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Trade Patterns and Labour Demand:
International Influences on Wages and Unemployment
in Australia

Peter Forsyth
Australian National University

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Peter Forsyth
Department of Economics
Faculty of Economics and Commerce
Australian National University
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** This paper is based on work done with Rod Tyers and Rod Falvey on implications of Asia's export booms on industrial country employment and income distributions.
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Abstract

In Australia, as in other developed industrial countries, there has been a secular rise in unemployment over the past two decades, in spite of recent wage moderation. It is suggested that this is the result of a changed international trading environment, and that these changes will continue. In recent decades, many labour abundant countries, mainly in Asia, have expanded rapidly by exporting labour intensive products. This trend is continuing, as more countries attempt to develop through exports. This has the effect of reducing the world prices, and domestic prices in industrial countries, of labour intensive products. The demand for unskilled labour is falling, and, when wages are inflexible, unemployment is the consequence.

It would be possible for unemployment to be reduced if wages for unskilled workers fell sufficiently. But wages could eventually fall to levels comparable to unemployment benefits, and the incentive to work would be reduced or eliminated. While benefit levels and structures could be adjusted, there would be a widening of income disparities, greater numbers of persons on low incomes and increasing costs of training and retraining to facilitate continued restructuring away from labour-intensive industry. There are ways of altering the income distribution such as protection and tax/social security changes, however all of these are costly, and may be limited in their effectiveness.
1. Introduction

The unemployment problem in Australia is one which has been getting worse. Unemployment is always at a peak during recessions, but its trend is ratcheting upwards since the 1970s. It falls during recoveries, but not to the same level as in previous booms. Thus, unemployment rates of 6% are regarded as "very low", and it looks as if it will be a long time before the rate falls from its current rate of over 10% to anything like this level. This trend is not unique to Australia - most industrial countries are experiencing it (see Bound and Johnson, 1991, 1992, Katz, 1992).

The patterns of change in unemployment have been documented by Gregory (1991). There have been groups which have been experiencing increased job opportunities, such as women looking for part-time work, and high skilled jobs. However, there has been a sharp decline in the number of unskilled jobs normally taken by men; the sort of jobs that the manufacturing industry used to provide. At times of boom, skilled persons are scarce even though unemployment, overall, is high.

Unemployment in Australia remains high in spite of the changes made in the 1980s which were influenced by recognising the link between real wages and unemployment. The sharp rise in unemployment in the early 1980s was blamed on wage rises, and the concept of the 'real wage overhang' had gained currency. The period after 1983 was one of considerable real wage stability in the context of a growing economy. Whether this stability was due to the Accord, or to self-imposed wage moderation in the face of unemployment, is not of relevance here. In spite of wage stability, and quite rapid growth by historical standards, unemployment only fell slowly - the jobs created went to persons newly in the workforce, and they only had a minor impact on reducing unemployment. The situation might have been considerably worse if wages had not been so stable, but the dividend in terms of unemployment reductions was distinctly disappointing. It raises the question of what more can be done to lessen unemployment, and whether a chronic problem can be
avoided.

In Europe, unemployment has become more prevalent (Katz, 1992). It has been high over the last decade or so in Britain, and it has been regionally focused. The old heartland of heavy manufacturing, the North, has experienced high, persistent unemployment, even while the new industries in the South had boomed. In the US, there has been much less evidence of a trend towards unemployment - but real wages have shown a surprising constancy for nearly two decades (Gregory, 1991) and the dispersion of wages has increased (Katz 1992, Katz and Murphy, 1992, Murphy and Welch, 1992). These changes have been noteworthy in Australia, the US, and Britain, though they are becoming manifest now in other countries, such as those in continental Europe.

It does appear that some of the job losses have been trade related. Tariffs have fallen in Australia, and the industries which were sheltering behind the tariffs have been contracting. Some industries have found it difficult to compete even when tariff changes have been minor, and they have contracted, and in some cases, moved offshore, to such economies as those of East Asia. To a fair extent, these changes have been concentrated in the tradables sector, particularly in the manufacturing sector, and which has relatively contracted. However, the contraction of one sector in a growing economy need not mean higher unemployment.

One change that has taken place over the past two decades has been that Australia’s trading partners have changed. Much attention has been given to the emergence of Japan as Australia’s major trading partner. However, the role of other countries has changed. In the 1950s and 60s, Australia’s manufactured imports came from the advanced industrial countries - clothes from Britain, cars from France and electronics from Germany. All of these countries had wage levels comparable to those in Australia.

The argument of this paper is that the opening up of trade with the developing Asian nations has major implications for unemployment, and real wage levels for unskilled workers in countries like Australia. Indeed, Australia is very much at the front line of these changes
being close to Asia, and relatively open. The US is not far behind, though it is a larger country with a wider industrial base. Many Asian countries have been developing rapidly, and reflecting their endowments of large numbers of unskilled workers, they are concentrating their exports in labour intensive manufactured goods. The world prices of these goods are falling.

