

Another area which is currently being explored is an instrument which will provide employees with the right to influence decisions in creating mechanisms in which employees could apply for delegation of authority and for work methods to be investigated with regard to job content, psychological well-being and the way they are being managed.

One matter which has come to light recently is that some employee representatives feel that in fulfilling their roles by speaking out against some of the practices of the department, they have subsequently been victimized. The victimization is generally fairly difficult to track down and prove. Consequently, there needs to be built into the structure some safeguard so that employees who are outspoken and perhaps blunt in bringing to the attention of management various aspects of the departmental practice will not be discriminated against or victimised. How this will be achieved is still very much in the developmental stage. However, employee involvement in appointment panels and employee access to personnel records and files will go some way to counter the problem.

SUMMARY

This paper has attempted to outline some of the ways in which we believe that industrial democracy will take a new turn in the near future. As the theme of the Conference is directed at the future, some of the areas are, by necessity, vague. In South Australia we have not yet reached a stage whereby we can be certain that all the aspects of the problem have an acceptable solution. However, there is no doubt in our minds that the areas identified will be the main focus in developing industrial democracy in the future. As in the past, the march to industrial democracy will be evolutionary and by experimentation.

SOME OPTIONS FOR FUTURE WAGES POLICY IN NEW ZEALAND

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There are two basic aims in this paper: the first, to present the results of some research on a model describing the relationship between wage movements and a two sector New Zealand economy; and the second to set out the changes needed to the system of wage fixing in New Zealand if the country is to adjust to the economic realities of the 1980's.

A principal driving force in any economy is the competition between labour and capital for increased shares of national income. The forces behind each factor of production are powerful and conflict oriented. In a situation where neither side willingly acquiesces in a reduced share, the most common products are increased domestic inflation and/or a depreciating exchange rate. All western industrialised economies have to a greater or lesser extent suffered from these problems in the decade of the 1970's.

The most common response by governments has been to use incomes policy in conjunction with the more traditional monetary and fiscal policies. I do not propose to review the many types tried. Suffice to say that the record of success is, to be charitable, indifferent. Some have been quite successful in the short run, but ultimately most incomes policies have merely delayed the time that more fundamental fiscal, monetary and exchange rate policy changes have had to be implemented.

This is not to say that certain approaches to resolving the basic conflict between labour and capital cannot be useful. Obviously, where political differences exist as to the appropriateness of the particular economic system the labour market partners operate within, conflict is irresolvable. By and large, and this is certainly true in New Zealand's case, most of the economically harmful conflict boils down to issues over wages and conditions.

In the macro-economic sense then, it is important for labour and capital (via their surrogates, unions and employers) to have a clear appreciation of the important economic parameters.

The next part of this paper outlines a model to explain and quantify the more important wage parameters affecting the New Zealand economy. I will then describe very briefly the major

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characteristics of the wage fixing system, especially as it affects the parameters in the model. After drawing some policy conclusions based on the results of early research, certain modifications to make the present wage fixing system more effective are outlined.

THE MODEL : THE THEORY¹

Economic policy in an economy with a relatively large export and import competing sector (let us call it the "exposed" sector) obviously has to have due regard to external competitiveness. Declining external competitiveness, in its most simple form, will lead to depreciation of the exchange rate, declining profitability in the exposed sector, reduced investment and growth, and ultimately to a lower standard of living.

Where external competitiveness (assuming for the moment constant exchange rates) is threatened by an 'excessively' large wage share (i.e. where the distribution of income moves in favour of wage and salary earners), the capacity of industry in the exposed sector to finance investment is reduced, either from internally generated or loan funds. In the end this reacts against the wage earner: a lower rate of economic growth, falling productivity, a reduced ability to meet increased real (as opposed to money) wages, and reduced employment opportunities.

Conversely, where labour prices are too low and profits rise so that the income distribution moves in favour of capital, pressures are generated to take real wage increases in the form of wage drift, productivity schemes and the like.

In this situation both labour and capital have a vested interest in establishing, first, what the major "path" for wage increases can be, and secondly, how that available increase is to be distributed between industries or occupations. Amongst some of the important considerations are: whether particular industries should be phased out because they are no longer competitive, technologically or socially relevant, or whatever; or whether particular labour skills are needed but are in short supply.²

The model outlines a method for establishing the appropriate "wage path" the economy could follow. Assume the New Zealand economy is split into two sectors: an "exposed" sector, defined to include both exporting industries and import competitive industries; and a "sheltered" sector comprising industries or activities whose prices, productivity or output are not influenced in any way by competition from foreign countries.

To preserve international competitiveness at constant exchange rates, income growth in the exposed sector is determined by productivity growth in that sector, and the growth in trade weighted foreign prices facing industries in the exposed sector.

