THE AUSTRALIAN NATIONAL UNIVERSITY
Centre for Economic Policy Research

DISCUSSION PAPERS

THE RELATIONSHIPS BETWEEN MACROECONOMIC
AND INDUSTRIAL POLICIES

W.M. Corden
Australian National University

Discussion Paper No. 13
June 1980

P.O. Box 4, Canberra 2600, Australia
THE RELATIONSHIPS BETWEEN MACROECONOMIC
AND INDUSTRIAL POLICIES

W.M. Corden
Australian National University
Discussion Paper No. 13
June 1980

ISBN: 0949838 12 8
# TABLE OF CONTENTS

Discussion Paper No. 13

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>I A SIMPLE APPROACH</td>
<td></td>
</tr>
<tr>
<td>1  Defensive and Positive Industrial Policies</td>
<td>2</td>
</tr>
<tr>
<td>2  Macroeconomic Demand Expansion and Real Wages</td>
<td>3</td>
</tr>
<tr>
<td>3  Demand Expansion and Industrial Policy Compared</td>
<td>5</td>
</tr>
<tr>
<td>II THE RELATIONSHIPS BETWEEN THE TWO TYPES OF POLICIES</td>
<td>6</td>
</tr>
<tr>
<td>1  Industrial Policy Ingredients in Macroeconomic Policies</td>
<td>6</td>
</tr>
<tr>
<td>2  Macro-Policy Affects Industrial Target</td>
<td>7</td>
</tr>
<tr>
<td>3  Industrial Policy Affects Macroeconomic Target</td>
<td>9</td>
</tr>
<tr>
<td>III THE SHORT-TERM CYCLICAL ISSUE</td>
<td>11</td>
</tr>
<tr>
<td>1  Complementary Policies</td>
<td>12</td>
</tr>
<tr>
<td>2  Policies at Cross Purposes</td>
<td>13</td>
</tr>
<tr>
<td>3  Some Doubts about Short-term Industrial Policies</td>
<td>14</td>
</tr>
<tr>
<td>IV EXCHANGE RATE POLICY AND TRADE PROTECTION</td>
<td>16</td>
</tr>
<tr>
<td>1  Exchange Rate Protection</td>
<td>16</td>
</tr>
<tr>
<td>2  The &quot;Dutch Disease&quot;</td>
<td>18</td>
</tr>
<tr>
<td>3  Protection Policy as Usually Understood:</td>
<td>19</td>
</tr>
<tr>
<td>4  A Policy Package</td>
<td></td>
</tr>
<tr>
<td>5  Piece-meal Trade Policy may be at Cross-Purposes with</td>
<td>21</td>
</tr>
<tr>
<td>6  Macroeconomic Policy</td>
<td></td>
</tr>
<tr>
<td>V SOME BROADER CONSIDERATIONS</td>
<td>22</td>
</tr>
<tr>
<td>Footnotes</td>
<td>24</td>
</tr>
</tbody>
</table>
THE RELATIONSHIPS BETWEEN MACROECONOMIC
AND INDUSTRIAL POLICIES*

The central question of this paper can be stated as follows: how do the policies for which the Ministry of Finance and the Central Bank are responsible relate to the policies that fall within the spheres of the Ministries for Industries and for Regional Development? The paper does not deal with particular cases, nor does it aim to make recommendations or arrive at firm policy conclusions. It aims to sort out the relationship between what are broadly called macroeconomic policies and industrial policies. Macroeconomic policies are monetary policy, fiscal policy (determination of the general levels of taxation and government expenditure) and exchange rate policy. Industrial policies will be understood to refer to "industry-specific" or "sectoral" policies, notably to direct and indirect subsidies to particular industries or to parts of industries located in particular regions, to import quotas, tariffs, voluntary export restraints negotiated with suppliers of imports, and to export subsidies and taxes. I do not discuss these industrial policies in detail here, since many other papers at the conference will, no doubt, do so. Of course industrial policy is usually interpreted to have many other aspects - such as competition policy - but these are not so relevant for the present paper.¹

* A paper prepared for the International Symposium on Industrial Policies for the 80’s, organised by the Spanish Ministry of Industry and Energy in cooperation with and under the patronage of the OECD, Madrid, May 1980.
A SIMPLE APPROACH

It might be argued that the distinction between macroeconomic policies and industrial policies is really very simple and that the two types of policies can be pursued independently from each other. Macroeconomic policies are concerned with the economy as a whole, making no distinctions among industries. They are aimed at macroeconomic targets. The aim is to manipulate the level of real activity and of inflation in terms of a Phillips curve trade-off. It is nowadays widely accepted that the effects of macroeconomic policies on the real level of activity are only or almost wholly short-term while long-term effects are primarily monetary - i.e. on the rate of inflation. On the other hand, industrial policy instruments are concerned with sectoral effects, with differentiating between industries or regions, and the effects can certainly be both short-term and long-term.

