers where trade restrictions exist, it is not surprising that import/export links have been used by various countries for some time. Policy sometimes anticipates theory. What is surprising is that import/export links have received so little attention from economists; that despite the growing attention to export orientation and intra-industry trade, the simple claims being made here, should they not be flawed in some important respect, did not emerge much earlier. It would be interesting to speculate as to why this should be the case. But that is another story.


43 cf. Bhagwati

[P]olicymakers have something on their side. Recall that deficit spending as an instrument to create employment preceded the General Theory. Economists should be a little more cautious in assuming that policy wisdom is necessarily on their side. In the area of trade policy 1 . . . doubt whether we [theorists] are impossibly smarter than the policy-makers.
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