Furthermore, assuming constant income shares, the appropriate "wage path" for wage earners is the sum of these two factors. Wage movements above this path will ultimately result in a loss of international competitiveness; below this will result in either an increasing share of national income by capital, or increased competitiveness by the exposed sector (in the form of lower real prices and presumably increasing market shares).

Providing wage increases in the sheltered sector do not exceed the "wage path" determined in the exposed sector, reasonable external balance will be maintained. However, note that this will not necessarily be at zero or even constant domestic inflation rates; the measure of effect on domestic inflation is affected, inter alia, by productivity in the sheltered sector. The higher productivity is in this sector, the lower will be the impulse given to domestic inflation.

Now this model is not significantly different from the conventional exposition often presented in New Zealand. This exposition uses national productivity and external competitiveness. But more often than not the rhetoric used to implement one or other form of incomes policy revolves around the need to reduce the rate of inflation itself, without reference to what wage movements should be to preserve or enhance international competitiveness. Ultimately, in macro-economic terms, this is more important.

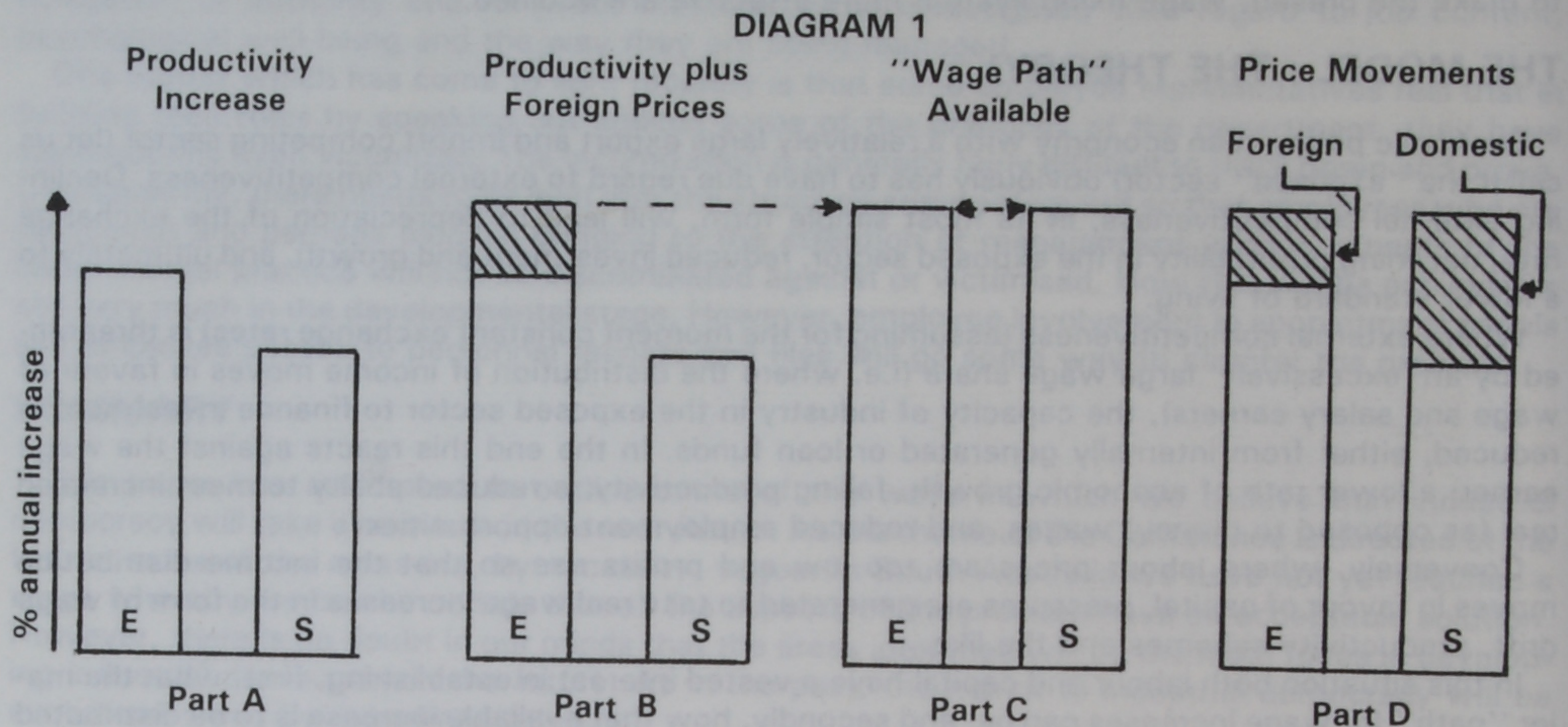
Lying behind the objectives to reduce the rate of inflation are implicit objectives to influence the

1. The model set out in this paper draws heavily on the Aukrust Two-Sector model of "competing" and "sheltered" sectors. This model, and its derivatives, is used to describe the wage transmission/income distribution/international competition process in the Scandinavian economies. There are important differences between the way the model works in Scandinavia, and in New Zealand. Apart from the rather different economic structures of the "competing" (or export) sector, wages are determined in the competing sector in Scandinavia: in New Zealand the reverse is true.