This has major implications for the old industrial countries. The price, wage and employment equilibria that existed before cannot be sustained. Through trade, the endowment of capital has been increased slightly, but the endowment of unskilled labour has been expanded greatly with the opening up of the populous developing economies, in the world economy. The result of this is lower real wages for unskilled labour in the old industrial countries. One way of viewing this is to regard it as the workings of the Factor Price Equalization Theorem (see Dixit and Norman, 1980, ch.4). This states that if trade in goods is free, and other conditions are met, it will (tend to) bring about equalization of factor prices. This theorem has been often regarded as a theoretical curiosum, the conditions for it being met being unlikely. In fact, there is a lot of evidence that it has operated, in, for example, the convergence of GDP per capita in the industrial countries (Dowrick and Nguyen, 1989). When all countries had fairly similar real wages, trade did not disrupt labour markets. Now, the trade patterns are moving towards trade between economies with different wage rates, and trade has the possibility of sharply altering the relative rewards of different factors, and of lowering real wages of the unskilled.

All of this poses awkward dilemmas for the countries affected. They cannot continue to enjoy a combination of high employment, the established distribution of income, and the gains from trade. The development of the Asian nations enables the industrial countries like Australia to enjoy greater gains from trade than before imported manufactures become cheaper. If real wages are held constant, or increase, chronic unemployment amongst the low skilled will develop. If real wages for the unskilled are allowed to fall, the distribution of
income will become more unequal. To the extent that there is a preference for an
egalitarian outcome, this represents a cost. Apart from this, the development of a group of
very poorly paid workers in a rich society may bring its own social problems.

Furthermore, there are no easy ways out of this dilemma. Trade can be prevented
(and sometimes is). This means giving up the gains from trade. It may also mean that
protection levels have to be extremely high - it is easy enough to protect just one industry,
such as motor vehicles or clothing, but this has negative impacts on others. To achieve an
economy wide result in terms of unemployment or protecting real wages for the low skilled,
high economy wide protection may be needed. For a country like Australia, protection may
have to be much higher than in the 1950s and 60s since the world prices for labour intensive
manufactures are lower in real terms. The 1960's protection levels will not achieve the
1950's levels of unemployment or 1960's income distribution.

An alternative would be to alleviate the problems of low pay through the social
security system. This brings its own problems, for example, in lessening the incentive to
work. People may be trained, and converted from unskilled to skilled workers - this can only
take place over a long period, and there may be many who are not suited to training. This
too is costly.

The paper starts with a brief reviewing of the theory underlying these propositions, in
Section 2. Then, in Section 3, the salient points of developments in Asia are noted. The
model is applied to Australia, in Section 4, and the labour market responses are discussed in
Section 5. The problems of restoring the distribution of income are examined in Section 6.
In Section 7, some concluding remarks are made.

2. The Theoretical Background

One way of viewing the entry of the Asian countries into trade is as a change in the
factor endowments of the world. Consider first the world as one economy, initially consisting
only of the advanced industrial countries, with large amounts of capital (and skilled labour) and only modest amounts of unskilled labour. The endowments of Capital, M and Labour, L are shown as M₁ and L₁ in the Box diagram in Figure 1. When the newly developing Asian countries enter trade, it is through a larger world economy was being created. There is a very large increase in labour (to L₂) and a small increase in capital (to M₂). The initial equilibrium, with only the industrial countries producing, will be at E₁ - when the world economy expands, the equilibrium will shift to some point such as E₂. At this point, production is now more labour intensive than before, in both industrial and developing countries. To achieve this, it will be necessary that the relative price of labour fall.

In fact, there will not be a single economy, since trade will take place between independent economies. However, trade will have the effect of altering relative prices within the countries, drawing relative prices closer together (in the limit, resulting in equality of factor price ratios). This is the result of the Factor Price Equalization Theorem (see Díbiti and Norman, 1980, Ch.4 for a discussion). This states that as trade begins, resources will be shifted away from goods which use expensive factors intensively, towards those which use the relatively cheap factors intensively. In the case of industrial countries, this means that the production of labour intensive goods will be reduced. The demand for labour will fall, and its relative price will fall. The process will continue until relative prices are the same, or until some countries completely specialise in certain goods.

The theorem relies on a number of assumptions, and not all of these may be met in reality. Factors are assumed to be identical, and they produce with the same technology. Scale economies or diseconomies complicate the picture by pushing economies towards specialisation. Flows of goods must be free, so that the prices of goods in different countries can be equalised.

It is possible to weaken these assumptions and qualify the results. Factors are not identical across countries - an "unskilled" worker in one country may have more training and
have better living standards (health, housing) than an "unskilled" worker in another - the worker in the former is likely to be more productive. Scale economies are not so great as to lead to a high level of specialisation in a wide range of products. Few countries produce passenger aircraft and computer mainframes, but these are the exceptions rather than the rule. The widespread existence of protection does limit the extent to which product prices are equalised. Finally, technology, along with capital, can be quite internationally mobile, and countries which do not own the rights to the most efficient technology can buy it, or they may have access to it via foreign investment by the firms which do. While exact factor price equalization is not likely to take place, there will be a strong tendency towards it will be present. The entry of the Asian nations into trade, with very different factor endowments to those of the industrialised countries, is resulting in large changes in world prices of labour intensive goods, and protection has not been sufficient to negate these changes being translated into domestic prices. This in turn has impacts on factor prices.