The comparison between macroeconomic policies and industrial policies can be taken rather further if we focus on what is clearly a common concern of both policies, namely employment. Consider first industrial policy.

Defensive and Positive Industrial Policies

When it is "defensive" in nature industrial policy is concerned with preserving employment in a particular industry or region, or, at least, preventing too sharp a decline that might otherwise take place. The causes of the potential decline may be domestic or world demand shifts, technological changes or increased foreign competition. In all cases adverse employment effects could be moderated or even avoided if the real cost of labour fell sufficiently. There is usually some real wage level that would ensure the survival of an industry. When industrial policy takes the form of protection, direct or indirect, the approach is, in effect, to take the
real labour costs as given and artificially - to the cost of consumer or taxpayers - shift up the private value of the marginal product of labour above where it would be in a free market.

The alternative to "defensive" industrial policy is "positive adjustment".\(^2\) This may take three forms. First, it may take the form of adjustment measures designed to improve the efficiency of the industry. The real labour cost is, again, taken as given, but this time the aim is to maintain employment in the industry by pushing up the marginal private and social products of labour, possibly by raising the marginal physical product. Secondly, the aim may be to try and get the real labour cost down, at least temporarily, while adjustment measures work themselves out. But, because of the downward rigidity of nominal wages, industrial policy rarely aims at or succeeds in bringing this about. Thirdly, the aim may be not to preserve employment - whether in defensive or positive ways - but to reduce the labour force in the industry concerned in an orderly way, to minimise dislocations, hence bringing about structural relocations designed to fit the new demand patterns or technological developments.

**Macroeconomic Demand Expansion and Real Wages**

Let me now turn to macroeconomic policy. What is the mechanism by which a demand expansion increases employment? One view - which originated in Keynes' *General Theory* - is that it does so through reducing real wages. Nominal wages tend to be either rigid, or, if not completely rigid, not as flexible as prices. A demand expansion raises prices relative to nominal wages, hence real wages fall, and thus the increase in employment which results from the demand expansion is associated with a decline in real wages - at least relative to trend productivity. Alternatively one could argue that it is the fall in real wages which has brought about the rise in employment, and this fall in real wages has, in turn, been brought about by the demand
expansion. Because of a downward rigidity of nominal wages, the fall in real wages required for extra employment will not come about through nominal wages falling with prices given; prices have to rise. There are institutional rigidities or money illusion which allow real wages to fall through price rises but not through nominal wages falling. For a single economy the process is strengthened when a flexible exchange rate is allowed for. Demand expansion with given nominal wages in the first instance worsens the balance of payments, this brings about depreciation of the exchange rate, which raises domestic prices of imports and exportables, and this tends to reduce real wages.

It has to be said that this is just one model of the macroeconomic employment-increasing mechanism. Prices do not always rise relative to wages when demand is expanded, and nevertheless output and employment increase because there was initially excess capacity and the product market was not initially in equilibrium. In other words, diminishing returns to increased employment do not set in immediately. Real wages may even rise if nominal wages respond more rapidly to extra demand for labour than prices do to extra product demand. Nevertheless, in time it is likely that a substantial employment expansion would have to be associated with declines in real wages, at least of some categories in the labour force, and, of course, relative to trend increases in productivity.

Another qualification is that there may be a tendency to downward rigidity of real wages (rather than just nominal wages) through indexation, formal or implicit, of nominal wages. In that case, an initial employment boost which required a fall in real wages may be quickly reversed as nominal wages catch up with prices. In fact, monetary policy then becomes ineffective other than in the very short-run when lags in the wage adjustment process
allow some fall in real wages and there is an element of surprise in the monetary expansion. Essentially demand expansion and exchange rate depreciation are effective through what is almost a trick, a trick which brings about indirectly, through price rises, falls in real wages even though direct and obvious falls through reductions in nominal wages are not possible. The difficulty is that tricks do not work for ever. The effectiveness of such policies in other than the very short-term has tended to be reduced owing to the tendency for nominal wages to react rapidly to price increases.