Nevertheless, these differences in the transmission process of the model do not invalidate its basic structure.

2. It is unlikely that relative prices in the labour market are sufficient to get labour mobility in a restructuring economy. The wage system must be supplemented by labour market policies designed to identify labour bottlenecks, to retrain labour, to predict labour redundancy and so on. Labour market policies seem to be even more important where wage relativities are very rigid, as they are in New Zealand.

income distribution, not always between labour and capital, but between classes of income earners (e.g. low and middle income earners, old age pensioners, and wage earners).



The model can be represented diagrammatically (see diagram 1). The height of the block represents the percentage increase applying to each component, of an exposed sector and a sheltered sector. Part A of the diagram shows the productivity increase in each sector in a given period. Add the foreign price component to the exposed sector in part A and under the assumptions regarding external competitiveness and income distribution, the appropriate "wage path" is given by the height (= a percentage wage increase) of that block. Providing the total wage increase in both sectors does not exceed this increase (part C) external balance will be preserved. The price increases applying in each sector are measured by the shaded sections of part D. Note that under this formula, it is quite possible for domestic prices to rise faster than prices received by the exposed sector, and preserve external balance.

Obviously, the model is highly simplified. Complicating features, such as import prices rising faster than domestic prices, introducing inter- and intra-industry rigidities with respect to resource transfers, the prevalence of productivity schemes in industry and rigid wage relativities or anomalies will enhance the realism and the dynamics of the model. It is the intention in this paper to only sketch in broad detail a possible method of defining some parameters to determine the rate at which wages (and profits) should rise.

I will now turn to examine some recent data, using the general approach set out in the model.

THE MODEL ; EARLY RESULTS³

Data sources in New Zealand are not entirely adequate for testing the model.⁴

For the purposes of this analysis, the New Zealand economy has been "cut off at the knees" somewhat to accommodate the quality of data available.

The exposed sector is defined as the primary produce processing industries (meat, dairy and wool) and the pulp and paper industry. These industries exported 25 percent or more of their total sales.⁵ Obviously, the large number of industries exporting less than 25 percent are included in the sheltered sector (most in fact exported less than 5-10 percent of sales), but as it was not possible to separate their activities into "exposed" and "sheltered", this rather arbitrary choice mechanism was adopted. In any event, the "exposed" sector includes nearly 85 percent of the gross domestic product contribution in 1965-66 terms, by the manufacturing sector.

The agriculture, hunting and fishing, mining and quarrying, and forestry and logging industries⁶ are excluded in the meantime because of the difficulty in obtaining adequate productivity and ex-

3. The author is indebted to Rodney Lewington of the Department of Statistics, and Peter Simons of the New Zealand Employers Federation for their help and guidance in deriving the results in this section of the paper.

4. Reasonable refinements, both with respect to method and coverage, should be possible with the full introduction of the new SNA National Accounts by the Department of Statistics, and the revision of certain labour force and salary and wage remuneration data by the Department of Labour.

5. In 1974/75 terms, from internal Department of Statistics worksheets.

6. 16.5 percent of Gross Domestic Product in 1965-66 prices.

port data on a sectoral basis. Definitional difficulties precluded any possibility of including import competing industries.

The "sheltered" sector includes the remainder of the manufacturing sector; electricity, gas and water, construction, wholesale and retail trade, restaurants and hotels, and transport, storage and communication.⁷

The "sheltered" sector comprises about 55 percent of GDP in 1965-66 terms.⁸

Table 1 sets out the GDP, employment and productivity calculations for the exposed and sheltered sectors. The somewhat surprising result that productivity grew faster over the 1965-77 period in the sheltered sector is probably accounted for by the poor productivity record of the meat processing industry, and the high (and possibly spurious) productivity in some parts of the sheltered sector.