Not all goods are traded, and not all factors are possessed by all countries. Indeed, exports and imports represent only about 15% of GDP in Australia. This does not detract from the basic tendency, however. The presence of non traded goods and services can moderate the impacts. For example, when the price of unskilled labour falls, the non-traded goods sector will absorb some more of this factor. It might be possible, in a country with a limited supply of labour, for production of labour intensive tradables to cease, and for all the labour to be absorbed in the non traded sector. Further, when trade opens, there is an increase in real income. This will lead to an increase in demand for non traded goods and services (assuming a positive income elasticity). This could increase the demand for unskilled labour, and moderate the tendency.

It is probably worth identifying at least four distinct factors - capital, unskilled labour, skilled labour and "land" or natural resources. Only one of these factors is highly internationally mobile, especially between industrial and developing countries. Labour, of
both forms, is best regarded as immobile. Migration can take place, though it is restricted by most industrial countries. (An interesting aside is that the impact of trade with labour abundant countries, on wages, is likely to be much greater than the impact which limited migration has). The industrial countries can be taken to have low endowments of unskilled labour, and relatively large endowments of skilled labour. The reverse is true for the developing countries. It is likely to be endowments of skilled and unskilled labour that are, more important in determining trade patterns than endowments of labour and capital - it is easy for developing nations to gain access to capital, and operate with high capital intensity. There are specialised factors that each country possesses (iron ore, coal, agricultural land, beaches) which may not be possessed by others, and which can form the basis of trade in products intensive in these factors.

When trade opens, and the price of unskilled labour intensive products falls, the relative prices of factors change. The real wages of unskilled labour fall. The impact on the return to capital is ambiguous. The gainers will be the skilled labour, and the owners of the specialised ‘land’ factors. Exports of skilled labour intensive, and resource intensive products will increase.

3. The Asian Growth Story

The Asian growth story is a familiar one, though it is important to distil some of the key features of it. In the Postwar period, Japan led the growth process. Japan was a moderately advanced industrial country, and it grew rapidly by passing through various phases of industrial development (emphasising heavy industry, then engineering, then electronics and advanced technology). Japan's impact on other countries was not all that great (though its impact on some US industries like automobiles is considerable). This is partly because its wages, while lower than those of other countries, were not enormously lower, and they soon rose to comparable levels. However, Japan also has not emphasized trade: it remains a comparatively insular country.
In the early postwar period, there were, as there are now, several Asian countries with large reserves of unskilled labour. However, this was before the development process had really got under way. They had not moved into exports of manufactures in the way that they were to do so subsequently. Compared to their potential, these countries were hardly indulging in trade. Only when they began to rely heavily on trade were they able to have an impact on other countries.

Since Japan, other countries have grown rapidly. The next group of countries includes Singapore, Hong Kong, and Taiwan. These countries exported labour intensive manufactures, and rapidly grew. In the case of the first two, their wage levels are approaching those of developed industrial countries. This group of "little dragons" has had only a limited impact precisely because they are little.

It is the next group of countries, including Korea, Thailand, Malaysia, Philippines and Indonesia which have the potential to have a big impact on trade prices and patterns. This is because, as a group, they are quite populous. They are actively pursuing industrialisation, with an emphasis on exports of labour intensive manufactures. They have been doing this for about the past two decades - about the same period over which the older industrial countries have been facing adjustment problems.

The final group consists mainly of the awakening giants, China and India. There are very large reserves of unskilled labour in both these countries. Currently, real living standards are low (significantly lower than those of the previous group). Both are attempting to become manufacturing exporters, though neither has anything like approached its potential. It remains to be seen how effectively they do develop (this depends, amongst other things, on political factors), and how much emphasis they put on manufactured exports. Their impact is potentially very large.

The developing countries' share of the imports of countries such as Australia has been growing over the last two decades. This is illustrated in Table 1. While Japan is the
largest Asian source of Australia’s imports, the non-Japan East Asian countries, as a group, are now very significant. The share of the other Northeast Asian countries has been growing rapidly, even though the ASEAN share has fallen lately. These imports are likely to be concentrated in the labour intensive categories. The pattern of Asian exports has been one of concentrating first on countries like Australia, and then on the United States, which is now their dominant market. Europe has also been growing as a destination for their exports, but it only accounts for about half the North American share (Garnaut, 1989, p.64).

