

CHAPTER V

THE NEW ZEALAND LEVY SYSTEM5.1 THE CURRENT METHOD OF FINANCING ACCIDENT COMPENSATION

Chapter II described how the Act came to be constituted in its present form and 2.4 outlined the background to the decision to fund Accident Compensation through a differential levy system.

Table 5.1 summarises the sources of income for each of the three operating schemes :

TABLE 5.1

<u>SOURCES OF REVENUE</u>	<u>The Earners' Scheme</u>	<u>Revenue 1977-8 (M)</u>
	Levies on employers	69.8
	Levies on self-employed	9.6
	Investment income	9.1
	Total Income:	88.5
	<u>The Motor Vehicle Scheme</u>	
	Levies on motor vehicle owners	22.2
	Investment income	6.1
		28.3
	<u>The Supplementary Scheme</u>	
	Appropriation from parliament	10.9

Source: ACC Annual Report, 1978.

Under the Earners' scheme, all industrial, trade, government, business and professional activities have been classified and each class given an account and a number

For each class, work accident expenditure is recorded¹ and all levies received, so that broadly speaking, a mutual fund of the employers in each industrial activity is operated. The employer determines his industrial classification by reference to the goods or services he produces. All workers engaged in the firm are levied according to this basis rather than their actual occupation within the firm, with the exception of two special classes; employees engaged solely in clerical duties are levied at 25 cents per \$100 under the Clerical-Management class, and 30 cents under the Commercial Travelling class for commercial travellers.

The Commission lists 785 industrial descriptions² which fit into 204 classes, each with one of 21 rates per \$100. These rates were adapted from the old Workers' Compensation Board premium rates with additions, modifications and some compression of the range of charges. Initially it was estimated that about 20 cents per \$100 of payroll would be necessary to cover non-work accidents to employees and this was included in the levy structure. For the self-employed, the Commission drew the conclusion that it was impractical to determine differential levies. The self-employed in agriculture constituted possibly the only viable class,³ but farmers are entitled to reduce their incomes for tax purposes by various exemptions, deductions and by capital

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1. Non-work and accidents on the way to work are not debited against the individual firm's record, but funded by spreading equally throughout all industrial groups. Medical expenses are apportioned to each major scheme on the basis of a sample survey when they cannot be identified with a particular firm's accident.
 2. In 1973 an additional 25 descriptions were added - see Accident Compensation Commission, Levies on Employers, 1975, p.36.
 3. They comprise about one-third of all self-employed and about 55% of all self-employed claimants. Farm employees are levied at the rate of \$1.40.

expenditures giving an unrealistic basis on which to levy rates. A flat-rate of 1% was set for all self-employed, as the only tenable option. No changes have yet been made to any levies under the Earners' scheme.

TABLE 5.2
RECOMMENDED CHANGES TO LEVIES

Type of Vehicle	Present \$	Recommended \$
Motor cycles (engine capacity over 60 cc) including "Learner" motor cycles ...	9.90	60.00
Motor cycles (engine capacity 60 cc or less) including "Learner" motor cycles ...	1.35	5.00
Power cycles (i.e., vehicles fitted with pedals for alternative propulsion) including "Learner" power cycles ...	1.35	5.00
Tractors ...	2.00	3.50
Trucks, vans ...	14.45	12.00
Self-propelled caravans and mobile cranes ...	14.45	12.00
Fork-lift vehicles carrying goods on road ...	14.45	12.00
Motor vehicles designed to carry more than 9 persons ...	14.45	12.00
Public taxicabs ...	57.50	50.00
Trailers (including trailer caravans)	0.70	No charge
Miscellaneous vehicles—		
Ambulances ...	21.50	12.00
Fire brigade vehicles ...	21.50	12.00
Hearses ...	21.50	12.00
Trade plates for trailers ...	0.70	No charge
Farm vehicles—		
Class B farm tractors ...	2.00	3.50
Class B farm motor cycles (engine capacity over 60 cc) ...	2.00	10.00
Class B farm motor cycles (engine capacity 60 cc or less) ...	1.35	3.50
Class B farm power cycles (i.e., vehicles fitted with pedals for alternative propulsion) ...	1.35	3.50
Class A farm trailers ...	0.70	No charge
In respect of categories not mentioned above no changes were recommended.		