Tables 2A and 2B summarise the results for the exposed sector. Table 2A summarises period 1972-77⁹, for which better data is available than the period 1966-72. Figures are expressed in average annual growth rates, to avoid the year to year 'noise' which exists in the data. It seems that a "wage path" of approximately 13 percent per annum was available to meet wage increases between 1972 and 1977. Actual wages, however, grew at around 15½ percent per annum, suggesting that wages grew some 2½ percent a year more than a "preservation-of-international-competitiveness" condition would dictate. Although the evidence is scant, Table 4 suggests that income shares were reasonably constant over the period, so the pressure fell on the exchange rate and on increasing subsidies to the exposed sector in the form of export incentives.¹⁰ If the latter was a substantial factor, it would suggest that export incentives are effectively being drained off to subsidise wage increases in New Zealand's export industries, rather than improving their profitability, their productivity or their growth potential.¹¹ The worst performances, both with respect to productivity and wage growth, were recorded by the meat and dairy processing industries. For these industries profitability was probably maintained in part by reducing farm producer prices in real terms.

Similar, but statistically less reliable, results are evident for the 1966 to 1972 period.

Table 3 shows the influence of productivity and wage growth on the sheltered sector. The following results emerge.:

1972-77

- (a) productivity grew slightly faster than in the exposed sector (3½ as against 3 percent p.a.);
- (b) as one would expect with New Zealand's wage transmission process (see ahead), wages grew at about the same rate in the exposed and sheltered sector i.e. 15½ percent p.a.;
- (c) the impulse from wage growth to domestic inflation, at about 12 percent p.a., lines up remarkably closely with movements in the consumer price index (nearly 12 percent p.a.) and the appropriate component of the wholesale price index¹² (over 13 percent p.a.).

THE WAGE DETERMINATION PROCESS IN NEW ZEALAND.

Partly for historical and partly for institutional reasons, wages are determined in New Zealand in the sheltered sector.¹³ The high degree of horizontal (as between like skills and occupation) wage relativity ensures that the increases achieved in the sheltered sector flow through very quickly to the exposed sector. This is indicated by the similar wage income trends in both sectors.

The wage fixing system operates at three levels: national award negotiations which set minimum rates for the great bulk of skills; various above award or separately negotiated wage agreements which build on minimum award rates; and the general wage order system which is the only real element of the wage fixing system with macro-economic review responsibilities. The GWO system

7. Financing, insurance, real estate and business services; and community, social and personal services are included.

8. Thus industries not accounted for in the analysis comprise about 40 percent in GDP.

9. There is no particular virtue in the choice of this period, apart from the availability of data.

10. The impact of export incentives should not be over-emphasised however as only the woollen and pulp and paper industries qualified under existing rules. Is it therefore coincidental that the net effect of exchange rate changes over the 1972-77 period was a devaluation of nearly 2 percent per annum?

11. The implications for export incentive policy are serious indeed, unless wage growth can be brought closer into line with the appropriate "wage path".

12. Prices received for commodities produced in New Zealand, for sale in New Zealand, by "other manufacturing industries". Import prices grew at proximate rates for both periods under review.

13. Unlike the Scandinavian economies where wage growth is determined in the exposed or "competing" sector, and the sheltered sector by and large moves *pari passu* with the competing sector.

14. Over the period 1969-77, GWO's have had somewhat of an "on again, off again" role. See 1978 N.Z. Year Book pp 789-790 for a full description of the GWO and its variants in recent years.

has, however, in recent years tended to provide an inflationary bias in the overall system, partly because of the protection the Arbitration Courts have given to low income, wage and salary earners and partly because the "industrial harmony" criterion has often led to higher than economically justifiable general wage increases.

Since the reintroduction of "free" wage bargaining in August 1977, there has been very little, if any, emphasis placed on the macro-economic considerations in negotiations between the trend-setting national awards. The experience of the 1977 and 1978 wage rounds clearly shows that the circular private-state-private sector¹⁶ tradesmen's ratchet, the rectification of anomalies and so-called "catch-up"¹⁷ arguments have had more impact on determining the quantum of wage increase than macro-economic related arguments.

When combined with rigid and historical margins for skill and horizontal wage relativities, these were the only dynamic explanatory factors in the setting of wage rate increases for those years. Employment (or unemployment) was the equilibrating macro-economic factor rather than the growth in real wage rates.

Notwithstanding the various sorts of incomes policies which have characterised the 1972-77 period, the wage transmission process from the sheltered to the exposed sector still operated. Although the effectiveness of those policies did wane significantly towards the end of the period, their virtue was in relating wage increases at least to some macro-economic variables. Contrast the 2½ per cent annual "excess" wage movement between 1972 and 1977 with the estimated 6 percent annual movement between 1965 and 1972, when there were virtually no sustained incomes policies. It is appropriate to ask whether this would necessarily have been the case had unions and employers actually understood what the parameters for wage movements are. This question seems relevant right now.