**Table 1**

<table>
<thead>
<tr>
<th>Region</th>
<th>1970</th>
<th>1980</th>
<th>1988</th>
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<tbody>
<tr>
<td>Japan</td>
<td>12.9</td>
<td>17.0</td>
<td>20.1</td>
</tr>
<tr>
<td>Other North East Asia</td>
<td>2.8</td>
<td>7.1</td>
<td>10.9</td>
</tr>
<tr>
<td>ASEAN</td>
<td>2.6</td>
<td>6.9</td>
<td>4.4</td>
</tr>
<tr>
<td>Other North East Asia</td>
<td>5.4</td>
<td>14.0</td>
<td>15.3</td>
</tr>
</tbody>
</table>

Source: Garnaut (1989) Table 3.10, p.72

Abundant labour supplies are no guarantee of export success. The appropriate technology must be available, and the productive efficiency of enterprises must be available, and the productive efficiency of enterprises must be at least moderately high (not necessarily matching industrial country levels). Technology, which is often embodied in machines, is readily available. Often it comes with manufacturers in industrial countries, including Australia, relocating offshore. Capital is also quite mobile. The result is that these countries
are able to put goods on world markets at comparatively low prices.

The advantage that these countries possess, low real wages, does not last for ever. In fact, it is eroded by the growth process. Hong Kong and Singapore no longer have low real wages. As these countries develop, their exports change - from clothing to shipbuilding and then on to electronics and cars. At any point of time, there is a range of countries with different real wages, skill levels, and patterns of exports. If growth continues, ultimately real wages will catch up to those of industrial countries. However, it will be many decades before real wages in countries like Indonesia, still less China and India, catch up. During this period, there will be enough countries with low real wages to keep low the prices of products which are intensive in unskilled or low skilled labour.

4. The Australian Experience

The Australian experience is consistent with the model of changes outlined in Section 2. The manufacturing sector has contracted in relative terms, and several industries have contracted sharply in absolute terms. Prices of manufactured products have fallen relative to other products. While manufacturing output has fallen, manufacturing employment has fallen more sharply.

Australia's manufacturing industry has primarily been an import competing one. Many industries grew up behind protective walls. These industries have been facing prices which, after taking account of tariffs and quotas, have been declining. They have responded in several ways. One response has been to attempt to increase productive efficiency - sometimes there has been scope to do this. This usually results in employment losses. For many, it becomes clear that production is not economic even if high efficiency levels can be achieved. At this stage, producers close down or move offshore.

Manufacturing does not only employ unskilled and low skilled labour. However, it is, or was, one of the major employers of this type of labour. Further, it has been the products intensive in unskilled labour which have experienced the sharpest worsening in trading
conditions, and it is these that have shed labour. The skilled labour has been able to move to expanding industries - the unskilled labour has not.

It is not enough to simply show consistency with the process described above, since there are several other processes at work which could be influencing the outcomes. In the US, commentators (e.g. Katz 1992, Katz and Murphy 1992) have generally downplayed the importance of international factors, though an exception is Revenga (1992 - see also Murphy and Welch, 1991). The US economy is less exposed to trade than Australia's. Several processes worth noting are:

(a) Protection Reductions

Protection has been reduced over the last two decades. This would be having an impact which is similar to that of Asian exports.

(b) The Mining Boom

This has been taking place over this time period as well, and this would be leading to the contraction of manufacturing (Gregory 1976, Forsyth 1986). The mining boom has clearly been assisted by exogenous factors, such as the discovery of minerals and the growth in demand for minerals by the Asian economies. But it is possible that it has also been helped by the increased competition facing manufacturing - causation can go both ways. If manufacturing contracts in the face of increased competition from abroad, imports will rise, and the exchange rate will be pushed down. This, in turn, makes marginal mineral export projects worthwhile. To some extent, the boom in mineral exports and revenues could be caused by increased manufactured exports.

(c) Agricultural Contraction

For a long time, agriculture has faced declining prices, this has forced rationalisation of the industry, and employment has been gradually falling. In the 1950s and 60s, the workers released by the decline in agriculture were absorbed in the expanding manufacturing industry. This has ceased to be the case.
(d) The Tourism Boom

Not all the changes taking place have been in the same direction. In the past decade, Australia has been experiencing a tourism boom. To the extent that tourism is intensive in unskilled labour, this would be counteracting the consequences of the manufacturing decline. It should be recognized that it is not the same unskilled labour that is employed in both sectors.

(e) Technology Changes

Technological change can result in increases or decreases in the demand for different types of labour. It is possible that it has worked, over the past two decades, to reduce the demand for unskilled labour. There is no inevitability about this, however. For many decades, or even centuries, rapid technology change has been associated with growing real incomes of both skilled and unskilled labour. In the US, several have concluded that technological factors, such as the information processing revolution, have been a dominant cause of the downward shift in the demand for unskilled labour (Katz, 1992, Bound and Johnson, 1992).