**Demand Expansion and Industrial Policy Compared**

Let us now suppose that the "General Theory" process does apply and demand expansion does lead to a fall in real wages. How does this compare with industrial policy measures designed to maintain employment? The obvious distinction is that macroeconomic policy affects the general level of real wages while industrial policy - insofar as it affects labour costs at all - acts only in particular industries. But the key difference is that industrial policy in its defensive aspect involves keeping real labour costs constant and providing protection or subsidies to make the industries concerned privately, though not socially, economic. By contrast, demand expansion, like exchange rate depreciation, lowers real wages and is thus - in this respect - a form of positive adjustment. In addition, as already mentioned, industrial policy may also involve positive adjustment measures, whether through improving efficiency in the industry concerned or facilitating a movement of labour out of the industry.
II

THE RELATIONSHIPS BETWEEN THE TWO TYPES OF POLICIES

We may distinguish macroeconomic instruments from industrial policy instruments; and macroeconomic targets from industrial policy targets. The policies meet when (a) there are mixed instruments, with macro and industrial policy ingredients, when (b) a macroeconomic policy instrument affects an industrial policy target and when (c) an industrial policy instrument affects a macroeconomic target. I shall now consider examples of each of these.

Industrial Policy Ingredients in Macroeconomic Policies

A distinction must first of all be made between an industry-discriminatory macroeconomic policy and industry-differentiated effects of a macroeconomic policy. Suppose that credit restrictions lead to a general rise in interest rates and that there is no explicit discrimination between industries. Hence this is not an industry-discriminatory policy. But various industries will certainly be affected differently. Some firms will be closer to the margin than others, some will be more dependent on bank credit, and so on. Thus the effects will not be uniform, in the sense that the proportional fall in profits or in employment will not be uniform throughout the economy. Hence there are certainly industry-differentiated effects. Some firms will survive without difficulty; others may go bankrupt. Industry-differentiated effects are, of course, unavoidable. But it is also possible that, when total credit is restricted, credit to particular industries or regions is not restricted at all, and, in particular, that differential interest rates for firms of equal credit worthiness are charged. Then the macroeconomic policy is industry-discriminatory and contains, in effect, an element of industrial policy.

A clearer example can be given in the area of taxation. Suppose the general level of income tax is raised, while government expenditure is held
constant. The policy is not in any sense industry-discriminatory. But the lower disposable income of the public will lead to a proportionally greater decline in spending on income-elastic goods than on income-inelastic ones and thus have industry-differentiated effects. By contrast, indirect tax rates may be raised more on certain products than on others. The policy is then industry-discriminatory and thus contains an industrial policy element.

The distinction between a macroeconomic policy that has only industry-differentiated effects and one that is also industry-discriminatory is not always easy to make. It seems to me that most macroeconomic policy changes are likely to involve some element of industry discrimination. To that extent it can be said that there is an industrial policy ingredient in the macroeconomic policy, so that the instruments are mixed. The policy must then be assessed both in relation to the macroeconomic target and the industrial policy target.

Macro-Policy Affects Industrial Target

I shall now assume that macroeconomic policies are not obviously industry-discriminatory even though they have industry-differentiated effects. The question is how a macroeconomic policy affects an industrial target. This depends, in turn, on how the industrial target is defined.

The industrial target may be to attain an optimal inter-industry allocation of resources subject to the correction of various externalities or market imperfections. Industrial policies, labour market policies, environmental policies, etc. are concerned with the correction of these externalities. This is the way in which many economists would be inclined to give some role to industrial policies, though in most cases industrial policies - meaning usually subsidies or trade protection - would not be
first-best methods of intervention. If one then assumes that industrial policies are set at "externality-correcting" levels, there is no reason why a change in macroeconomic policy should alter the situation - that is, lead to some departure from the desired target or require a change in the industrial policy setting.

Alternatively, an industrial policy target with respect to a particular industry may be defined in quantitative terms. For example, the target may be to achieve a defined growth of the industry within a certain time period, to prevent any decline in employment or profits of the industry or, perhaps most commonly, to prevent an "excessive" decline in employment or profits. In that case macroeconomic policy may affect the attainment of the target unless industrial policy is deliberately offsetting. The relationship between, on the one hand, a macroeconomic policy which reduces the general level of employment and profits in order to curb inflation and, on the other hand, an industrial policy which is designed to avoid any excessive declines in employment and profits in particular industries is sufficiently important to be discussed more fully below, when I come to the "short-term cyclical issue".