POLICY CONCLUSIONS FROM THE MODEL

The model described above is obviously capable of specification improvement and statistical refinement. Nevertheless, the results are not inconsistent, and accord fairly well, with the facts and the interpretations put on the major macro-economic events in the 1970's by many official and unofficial commentators.

What tentative policy conclusions can then be drawn from the results?

It seems that the policy objectives of recent Governments in New Zealand to increase the profitability and productivity of exporting, have clearly been undermined by a growth in wage increase in excess of the appropriate "wage path". The excess seems to be in the region of some 2½ per cent a year for the period 1972 to 1977. Much of this can be attributed to the less than adequate productivity performance of the meat processing industry, but all suffered to a greater or lesser extent.

It is unreasonable to expect that wage rates can be determined in the exposed sector, having regard to the institutional way in which wages are fixed. Nevertheless, it does seem that some recognition of these — and other — relevant macro-economic factors by both labour market partners and wage and salary earners at large is highly desirable.

The events over the last two years and some early indicators would suggest that the wage movement in excess of the "wage path" is not insubstantial — certainly in excess of the average 2½ percent p.a. recorded between 1972 and 1977.

A FUTURE WAGES POLICY OPTION

I do not, in spite of the title of the paper, intend to itemise the various wages policy options that might be available.

Before setting out some desirable modifications to the wage fixing system, there are some prerequisites which need to be mentioned.

- (a) given the record of success of wages policies, both in New Zealand and overseas, any wages policy must be an agreed one between employers and unions. A quid pro quo in the form of surveillance of income shares is probably necessary in this context. Government in-

15. Although it is often difficult to ascribe boundaries, the wage round is generally considered to start in September/October and continue through March/April of the following year. The more important awards influencing the size of trailer awards through wage relativities are: metal trades, electricians, drivers, and carpenters awards.

16. To be described in a forthcoming publication of the N.Z. Employers Federation.

17. Where a skilled or unskilled group of employees uses a low wage argument to justify wage increases e.g. drivers in 1977 and 1978.

volvement could be limited to setting out the main economic parameters within which the labour market partners need to operate in a period ahead; obviously though, where wage increases clearly exceed its economic policy parameters, the Government needs reserve powers to rectify the situation perhaps even to the extent of direct or partial regulation of wages and profits.

- (b) wages policy, in the context in which I am discussing it, does not imply holding down wages for its own sake, or even necessarily to force the rate of inflation down. Wages policy, essentially operated within known guidelines, means ensuring that real wages grow as fast as the exposed sector allows in the long run;
- (c) wages policy needs to be co-ordinated closely with monetary and fiscal policy, and not, as it has in the recent past, be used as a "last resort" stabilisation measure when monetary and fiscal policies have been less than successful. To this end the community, and particularly the union and employer parties before major award negotiations need to know clearly the economic policy objectives of the government and the path of its monetary and fiscal policies;
- (d) the built in rigidities on both union and employer sides will not accommodate drastic overnight changes. Any suggested modifications to the wage fixing system need to recognise and accept this reality;
- (e) like most economies, the relativity bias in wage and salary structures is very strong in New Zealand. Consequently, it is very difficult to implement changes involving more reliance on industry or company ability-to-pay (implicitly involving a breakdown in existing relativities), or on industry productivity. Wage fixing, at least from the unions' point of view, depends very heavily on creating precedents for particular skills or industries and transporting these across other related awards. It has been a successful ploy in the recent past, and will be difficult to counteract in the market place of some 300 wage negotiations a year;
- (f) restructuring the economy implies that labour, as well as capital, will have to move out of dying into growing sectors. As mentioned elsewhere, it is unrealistic to expect that market prices for labour can be relied upon to do this, except possibly in the very long term. Labour mobility must therefore rely on other mechanisms than labour prices. For example, on much more active — and tripartite¹⁸ — labour market policies designed to overcome the understandable resistance to economic change.

With these points in mind, it is suggested that a "new" wage fixing policy for New Zealand include the following components:

General Principles

- (a) A continuation of "free" wage bargaining between unions and employers, but within generally understood and acceptable wage guidelines;¹⁹
- (b) the Government retains the right to influence or control wage movements where they clearly exceed the general guideline. The sorts of action the Government would take in this event should be known to the parties;
- (c) the parties themselves, perhaps via their central organisations²⁰ would be responsible for ensuring that individual wage negotiations fell within the general guidelines. Particular policies could be agreed between the central organisations. For example on longer term agreements, or on policies of increasing lower wage rates relatively more rapidly. The existing Industrial Relations Council is perhaps one forum where these policies could be discussed with the Government;
- (d) A more formalised use of the central organisations could be made for the resolution of individual conflicts, especially where they are wage related. This would provide an alternative, or complementary, channel of conflict resolution to the arbitral and mediation functions of the Arbitration Court and Mediation Service;
- (e) amalgamation of unions and their employer counterpart organisations is desirable. A reduction in the number of national awards, and more reliance on industry-wide agreements, preferably with few unions based on industry rather than craft definition, is needed.²¹

18. employers, unions, and government.