(f) Demand Pattern Changes

In the recent decades, there has been a significant shift in the pattern of final demand, in Australia and other countries, away from agricultural and manufactured goods towards services. For example, the share of GDP represented by community services (health, education etc) has increased rapidly. This has accompanied the growth of the public sector. There are several reasons why this might be occurring - these are not important here. This trend can have an impact on the demand for labour, and, more importantly, the structure of the demand for labour. Since services such as health and education are quite labour intensive, the overall demand for labour may not fall, but the structure of demand will change. The demand for unskilled and semi-skilled males, who work in manufacturing, will fall, but the demand for educated males and females will increase.
(g) Current Account Deficits

When a country shifts to a current account deficit, its production of non traded goods and services increases, and of traded goods and services contracts - imports make up the shortfall. This would have labour market implications. However, while this might be significant for the US (see Murphy and Welch, 1991, 1992), it is unlikely to be important for Australia which has operated deficits for a long time.

Another qualification to the general argument is that manufacturing is not the only employer of unskilled labour. The manufacturing sector is less than half the size of the service sector, which would also be a major employer of unskilled and low skilled labour. As a very rough categorisation, manufacturing is often considered as a "tradeable" industry, and services as "nontradeable". This categorisation is breaking down, as more and more services become tradeable. Much the same forces are at work on tradeable services as are on manufacturing. As an example, consider international airlines. The Australian airline, Qantas, is subject to competition from the airlines of the developing Asian nations, such as Korea, Singapore, Thailand and others (see Findlay and Forsyth, 1990). These airlines have been able to offer comparable services at lower prices, since they have been paying lower wages. Qantas has been protected through regulation, which has helped it to survive. Were this protection not available, it would be forced to contract or move offshore, like many manufacturers. The growing range of tradeable service industries are facing the same pressures as manufacturers.

Apart from direct trade in services, many service functions or processes are becoming tradeable. Clerical functions used have to be done on site. They were done by low skilled people, who were protected by distance from competition from abroad. This is ceasing to be true. With the development of telecommunications and information technology it is becoming possible to move labour intensive clerical functions performed in low wage
countries. This is a trend which is only in its infancy - over time it could result in many service functions being exposed to international competition.

It is not necessary that all labour intensive products be directly exposed to international competition for the new trading patterns to have a major impact on the unskilled labour market. This is illustrated in Figure 1. There are two industries supposed - the non-traded industry, which has a demand curve for unskilled labour shown as $d_0d_\alpha$ and the traded industry, which, before the change in trading patterns, has a demand curve $d_0d_\beta$. This is shown as being perfectly elastic, for simplicity; in practice it would be less than perfectly elastic, though significantly more elastic than the non-traded demand curve. The overall demand curve is then ABC. If the supply curve of unskilled labour is shown as S, the equilibrium will be at E, with a real wage of $W_r$.

When trade opens, the demand curve in the traded goods industry shifts down to $d_0d_\gamma'$, and the overall demand curve is now ADF. If the real wage remains at $W_r$, unemployment will result. A possible scenario is that the real wage falls, say to $W_r$, but unemployment falls to $X_\gamma' - X_\gamma$. Depending upon elasticities, the impact on full employment wages could be substantial. The impact on unemployment depends on how large an employer the traded goods industry is to start with. In the case of manufacturing in Australia, it was a major employer, though not as large a one as the service industry.

5. The Labour Market Response

The way the labour market works determines what happens to unemployment and wages when trading conditions change. Suppose that there has been a boom in exports of labour intensive manufacturers from the developing Asian nations, and that the price of these goods is falling. The labour market response is likely to be split between reduced employment and lower real wages, though the mix of these depends on the regulatory framework. At least for a period, real wages may be relatively unchanged, and the change
will be absorbed as unemployment. Labour market institutions are likely to resist reductions in real wages. Firms will not expect that they will have much flexibility over wages, and will close down or move offshore. There will be a contraction of the manufactured goods (or traded goods) industries - as has been the case in Australia. The plight of the industry, and the job losses, may make employees and unions willing to negotiate, especially when they realise that it is not a temporary phenomenon. Real wages will be reduced somewhat, lessening the employment loss.

If there is sufficient real wage flexibility, it may be possible to eliminate unemployment. This would require some institutional change in Australia. Not only would regulatory agencies need to permit reductions in real wages, but also actors in the labour market, such as unions, would need to be prepared to let wages fall. They may not be prepared to do this, preferring to keep some jobs at higher wages rather than allowing full employment at lower wages.

At some wage, unemployment can be eliminated, but the practical difficulty is that this wage may be a very low wage. It may not be the case that wages would need to fall to the wage level in countries exporting manufactures, such as Thailand, Malaysian and Indonesia - these by Australian standards are very low. Australian workers may have more capital to work with, may be better trained and more efficient, and may have access to better technology. However, at its most fundamental, they are competing with these workers who receive much lower wages. If non traded industries do not have very elastic demands for unskilled labour, the reduction in real wages which can yield full employment may be very substantial.