Macroeconomic policy may also affect an industrial target favourably. The industrial target may be to raise the productivity of particular industries. Productivity throughout industry may be affected favourably by a macroeconomic policy which is stable and predictable. Furthermore, a policy which gradually reduces the rate of inflation may favourably affect productivity, if only because inflation usually generates uncertainty. At the same time the short-term effects of an anti-inflationary policy normally reduce output and may also reduce labour productivity.
Industrial Policy Affects Macroeconomic Target

Having briefly considered the effect of macroeconomic policy on industrial targets, let me now turn to the effects of industrial policy on macroeconomic targets.

It seems convenient to think about short-term macroeconomic policy in terms of a negatively-sloped Phillips curve - a curve which indicates the short-run trade-off between unemployment and inflation. It is true that the curve shifts both exogenously and endogenously and hence, since 1973, can hardly be measured satisfactorily for most or all countries. But governments certainly act as if there were such curves and policy-makers make implicit judgments about them. Policy-makers act in the belief that aggregate demand expansion cannot go too far because it would stimulate inflation. At the same time they do not regard it practicable to cease increasing the money supply altogether over a longer period - which obviously would put an end to inflation - because of the adverse effects on employment and output. They find it necessary to keep on expanding the money supply to some extent inspite of an avowed dislike of inflation. Thus their demand management policies can, to some extent, be conceptualised as representing social or political choices along their Phillips curves. All this is compatible with the view that in the long-run aggregate demand policy determines the rate of inflation but has no effect on employment - i.e. that the Phillips curve tends to be vertical.

This brief introduction is obviously an inadequate statement of the complexities of macroeconomic theory and policy. But it provides a basis for relating industrial policy to macroeconomic policy. In the short-run various microeconomic policies - in particular labour market policies but also some industrial policies - can shift the Phillips curve. When such a shift is brought about the choices open to the macro-economic policy-makers are altered. A given rate of inflation will be associated with a different rate
of unemployment than before. The industrial policy makers thus influence the decisions of the macroeconomic policy makers. If we define the macroeconomic target as being the attainment of "an optimal point" on a given Phillips curve then the characteristics of this optimal point will change. Alternatively, the target could be defined in terms of inflation or unemployment. It remains true that the desired target of the macroeconomic policy makers is likely to change.

An industrial policy may, for example, succeed in reducing unemployment in a particular depressed region or industry through either defensive or positive adjustment policies. In the short-run at least this may reduce the overall level of unemployment for a given rate of inflation and thus modify the pressures on the monetary authorities to expand demand in order to bring down the rate of unemployment. Perhaps there is a maximum level of unemployment that is acceptable to the policy-makers. It follows that industrial or labour market policies that succeed in shifting the Phillips curve in a favourable direction will lead to an adjustment of the inflation target. It will be possible to aim for a lower rate of inflation.

All this has been concerned with the short-run. If the Phillips curve is vertical in the long-run it becomes possible for long-run analysis to separate macro and micro policies very neatly. Macroeconomic demand management policies - primarily money supply policy - determine the rate of inflation, while other policies - notably labour market policies but also industrial policies - determine the rate of unemployment. But this neat dichotomy disappears once account is taken of the effects of macro policies on real variables, notably the rate of investment.

Can anything be said in general about the way in which industrial policies can affect the short-run Phillips curve trade-off and the long-run rate
of unemployment? I can think of only two generalisations, though the matter may repay further study. First, in the short-run defensive industrial policy may succeed in shifting the Phillips curve in a favourable direction by reducing unemployment in industries with structural problems. This possibility has to be admitted even though defensive policies are likely to affect the economy's efficiency adversely in the long-run. Secondly, in the long-run industrial and labour market policies that make labour more mobile and the economy more flexible - i.e. positive adjustment policies rather than defensive policies - will reduce the rate of unemployment. This will happen for two reasons. Firstly, frictional unemployment, associated with inevitable and continuous structural changes, will be reduced. Secondly, the productivity of labour is likely to increase (i.e. the marginal productivity curves are likely to shift upwards faster) if the economy becomes more efficient, and this will tend to reduce unemployment if there is some downward rigidity of real wages or in their rates of increase.