19. Whether the guidelines should be quantified or not is a moot point. On balance, it is probably undesirable, but the broad parameters (e.g. a band) must be known to the parties.

20. FOL and NZEF

21. N.Z. Forest Products for example negotiates with 14 unions for one of its composite agreements.

WAGE FIXING SYSTEM

I do not intend to go into the details as this paper does not permit such a lengthy exposition. The main features are:

(a) Before each Wage Round

- (i) in April/May there would be a tripartite conference of the labour market partners and the Government, during which the Government outlines the forecast economic outlook over the next 12-18 months. This would give the negotiating parties a framework within which to judge their own forecasts and wage growth expectations. The intention would be to define the parameters of an appropriate "wage path" which the economy can sustain, perhaps based on a model similar to that outlined earlier in this paper;
- (ii) hopefully, both unions and employers would agree on the "wage path". If not, they would be aware of the Government's intentions with respect to economic policy given the available forecasts;
- (iii) it would be the responsibility of the central organisations to communicate the "wage path" to their individual negotiators, as important background for their separate award negotiations;
- (iv) there should be a high degree of public awareness of the "wage path" and the supporting economic argument for many reasons.²³

(b) During each Wage Round

- (i) Obviously a key to the success of such a wages policy is in closely monitoring individual settlements. Each of the tripartite members needs to have his information quickly as the round progresses, as negotiations traditionally proceed in a decentralised manner;
- (ii) so far as the mechanism of wage negotiation is concerned, the present conciliation and negotiation system is adequate to build on. Closer monitoring of house agreements, particularly those with flow on implications will be necessary.
- (iii) the first few major awards (drivers', electricians', and metal trades') have almost overwhelming importance in setting the pattern for subsequent negotiations. This implies that both the union and employer sides have to exercise sufficient responsibility to ensure that these settlements are along the "wage path" which results from the tripartite conference.

Behind this wages policy structure lies some quite significant changes to the modus operandi of the labour market partners. They have to do with unity, coping with "wildcat" employees and employers, proper research backup, and information flows to members, the structure of awards, representation from industry and employees, to name but a few. A paper such as this one is not the appropriate place to discuss these problems or possible solutions.

Furthermore, the future role of general wage orders, the minimum wage act, and the pernicious effect of the private/state sector tradesman's ratchet will have to be critically examined in the context of such a new wage fixing system. Certainly the usefulness of general wage orders is highly questionable under our present system. It seems even less useful under the wage policy outlined above. In its place, both employees and employers have to be satisfied that the unrepresented wage and salary earner, and those on low incomes, are adequately protected.

22. Perhaps with representation from the Manufacturers Federation and Federated Farmers.

23. For one, to prevent accusations of closed door "deals"; for another, to protect unions from clearly excessive demands from militant members.

TABLE 1

PRODUCTION, EMPLOYMENT AND PRODUCTIVITY IN THE "EXPOSED" AND "SHELTERED" SECTORS 1965-77
 (INDEX BASE: MARCH YEAR 1965-66 = 1000)

SHELTERED SECTOR ²EXPOSED SECTOR ^{1 3}

| March Year | Real GDP | | Index of Employment ⁴ | | Real GDP per Labour Force Member | | Index of Employment ⁴ | | Real GDP per Labour Force Member | |
|------------|----------|----------|----------------------------------|----------|----------------------------------|----------|----------------------------------|----------|----------------------------------|----------|
| | Index | % Change | Index | % Change | Index | % Change | Index | % Change | Index | % Change |
| 1965-66 | 1000 | .. | 1000 | .. | 1000 | .. | 1000 | .. | 1000 | .. |
| 66-67 | 1064 | 6.4 | 1070 | 7.0 | 994 | -0.6 | 1042 | 4.2 | 1022 | 2.2 |
| 67-68 | 1130 | -2.9 | 1093 | 2.1 | 1034 | 4.0 | 1004 | -3.6 | 1021 | -0.1 |
| 68-69 | 1181 | 4.5 | 1124 | 2.8 | 1051 | 1.6 | 1020 | 1.6 | 1011 | -1.0 |
| 69-70 | 1232 | 4.3 | 1172 | 4.3 | 1051 | 0.0 | 1118 | 9.6 | 1073 | 6.1 |
| 70-71 | 1259 | 2.2 | 1239 | 5.7 | 1016 | -3.3 | 1164 | 4.1 | 1179 | 9.9 |
| 71-72 | 1293 | 2.7 | 1224 | -1.2 | 1056 | 3.9 | 1208 | 3.38 | 1225 | 3.9 |
| 72-73 | 1325 | 2.5 | 1304 | 6.5 | 1016 | -3.8 | 1332 | 10.3 | 1318 | 7.6 |
| 73-74 | 1332 | 0.5 | 1269 | -2.7 | 1050 | 3.4 | 1465 | 10.0 | 1399 | 6.1 |
| 74-75 | 1478 | 11.0 | 1291 | 1.7 | 1145 | 9.1 | 1504 | 2.7 | 1436 | 2.6 |
| 75-76 | 1633 | 10.5 | 1335 | 3.4 | 1223 | 6.8 | 1546 | 2.8 | 1478 | 2.9 |
| 76-77 | 1637 | 0.2 | 1357 ⁵ | 1.6 | 1206 | -1.4 | 1543 | -0.2 | 1465 | -0.9 |