This is not the of the story, because the labour market interacts with the social security systems. This provides a flow of income and other benefits for those who are unemployed, or who are on low incomes. Depending upon the criteria for eligibility for benefits, such as unemployment benefits, there may be little incentive for unskilled workers
to work. Already, the incentive is weak for unskilled workers with large families. If the full employment wage is comparable to, or lower than, the level of unemployment benefits (which are well above wages in competitor countries), potential workers may choose unemployment. Thus, wage flexibility above is not likely to be enough.

The changes brought about by the new trading patterns create a change in the distribution of income, which is a problem which must be addressed in itself. It would be possible to tighten eligibility for, and lower, unemployment benefits and this would restore the incentive to work. This would be at the cost of a significant reduction in real incomes at the lower end of the distribution; something that may not be regarded as acceptable in Australia. In the U.S., which has a more flexible labour market, unemployment has been kept down, but there has been the development of a large group of low skilled workers earning very low pay. The changes over the last two decades have been significant, though it is quite likely that the full impacts of changing trading patterns have yet to be felt. The problem of unemployment can be avoided, but only if lower wages and a less equal distribution of income is accepted. (The distribution of income, with low wages and full employment may be preferable to the distribution which emerges from high wages and high unemployment.) The key question which arises is whether there are other means of preserving a distribution of income which is regarded as acceptable, while at the same time allowing wages for unskilled workers to fall enough to ensure full employment.

6. Examining the Australian Evidence

The theory as sketched out in other sections is not one that is easy to devise clear-cut tests for. It suggests that there will be an impact on the labour market that will be reflected in employment reductions and wage reductions for specific types of labour, though the ways in which the impact is shared between these two depends on how the relevant labour markets work (and this can change over time). The period over which these trade changes are taking place, especially over the past two decades, is also a period in which there have
been other changes affecting the economy - such as the mineral boom, shifts in the balance of public and private expenditure, and technological change. To test the theory adequately, it is necessary to go to a detailed level of disaggregation, and to examine whether specific products were affected by import competition, and what the implications were for the labour market. While the anecdotal evidence strongly supports the theory, it has yet to be examined rigorously. In this section, some 'stylised facts', consistent with this theory (and, often, other theories) are presented.

1. The Decline of Manufacturing. In Australia, manufacturing has been in relative, and absolute decline over the past 20 years. In the early 1970s it accounted for about 25% of both employment and value added, whereas now it accounts for only about 15% of these. While definitional and organizational reasons could be contributing to this - e.g. where manufacturers contract out work previously done in-house to service sector producers - it undoubtedly represents a significant real shift. A similar trend has been experienced in other countries, though, with the exception of Britain, which has had a mineral boom, the trend has not been as marked. Absolute employment levels have contracted - from 1.331 million in 1972 to 1.106 million in 1992.

2. Sectoral Shifts. The decline of manufacturing has been accompanied by the expansion of other sectors. In particular, the Community services, Recreation and Personal Services, Public Administration and Financial Services have expanded significantly. The other tradeable sectors, Agriculture and Mining, have increased their physical output, though their employment has been static (and is quite low). A trend such as this is consistent with the theory (if demand price and income elasticities for manufactured goods are not high), and it is also consistent with booming sector explanations. However, much of the change is likely to be due to demand shifts.

3. Reductions in Protection. There has been a significant decline in protection over the past 20 years. The average nominal rate of protection of manufacturing fell from 23% in
1969/70 to around 9% in 1989/90. However not all industries experienced reductions -
protection of textiles was more or less unchanged, and protection of clothes and footwear
increased from 51% to 65%. (There is a similar pattern for the effective rate of protection).

4. The Fall in Traded Goods Prices. The gradual decline in Australia's terms of trade is
well known. This decline masks a much more significant trend in both export and import
prices; both have fallen sharply, relative to the price of non-traded goods and services. In
volume terms, Australia is trading much more than it was 20 years ago. This relative price
cchange may partly explain changes in the sectoral composition of GDP, if demand elasticities
for manufactures are less than unity. This observation is consistent with the booming sector
explanation, where the source of the boom is a supply expansion (though not a demand
boom). However, it is unlikely to explain the whole effect, since changes in import prices
relative to non-traded prices would come about solely because of exchange rate changes if
this were so. The extent of the fall indicates the there must be other influences on import
prices.

5. Changes in the Composition of Manufacturing. While manufacturing as a whole has
been declining, the decline in some industries has been rapid, while others have been
expanding. The production of some basic metals, such as aluminium, has increased, while
production of electrical goods has fallen sharply. The declines have been concentrated in
Textiles, Clothing and Footwear, Transport Equipment, Basic Metals and Other (non
transport) machinery. All of these are exposed to international trading conditions. In some
cases, reductions in protection are the likely dominant influence - this would be the case
with transport equipment. Protection reductions is also part of the explanation of the
decline of other (non transport) Machinery. However, changes in protection should have led
to an expansion, not contraction, of the Textiles and Clothing and Footwear industries; yet
Metals industries, though these have not been matched with reductions in production. Protection has fallen, but it was never very high. In the case of steel, the response to lower import prices was one of increased productivity in the Australian industry; in terms of the labour market, the effect was the same as contraction of the industry, as there was a sharp decline in the demand for labour.