III
THE SHORT-TERM CYCLICAL ISSUE

How does a cyclical downturn affect actual or desirable industrial policies? This issue has been very relevant since 1974. It is well-known that there has been a revival of protectionism, partly induced by the adverse macroeconomic situation. Even when actual protectionist measures have been moderate, pressures for increased protectionism have been severe. The basic question is whether there is a special role for industrial policies in mitigating the adverse effects of a cyclical downturn. While some people
might immediately argue that industrial policy has no role - macroeconomic policy should deal with overall cyclical disturbances, with industrial policy confined to long-term considerations - one cannot dismiss the question so easily because of the differential industrial effects of downturns which are often substantial and generate strong pressures for intervention.

Complementary Policies

Some case can be made that industrial policy and macroeconomic policy can be complementary in dealing with a cyclical disturbance. I shall consider two cases here, first where the disturbance originates from the private sector or outside the country, and secondly where it is itself the result of macroeconomic policy.

(a) The adverse effects of a cyclical downturn originating in the domestic private sector or from overseas may be felt mainly sectionally, for example, in the investment goods or the export industries. If there is to be any offsetting intervention at all, it may then seem more appropriate to direct it narrowly. Yet macroeconomic policy, by its very nature, is overall. This is obviously so with a policy that is concerned with regulating a monetary aggregate or the general structure of interest rates. Once the principle of an inter-temporal fine-tuning policy designed to moderate the effects of business cycles is accepted, there seems to be some case for fine-tuning also in a given time-period by having "made-to-measure" intervention rather than using a very general device.

(b) The downturn may be generated by public policy, either through miscalculation or through a political cycle. We may imagine a situation where originally a boom was generated, by accident or by deliberate policy, perhaps to win an election. Subsequently there is a danger that the boom becomes explosive, possibly through generation of excessive expectations about the
real economy, which create an excess demand situation, or through the
generation of accelerating inflationary expectations. Hence a restraining
monetary policy creates a short-term recession. It might have been in the
power of macroeconomic policy to avoid this, but the downturn in the business
cycle may be a deliberate act of policy. The intention may be to keep real
demand within the limits of potential supply and to moderate wage and price
increases. The more credible the policy, the quicker the responses of wages
and prices, and the less unemployment, or the shorter the period of the
downturn. Usually a squeeze is imposed on the private sector, and this
squeeze – it is hoped – will encourage unions to moderate their wage demands
and firms to resist excessive demands. But there is an almost inevitable
period of pain unless the significance of the monetary restraint policy is
clearly and widely understood and credibility attaches to the intention to
maintain such restraint.

In this case an industrial policy which subsidises or protects particular
industries that are particularly severely affected by the squeeze might be
regarded as moderating the adverse effects of macroeconomic policy without
negating its effects. The aim is to spread the burden somewhat. But there is
also a danger here.

Policies at Cross Purposes

When the monetary authorities impose a squeeze there will be inevitable
demands for industrial policy to come to the rescue. This will be so particularly
if the monetary authorities convey the impression that the pain generated was not
intended, and that they can do nothing about it. At the micro-level the effects
of monetary and overall fiscal policies are sometimes seen as “acts of God” –
quite beyond any power of direct remedy. But if subsidies or protection are
used to help out industries in trouble – so allowing them to raise prices and
give way to wage pressures – industrial policy will be at cross purposes with
macroeconomic policy. Sometimes, as noted above, macroeconomic policy may be designed to impose a general squeeze, while industrial policy moderates the adverse effects in the most severe cases. But care has to be taken that industrial policy does not negate the effects in all marginal cases - since it is always in marginal cases that the necessary effects will be felt. As pointed out earlier, macroeconomic policies have inevitable industry-differentiated effects.

If differential effects were to be completely offset by industrial policies nothing would be left of the macroeconomic impact. In practice, of course, complete offsetting is not possible, because the industrial policy-makers do not control the money supply and, essentially, can only benefit one industry at the expense of other industries. Only if money supply growth were endogenous depending on the fiscal deficit, which may in turn be boosted by industrial subsidies, direct and indirect - would this not be true.

The general conclusion is that industrial policy which is designed to moderate the short-term effects of the business cycle has to work in harmony with macroeconomic policy. While it may sometimes moderate the worst effects of macroeconomic policy it must not negate the latter's main thrust. It is always important to ask whether the supposed short-term task of industrial policy is not better performed by modifying macroeconomic policy directly.