NOTES:

1. the exposed sector is defined as those NZSIC industry groups which exported more than 25% of their total sales in 1974-75. The principal industries included were: meat export works (NZSIC 31111), meat packers and canners (31113), game packers (31116), co-op dairy factories (31121), wool scouring and spinning (32111, 32112), and pulp and paper (34110). These industries covered nearly 85 percent of manufactured exports in that year.
2. the sheltered sector takes in those manufacturing industry groups not included in the exposed sector; electricity, gas and water; construction, wholesale and retail trade, restaurants and hotels; and transport, storage and communication. The other remaining sectors (finance etc. and community etc. services) were not included in this analysis because of difficulties with the real GDP figures and interpretation, (25 percent of GDP in 1965-66 prices).
3. this does not include the agriculture, hunting and fishing, or forestry and logging sectors at this stage (about 16 percent of GDP at 1965-66 prices). Later refinements will include these sectors, once certain technical difficulties with the data are overcome.
4. full time employees only, not including part time workers or working proprietors.
5. adjusted for the extended killing season.

SOURCE: extracted from Department of Statistics worksheets; Department of Labour worksheets; the Half Yearly Survey; SNA National Accounts.

TABLE 2A "EXPOSED" SECTOR: WAGE PATH FOR THE SECTOR AND ACTUAL MOVEMENTS
(PERIOD ANALYSED: MARCH YEARS 1972 TO 1977)

| NZSIC Sector | Industry Weight | Real GDP per Labour Force Member (A) | Export Prices Received by Sector (B) | "Path" for Wage Growth (A + B) ¹ | Actual Wage Growth (C) | Wage Movement in Excess of "Path" (C - (A + B)) |
|------------------|-----------------|--------------------------------------|--------------------------------------|---|---------------------------|---|
| | | (% average annual growth) | (% average annual growth) | (% average annual growth) | (% average annual growth) | (% average annual growth) |
| Meat Processing | (0.54) | 1 | 10 | 11 | 15 | +4 |
| Dairy Processing | (0.15) | 3 | 6 | 9 | 14 | +5 |
| Woollen Industry | (0.10) | 3 | 10 ² | 13 ² | 13 | 0 |
| Pulp and Paper | (0.21) | 4 | 15 | 19 | 21 | +2 |
| "Exposed" Sector | | 3 | 10 | 13 | 15½ | +2½ |

NOTE: 1. assuming constant income shares between labour and capital, at internationally competitive prices.
2. estimate.

SOURCE: calculated from tables in this paper using Department of Statistics, Department of Labour, and Reserve Bank of New Zealand data.

TABLE 2B "EXPOSED" SECTOR: WAGE PATH FOR THE SECTOR AND ACTUAL MOVEMENTS
(PERIOD ANALYSED: MARCH YEARS 1966 TO 1972)

| NZSIC Sector | Industry Weight | Real GDP per Labour Force Member (A) | Export Prices Received by Sector (B) | "Path" for Wage Growth (A + B) ¹ | Actual Wage Growth (C) | Wage Movement in Excess of "Path" (C - (A + B)) |
|------------------|-----------------|--------------------------------------|--------------------------------------|---|---------------------------|---|
| | | (% average annual growth) | (% average annual growth) | (% average annual growth) | (% average annual growth) | (% average annual growth) |
| Meat Processing | (0.54) | -1 | 5½ | 4½ | 15½ | 11 |
| Dairy Processing | (0.15) | ½ | 8 | 8½ | 16½ | 8 |
| Woollen Industry | (0.10) | 9 | n.a. | .. | 18½ | .. |
| Pulp and Paper | (0.21) | 3 | n.a. | .. | 3 | .. |
| "Exposed" Sector | | 1 | 7 ² | 8 ³ | 14 | 6 ³ |

NOTE: 1. assuming constant income shares between labour and capital, at internationally competitive prices.
2. estimate.
3. derived estimate

SOURCE: calculated from tables in this paper using Department of Statistics, Department of Labour, and Reserve Bank of New Zealand data.