Source: Report of the Accident Compensation Commission, 31 March 1978.

For the Motor Vehicle fund, flat-rate levies applicable to eight broad classes of motor vehicle are payable on annual registration. In the Report of March 1978, the Commission

outlined proposed changes to the scale of levies - see Table 5.2. The recommendations were made particularly to ensure that motor-cycle owners contributed an amount more commensurate with the drain that accidents involving cyclists were having on the fund. The huge increase proposed for motor-cycles of over 60 c.c. from \$9.90 to \$60.00 was finally settled by Parliament at \$25 for motor-cycles, 126 c.c. and over, and \$15 for motor-cycles 61 - 125 c.c., illustrating that while the Commission may feel bound to recommend changes to levies to make each class 'pay its way', Government has the power to modify such demands to accomplish or accommodate other objectives.¹ In September 1978 an amendment was passed in Parliament (see Appendix II) which gives broad powers of discretion to the Commission in the implementation of rebates and penalties and applies even to the self-employed. Any reasonable scheme of rebates and penalties must be predicated on an accurate levy structure and it would be fortuitous indeed if the present levy rates were even reasonably accurate in view of the rather arbitrary way in which levies have been set. In addition, the level of benefits, coverage and liability for first-week payments differ from those pertaining under the old scheme. The experience of the last five years² should enable levies to be adjusted. Some

1. Such actions could be viewed as an attempt by Government to take into account other external benefits and costs hitherto uninternalised. For example, motor-cycles save overseas funds through economy in operation. They also bestow benefits on other road users because they are easily parked, unlikely to cause injury to others in the event of an accident, etc.

2. There has been a considerable lack of statistical data pertaining to the first years' experience of the new Accident Compensation Act. No breakdown of revenue and expenditure has been available by broad industrial division and by place of accident, i.e. work or non-work.

classes may be found to be too small to be mutually funded and some amalgamation of classes may be found to be desirable. Table 5.3 lists some of the present industrial activities and that their appropriate levy rates, which show a level of differentiation one suspects will not be justified by this data.

TABLE 5.3
EXAMPLES OF LEVY RATES UNDER ACC

<u>Industrial Activity</u>	<u>Class</u>	<u>Rate per \$100</u>
Billiard Saloon, operation of	910	0.40
Billiard Tables, manufacture of	334	1.70
Biscuits, manufacture of	308	1.40
Boarding-house, business of	632	0.80
Charitable Institutions, operation of	633	0.50
Dentistry, practice of	905	0.25
Dental Surgical Equipment, selling	610	0.30
Petrol Retailing	618	0.80
Sauna Bath and Massage, operation of	916	0.80

Source: ACC, Levies on Employers, 1975.

5.2 THE INDUSTRIAL LEVY SYSTEM

5.2.1 The Resource Allocation Argument.

When firms are faced with an accident compensation levy, based on payroll and set levy rate, it was argued in Chapter III that there is no direct safety incentive. Firms may do nothing, try to pass costs forwards to consumers or backwards to labour, or change to less labour-intensive

techniques or some combination of these possibilities.