Some Doubts about Short-term Industrial Policies

In theory there may be a finely constructed made-to-measure system of subsidies, direct and indirect, that would moderate or minimise the adverse effects of a business cycle, whether generated externally, by the domestic private sector or through public policy. Technically it is perfectly possible to devise a policy that assists an industry temporarily, possibly with an automatically declining rate of protection built into the initial arrangements.
But in practice it is possible to think of many examples where protection was originally imposed because of a short-term decline and where the protection stayed on even when the urgent need has disappeared. For example, European agricultural protectionism was given its big boost in the agricultural depression of the 1870s, and the consequences are still with us.

Apart from the question as to whether the possibly favourable effects of short-term protection would not be outweighed by the long-term adverse effects when the protection is inevitably not temporary, there is also the more fundamental issue as to whether "made-to-measure intervention" involving many detailed micro-decisions is desirable. The argument against / must rest on the mistrust of fine-tuning which, in the field of macroeconomic policy, underlies monetarist prescriptions. It is a mistrust both of the ability of governments to make quick and fine judgments, and, more important, of the motives of those that operate in the political process. Given sufficient information, there may exist in theory an "optimal" system of intervention, but will the political process produce it? May it not produce a socially non-optimal set of interventions, responsive to pressure groups and imposing extra costs through its complexity?

In practice most governments cannot resist pressures for at least some industrial policy intervention to moderate the adverse effects of cyclical downturns, and all such interventions need not be undesirable. The crucial need is to ensure the temporariness of these measures. It is also important for the macroeconomic policy makers to bear in mind that, if their policies are too severe, they will be counteracted in a piece-meal way by industrial policies which may not only negate part of the macroeconomic impact but also create distortions of their own.
IV

EXCHANGE RATE POLICY AND TRADE PROTECTION

There is clearly a relationship between macroeconomic policy and industrial policy on the foreign trade side. This has not been discussed so far in this paper but is very relevant to all the issues raised earlier. The nominal exchange rate is an instrument of macroeconomic policy, while tariffs, import quotas, export subsidies and taxes, and voluntary export restraints can all be regarded as instruments of industrial policy. Yet an exchange rate change can have "industrial" effects. It therefore seems useful here to clarify the relationship between exchange rate policy and the various micro or industrial policy instruments.

Exchange Rate Protection

The first step is to distinguish a nominal from a real exchange rate change and to expound the concept of "exchange rate protection". If the exchange rate depreciates to the same extent as all costs and prices are rising (relative to costs and prices in other countries) there may be no real change at all. The nominal exchange rate is a monetary phenomenon, and it is possible that it is no more than that. A monetary authority may engineer a nominal devaluation designed to raise the domestic currency prices of exports and import-competing goods, and hence to benefit these industries. But if nominal wages quickly rise to compensate for the higher tradable goods prices, no real effects - no rises in the absolute and relative profitability of tradable goods industries - will remain. Monetary policy can influence the nominal exchange rate, and possibly can even maintain it at a fixed value, but it cannot necessarily affect the real exchange rate. The real exchange rate refers to the relative price of tradable and non-tradeable goods. While its absolute value is difficult to measure because of the ambiguity of the tradable-nontradable distinction, changes in it are usually - and quite reasonably - measured or indicated by relating changes in the
nominal exchange rate to changes in some index of domestic prices or costs, or possibly to the average nominal wage-level. This is sometimes called an index of competitiveness.

A nominal devaluation will devalue the real exchange rate if there is some rigidity or sluggishness either in the prices of non-tradeables or in nominal wages. The nominal devaluation will then raise the prices of tradeables relative to wage costs and to labour-intensive non-tradeables. Thus it protects tradeables. This can be called "exchange rate protection". It protects the whole group of tradeables relative to non-tradeables. It will tend to shift resources into tradeables out of non-tradeables and domestic demand in the opposite direction. If at the same time macroeconomic policy ensures a demand-supply balance for non-tradeables - hence decreasing aggregate demand (absorption) in real terms appropriately - a balance of payments surplus (or a lesser deficit than before) will result. I refer here to the balance of payments on current account since the concurrent fiscal and monetary policies can have varying effects on private capital inflow.

If the motive for the real devaluation was to protect tradeables, then the current account surplus will be only a by-product, leading to more accumulation of foreign exchange reserves than the country's monetary authorities really wanted. Alternatively, if the motive for the real devaluation was to build up the foreign exchange reserves - or to stop their decline - then the protection of tradeables will be the by-product.