NOTE: 1. assuming constant income shares between labour and capital, at internationally competitive prices.
 2. estimate.
 3. derived estimate

TABLE 3
"SHELTERED" SECTOR: WAGE AND PRODUCTIVITY MOVEMENTS AND THE EFFECT ON DOMESTIC INFLATION

| Period Analysed (March Years) | Real GDP per Labour Force Member (A) | Actual Wage Growth (B) | Wage Growth in Excess of Pro- ductivity (A-B) = Domestic Impulse to Inflation ¹ | Actual Movement in Consumer Price Index | Actual Movement in Wholesale Price Index ² |
|-------------------------------------|--|------------------------------|--|---|---|
| | (% average annual growth) | (% average annual growth) | (% average annual growth) | (% average annual growth) | (% average annual growth) |
| 1965-72 | 3½ | 8½ | 5 | 6.0 | 5.6 |
| 1972-77 | 3½ | 15½ | 12 | 11.8 | 13.4 |
| 1965-77 | 3½ | 11½ | 8 | 8.6 | 9.1 |

NOTES: 1. assuming constant income shares between labour and capital, at constant exchange rates. Where, for example, profits fall, the impulse to domestic price inflation would be reduced.
 2. prices received for commodities produced in N.Z. by "other Manufacturing Industries" i.e. industry excluding public utilities, farming, primary processing and primary industry.

SOURCE: tables elsewhere in this paper; Department of Statistics; and calculations by the author.

TABLE 4
INDICATORS OF PROFITABILITY OF THE "EXPOSED" AND "SHELTERED" SECTORS IN NEW ZEALAND
1965-1977

| Years Ended | EXPOSED SECTOR | | | | WHOLE ECONOMY | | | |
|----------------|---------------------------------|--|--------------------|---------------------------|--------------------------|---------------------------|--------------------|---------------------------|
| | Meat Processing | | Woollen Industry | | Forestry, Pulp and Paper | | All Companies | |
| | Return on SH Funds ¹ | Return on Total Resources ² | Return on SH Funds | Return on Total Resources | Return on SH Funds | Return on Total Resources | Return on SH Funds | Return on Total Resources |
| | % | % | % | % | % | % | % | % |
| June 1965 | 10 | .. | 7 | 10 | 10 | 9 1/2 | 9 1/2 | .. |
| 1966 | 7 | .. | 7 1/2 | 10 | 10 | 9 1/2 | 9 1/2 | .. |
| 1967 | 8 | .. | 8 1/2 | 10 | 10 | 10 | 10 | .. |
| 1968 | 3 | .. | 8 | 10 | 10 | 9 | 9 | .. |
| 1969 | 11 | .. | 8 | 10 1/2 | 10 1/2 | 9 | 9 | .. |
| 1970 | 14 | .. | 10 | 11 1/2 | 11 1/2 | 10 | 10 | .. |
| 1971 | 7 | .. | 9 1/2 | 11 | 11 | 10 | 10 | .. |
| 1972 | 5 | .. | 9 1/2 | 10 1/2 | 10 1/2 | 9 1/2 | 9 1/2 | .. |
| Calendar Years | | | | | | | | |
| 1972 | 4 | 2 1/2 | 11 | 6 | 10 | 9 | 9 | 4 1/2 |
| 1973 | 11 | 6 | 12 1/2 | 6 1/2 | 11 | 11 1/2 | 11 1/2 | 5 1/2 |
| 1974 | 12 1/2 | 7 | 16 | 7 1/2 | 13 | 14 | 14 | 6 |
| 1975 | 4 | 2 | 9 | 4 1/2 | 11 | 10 | 10 | 4 |
| 1976 | 10 | 5 | 10 | 4 | 11 | 11 1/2 | 11 1/2 | 5 |
| 1977 | 13 | 6 | 11 1/2 | 5 | 10 | 12 | 12 | 5 |

NOTES: 1. defined as net profit (after tax) as percentage of shareholders' funds.
2. defined as net profit (after tax) as percentage of total tangible assets.

SOURCE: Reserve Bank of New Zealand Corporate Financial Statistics, adjusted by the author for discontinuous series. Some care should be taken in using these figures as the survey coverage alters from year to year.