The impact of import competition would have been shared partly by wage reductions and partly by job losses. If five of the industries most open to import competition (Textiles, Clothing and Footwear, Fabricated Metal Products, Basic Metals and Other Machinery) are taken, there has been a reduction of employment from 508.6 thousand in 1982 to 409.1 thousand in 1992 (ABS, The Labour Force, Australia, Cat.No. 6203.0, various issues). The reduction over the 20 year period is greater.

These are the industries most susceptible to competition from imports from the East Asian developing economies, such as clothes from China, electrical goods from Taiwan, and steel from Korea. Their decline may be partly due to booming sector effects, and in some cases reductions in protection have contributed. However, reductions in the price of imports from the East Asian countries clearly form an important part of the explanation.

7. **Restoring the Distribution of Income**

The distribution of income which comes about through market transactions, and redistributional measures, is a function of a country's trading circumstances. When these change, the distribution changes. The distribution which emerged in the postwar period in the advanced industrial countries was widely regarded as an acceptable one. It was possible to have high employment with minimum wages relatively high. The gaps which were left, through unemployment and social circumstances, could be dealt with by the welfare state. Yet it is possible that this situation was brought about more by a particular set of trading circumstances than by the successes of Keynesian macroeconomics or the welfare state. In the past, there have been chronic periods of unemployment and poverty, especially in
countries which have led their trading partners. For example, Britain faced considerable adjustment problems as its trading partners caught up with it in the first half of this century.

The trade environment that Australia faces enables it to have a higher real standard of living, on average, than before, but at the cost of lower incomes for the unskilled and possibly higher unemployment. There are ways in which the distribution of income can be altered and the consequences of low wages alleviated, but they have their costs. Some of these are considered here.

(a) Protection

It is possible to negate the effects of the new trading environment through protection. If need be, the affected industries can be protected to such an extent that employment at high real wages is restored. This would be an example of using protection explicitly for distributional ends, as supposed in the Stolper-Samuelson model. This would have a cost, specifically that of foregone gains from trade. It is improbable that this would be the lowest cost means of achieving the desired distributional consequences. It is conceivable that a country which was using various costly measures to change the distribution of income would choose to rely on protection to some extent. The least cost solution to the distributional problem would rely on a portfolio of measures to minimise the distortion costs. To be most effective, protection would need to be concentrated on the labour intensive goods. As long as the gains from trade can be somehow redistributed, at a low cost, it will be preferable to avoid protection and achieve them.

Protection could turn out to be a very costly means of alleviating low incomes. It should be remembered that selective protection (e.g. of textiles, clothing and footwear) will not be very effective, because it will adversely affect other industries through exchange rate effects. Protection would need to be across the board, even though concentrated on labour intensive industries. To achieve the same distributional patterns, it may have to be much higher than it was in the 1950s and 60s, because Australia is now competing against low
wage, not high wage countries - it is not simply a matter of "bringing back the 1950s".

(b) Taxes and Social Security.

Income can be redistributed through the tax/social security system. Taxes on low income earners can be reduced, eliminated, or made negative. Doing this would require setting higher taxes on higher income earners. By increasing marginal tax rates, which may already be quite high, incentives to work and save will be further weakened - the distortionary cost of taxation will be increased. The existing tax structure reflects a balance between redistribution and efficiency, and by increasing the redistribution, the efficiency of the tax structure will be lessened.

Probably the greatest difficulties arise at the lower income end. The problem is one of redistributing enough income to ensure that real after tax incomes are regarded as sufficient, but not creating disincentives that are too great. It will be necessary to ensure that the benefits received by those not in employment are sufficient, but they are not so high, relative to the returns from working, as to discourage working. For those in work, it is necessary to guarantee a minimum level of after tax income, but also avoid high effective marginal tax rates, and the creation of poverty traps. The tax/social security system may be the most effective means of achieving a desired distribution of income, but it is not a costless one. If real incomes of unskilled workers are quite low, the costs of new tax and social security benefit structures intended to restore the distribution of income could be high.

Already there are considerable problems in reconciling equity and efficiency (e.g. in avoiding poverty traps) and it will be difficult to design systems which can cope effectively with more extreme equity-efficiency trade-offs.
(c) Industry Policy

Since the unemployment/distributional problem is one related to the patterns of trade facing the country and the consequent industry structure, it might be thought that industry policy might contribute to the solution. In Australia, there is some hope that industry policy may be able to result in jobs being created in new industries, and unemployment being reduced. It is certainly possible that industry policy could be used to lessen unemployment - like protection it could be used to negate the external changes which are the cause of the problem. Like protection, it would involve giving up the gains from trade. Such an industry policy would emphasise assistance to labour intensive industries.