The main point to make is that a real exchange rate change has effects on the relative and absolute profitability of different industries, a real devaluation favouring tradeables relative to non-tradeables, and a real appreciation the opposite. A nominal exchange rate change can thus serve an industrial policy purpose, provided it can be turned into a real exchange rate
change and that the incidental effects on the balance of payments are accepted.

This does not mean that it is an optimal form of industrial policy. Optimal protection policy would be directed more precisely to the industries to be protected, avoiding the by-product effect of an undesired balance of payments surplus; and in any case it can be argued that defensive protection policy is unlikely to be optimal, positive adjustment policy being preferable. Nevertheless, it is not difficult to find examples of countries that have practised exchange rate protection, if implicitly. They have intervened in the foreign exchange market to prevent an appreciation of the exchange rate that might otherwise have taken place - or at least, they have "leaned against the wind" - not because they really wanted to build up foreign exchange reserves but because they wanted to protect their tradeable goods industries - usually mainly their export industries.

The "Dutch Disease"

The issue of exchange rate protection arises in the case of countries that have an export sector that is booming exceptionally. Examples are natural gas in the Netherlands, North Sea oil in Britain and Norway and minerals in Australia. If the balance of payments on current account is not to change as a result of the sectional export boom, a real appreciation will be required. A real appreciation would result, for example, from a rise in nominal wages and in prices of non-tradeables above the rate at which costs in other countries are rising, while the nominal exchange rate is fixed. Alternatively it could be brought about by a nominal appreciation when nominal wages are rising at the same rate as abroad. If such countries allow a real appreciation - as the Netherlands and Britain have - this will have adverse effects on other tradeable goods industries. In Britain the problem has been termed the "Dutch disease". In Australia it has been pointed out that
the adverse effects on manufacturing industry of the mineral boom are similar to those of a reduction in tariff protection. 7

Critics of current exchange rate policy in Britain have urged exchange rate intervention to discourage or reverse appreciation of the exchange rate for this reason. Implicitly, at least, they consider that this intervention would alter not only the nominal but also the real exchange rate. Unless the intention is to accumulate more foreign exchange reserves on the grounds that North Sea oil reserves are limited, the export boom being expected to be temporary, this view of exchange rate policy is best understood in terms of industrial policy - the aim being to protect the "lagging" tradeable industries by exchange rate protection from the adverse effects on them of the growth of the "booming" tradeable industries. The non-tradeable industries are incidental gainers from the "Dutch disease", and they would, of course, lose from exchange rate protection.

Protection Policy as usually understood: A Policy Package

Let me now turn to the relationship between the usual instruments of protection policy - tariffs, quotas, and so on - and exchange rate policy. The usual instruments are normally regarded as affecting relative profitability and resource allocation within the tradeable sector. Tariffs and quotas favour import-competting relative to export industries, or perhaps particular import-competting industries relative to export industries and to other less-protected import-competting industries. Export subsidies favour export industries. In the standard theory of protection which governs thinking in this field it is usually assumed that changes in these microeconomic or industrial policy devices are automatically accompanied by changes in macroeconomic policy - including exchange rate policy - that ensure "internal balance" and "external balance", i.e. in the latter case, an appropriate balance of payments target, which is constant for this purpose. The latter depends on many considerations, notably
interest rate policy, but the main point to make here is that normally one supposes that macroeconomic objectives are kept separate from protection objectives, the latter being defined as protection of one tradeable, or group of tradeables, relative to others. A change in protection as usually understood does not affect the balance of payments. Rather, it involves a policy package. At the same time as tariffs are reduced, for example, there would be a real depreciation designed to keep the relative price of tradeables to non-tradeables at whatever level is appropriate from a macroeconomic point of view, the principal consideration being the level of foreign exchange reserves. It follows that exchange rate protection is not included in the usual concept of protection.

To summarise, it is certainly convenient to think about protection in two stages. Firstly, there is protection and anti-protection within the tradeable sector as a whole. This is one of the main spheres of industrial policy. In some countries, such as Australia and Canada, tariffs and quotas are the principal instruments of industrial policy. To isolate the effect of this "orthodox" form of protection one supposes that the current account balance is kept constant by real exchange rate adjustment when the levels of protectionist devices, such as tariffs, change. Secondly, there is protection of tradeables as a whole relative to non-tradeables (or vice versa) and this is brought about by changes in the real exchange rate for given levels of tariffs, quotas, etc. This is exchange rate protection, and it affects the current account balance if, at the same time, monetary policy maintains equilibrium in the market for non-tradeables. If there is some degree of rigidity or sluggishness in nominal wages or prices of non-tradeables, nominal exchange rate policy can affect the real exchange rate and can thus have some "industrial" effects.
Piece-meal Trade Policy may be at Cross-Purposes with Macroeconomic Policy

It was stressed above that industrial policy might work at cross-purposes with macroeconomic policy. A monetary squeeze may be designed to moderate price and wage increases. If industrial policy intervention takes place so as to help out particular industries that are being squeezed, this intervention may defeat the original macroeconomic purpose.

The same type of story can be told with regard to the exchange rate implications of such a squeeze. One effect of the monetary squeeze will be to improve the balance of payments at a given exchange rate, and hence (if the exchange rate is flexible) to lead to a nominal appreciation. Until the rate of increase of nominal wages moderates, there will be a real squeeze on tradeable goods industries - in other words, there will be not just a nominal but also a real appreciation. If the wage moderation effect comes with a lag, eventually the real appreciation may be reversed. Industrial policy intervention, in the form of tariffs, quotas, export subsidies, and other forms of assistance, may then be sought, essentially to offset the adverse effects of the real appreciation. This is a case where piece-meal trade policy may be acting at cross-purposes with macroeconomic policy. If the short-term adverse effects on tradeable industries are not desired it may be better to reverse the macroeconomic squeeze than to allow the growth or increase of micro-distortions within the tradeable sector.
V.

SOME BROADER CONSIDERATIONS

This conference is being held at a time when the world macroeconomic situation is very disturbed. The reasons for this have been much discussed and it is not appropriate to go into these at any length here. In any case one must hesitate to generalise when circumstances differ considerably among countries.

Obviously the oil price rises are relevant. In many countries there have been profit squeezes leading to reduced private investment and low growth. A "revolution of rising expectations" lies behind this, having led to increases in real labour costs, whether due to increases in real wages or in social security charges, or both. In addition there has been some increase in the relative size of the public sector, partly to remedy the earlier "Galbraithian" imbalance between public and private facilities. In the United States there has been "a revolution of regulations", a typical over-reaction to the earlier dominance of private interests and the neglect of external diseconomies generated in an excessively market-orientated system. Inflationary expectations have taken firm hold, and a legitimate concern to avoid short-term increases in unemployment has inhibited many governments from following simple prescriptions for "squeezing out the inflationary virus".

It has been easier for a few governments, notably that of the Federal Republic, where public opinion has a firm dislike of inflation.

In this situation there is a natural tendency for short-term considerations to enter industrial policy. The term "industrial policy" turns out to a great extent to be a euphemism for defensive protection - for policies that shelter industries or regions from adverse changes. It seems to me desirable that, in general, industrial policy in its broad sense, should be focussed on
the longer-run - perhaps on "leaning against the wind" a little when big changes are under way, but otherwise to encourage positive adjustment to fundamental changes. There are few, if any, arguments for protection that can stand up as long-term arguments from a national efficiency point of view. Mostly the best industrial policy may be to provide an adequate infrastructure, some limits on the powers of monopolies and cartels, an education system that helps to generate the human capital for industrial success, indicative guidance about industrial prospects (without compulsion or subsidies), stability and simplicity in the system of taxation, a free and flexible capital market, and a steady movement towards zero sectional protection, whether direct and indirect. If industrial policy is primarily defensive protection, the best industrial policy may well be one that gradually ensures its own disappearance. But it has to be admitted that these ideals will be hard to bring about unless more stability is achieved on the macroeconomic front. The more disturbance there is on the macroeconomic side, the more industrial policy is likely to become short-term oriented, to flounder around, a tool in political and economic crisis management.
FOOTNOTES

* I am indebted to comments on an earlier draft from Ross Garnaut and Ephraim Kleinman.


7. The term "Dutch disease" was, I think, invented by The Economist. The problem has been widely discussed in Britain (where the disease is currently rampant) The problem is discussed analytically in R.J. McNown, 'International Transfers and Non-Traded Commodities: The Adjustment Problem', in D.M. Leipziger (ed.), The International Monetary System and
the Developing Nations, Agency for International Development, Washington 1976, for an oil-exporting country, and also in W.M. Corden, 'Exchange Rate Protection', (to be published), Australian National University 1980. In Australia it was first expounded by R.G. Gregory, in 'Some Implications of the Growth of the Mineral Sector', Australian Journal of Agricultural Economics, August 1976, and is generally known as the "Gregory problem".