In contrast to this, much of the thrust of industry policy as it is promoted in Australia is to encourage other forms of industry - specifically high tech, high value added industries which rely on skilled, not unskilled labour. If technological externalities and export prospects exist, they are more likely to do so in biotechnology and computer software than in clothes and shoes. By giving assistance to these 'sunrise' industries which employ few unskilled workers, the distributional problem will be worsened, not alleviated. Real incomes for the unskilled will fall, as the economy switches to industries which rely on the skilled, and increases their real incomes. This will be the case whether interventionist industry policy enhances the efficiency of the economy or otherwise. The types of industry policy measures being considered currently in Australia will strengthen the distributional consequences of the trade pattern changes, not lessen them.

(d) Training and Retraining

Changes in the trade pattern put a premium on training and education, since the difference in rewards for unskilled and skilled labour is increased. It will be in a country's interest to convert those of its workforce who are unskilled into skilled workers whose skills are in demand. Some (e.g. Katz 1992) see training as a means of addressing the problem of widening wage dispersion. At best, this can take place only over the long term. There are
many older workers, including those who have lost their jobs as industries have contracted, who have only limited ability and opportunity to retrain. The opportunities for younger workers are greater, though to make a big impact on the proportions of skilled and unskilled, there will need to be a very large training effort. There may be many workers who do not have the ability to make use of the training opportunities available, and who are unable to move out of the unskilled group.

Thus the training option is slow and partial. Over a period of a decade or two, it may be possible to reduce the unskilled group to a significantly lower proportion of the workforce. There would be jobs, mainly in the nontraded areas, and with a lower proportion of unskilled, the differences in income between skilled and unskilled would be moderated. By how much remains to be seen. In the intervening decades, training and education hold out little prospect of alleviating the problem.

While training policies may be a means, over the long run, of producing a more acceptable distribution of income, they have a cost. More fundamentally, there is no certainty that they would resolve the efficiency/distribution conflict discussed in this paper; this would only happen by chance. This is because efficiency requires that resources spent on training be spent in the areas of highest return, and there is no guarantee that training of the unskilled will yield high returns. Most likely, high returns will be achieved by projects which affect people across the income distribution spectrum - some projects will make the rich richer, and the poor richer. Unless a preponderance of good projects, by chance, happen to be ones involving upgrading the skills of the least skilled, the efficiency/distribution trade off will remain. Either, an efficient expenditure of training resources will not raise the wages of the lowest paid, or a training policy directed towards raising the skills of the low paid will represent an inefficient use of the training resources, and result in lower overall gains than might be achieved.

Training is often advocated as being highly productive in terms of aggregate real
incomes, it may be. It can be used to lessen the dispersion of incomes, though if this is done, there will be a cost in terms of real income gains. It does not provide any resolution of the problem, identified here, that an efficient reliance on trade, and allocation of training funds, may not produce what is regarded as an acceptable distribution of income.

In reviewing these different possibilities, it becomes clear that redistribution is difficult. It can be done at considerable cost in terms of economic efficiency, meaning that the gains to the gainers are considerably less than the loss to the losers. In practical terms, those who gain from changes in trade patterns must agree to compensate those who lose; the latter are a minority. Societies like Australia have been willing to redistribute towards the less well off, but doing this has become expensive (partly because of the trading changes analysed here), and those who finance this redistribution have been becoming less willing to do so.

8. Conclusions

It is argued in this paper that changes that are taking place in world trade patterns are having implications for unemployment and income distribution in industrial countries, such as Australia. The Asian countries have been achieving development through reliance on labour intensive manufactured exports, as might be expected from their likely comparative advantage. As these countries enter trade, it is as though the world's endowment of unskilled labour has been substantially increased. This will lead to a reduction in the real wage for this type of labour in the industrialised countries. Even if there is not exact equalization of wages in developing and industrialised countries, there will be downward pressure on wages in the latter.

Current and recent experience in Australia is consistent with this. In spite of relatively stable real wages recently, unemployment has been increasing secularly, especially amongst the unskilled. Manufacturing has been contracting, and it had been a major employer of unskilled workers. The expanding industries have not taken up the workers
released by manufacturing. There have been other factors, such as the current mineral boom which would have contributed to these processes. One question yet to be resolved is how large the contributions of trade pattern change is. It is an effect which is going to increase over the next few decades.

The adjustment by countries like Australia to these trade pattern changes poses problems at the labour market level. If real wages for unskilled workers are kept at current levels, unemployment will continue and probably worsen. Wage flexibility would enable real wages to fall, and unemployment to be eliminated. However, another question to be resolved is how far they need to fall - it is perfectly possible that the fall needs to be large. If so, there will be problems of incentives if the returns from working are not higher than the returns from not working. Even if this is no problem, the distribution of income will be changing, with more people on low incomes, and a further question arises of how acceptable this is.

If it is not acceptable, redistribution can be attempted. This is likely to be costly, in terms of efficiency; it may involve losing the gains from trade, or creating other problems, such as poverty traps. A final question, also to be resolved, is one of how effective and practical redistribution can be.
References


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