The success of the industry in passing costs forward will depend on the underlying elasticity of demand for the product. When substitute goods differ significantly in degree of riskiness of production, then relative prices should favour the less accident-intensive. The other possibility is that substitute goods may differ in relative labour intensity, hence even if comparable risk is involved, the lower labour-intensive product will be favoured. When levies cause firms to economise on labour, reinforcing an already existing trend in New Zealand, then number of accidents or the accident rate may not improve for the individual firm.¹ And taking a broad view of the total accident picture, even if less labour-intensive techniques do mean fewer accidents for the firm, displaced labour has to do something and even if unemployed may run quite high risks of accidents through alternative pursuits.²

If levies reflect true costs of work accidents and are accepted as part of the cost of employment, then they are merely another cost of labour and cannot really be described as 'taxes'. However, as the levies are structured, the non-work component is analogous to a genuine tax because it is unrelated to the firm's activity and goes into a pool from which non-work accidents to employees are financed. It may be argued that the workers pay this tax anyway,

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1. See Chapter III. The less labour-intensive process may conceivably entail the same or even higher accident rate per employee.
 2. This view is reminiscent of the materials balance approach of environmental theory; see for example, A. Kneese and R. Ayres, Economics and the Environment, A Materials Balance Approach, John Hopkins Press, 1970. Here a broad view of pollution-prevention exposes the fallacy of protecting one media as this may have compensating damaging effects on other unprotected media.

because in its absence their wages would be correspondingly higher. However, in the current New Zealand situation, in which a combination of union pressure, relativity arguments, imported and domestic inflation, have produced a wage-price spiral, this would be difficult to test. Besides, the intense efforts made by industry to gain some relief from the costs of accident compensation, suggest that both backward and forward shifting are difficult. The non-work component can thus be regarded as a payroll tax, except that of course it is tax deductible from profits calculated for general taxation purposes. The Ross Committee on Taxation in New Zealand (1967) regarded payroll taxes as discriminatory and as likely to strengthen the wage-price spiral in inflationary times, and to have a deflationary impact in a recession.¹ From the point of view of the firm, the more labour-intensive, and the higher the wages paid, the more it will be discriminated against by this method of funding non-work accidents.

Labour intensity is theoretically measured by the ratio of labour to capital employed, but practically it is difficult to find a simple index, due to the valuation problem of capital. The ratio of salaries and wages to total production costs and the ratio of salaries and wages to net value-added provide two imperfect and rough measures of relative disadvantage. The appropriate ratios for a selection of industries are compared to the overall manufacturing sector averages in Table 5.4.

1. N.Z. Taxation Review Committee: Taxation in New Zealand, Govt. Printer, Wellington, October 1967, pp. 350-2.

TABLE 5.4
RELATIVE DISADVANTAGE OF PAYROLL TAX

INDUSTRY	WAGES AND SALARIES AS A % OF TOTAL PRODUCTION COSTS	WAGES AND SALARIES AS % OF NET VALUE- ADDED
Meat Freezing or Preserving	20.3	99.4*
Furniture	34.5	76.0
Woollen Milling	30.3	75.8
Assembly electrical appliances	33.7	74.5
Basic Metal Industries	13.0	53.3
Chemical Fertilizers	9.2	42.1
Brewing Ale and Stout	17.7	35.2
Average for Manufact- uring Sector	21.5	69.4

* Unusually high due to losses in this year.

Source: Compiled from N.Z. Department of Statistics,
Industrial Production 1973-4.

Thus those industries in which labour cost as a high proportion are relatively discriminated against when a payroll tax is compared to a more general method of taxation. Beyond the manufacturing sector, farming being capital-intensive, should fare relatively well, while high labour, service industries will be disadvantaged. Firm B (Appendix III) illustrates the case of a highly labour-intensive industry which at present is feeling overburdened by the levy system even though it is a relatively safe industry attracting a levy rate of only 40¢. A bad combination is exhibited by the freezing industry, where a highly labour-intensive process, very high wages and moderately high hazard exist. However, at a levy rate of \$2.50, the percentage of total levy paid for non-work accidents is much less than in the case of Firm B.

The fraction of the basic levy which has nothing to do with accidents in the particular industry will have a distortionary impact on relative prices.¹ It remains to determine whether the portion of the levy which reflects the true costs of the industry's accidents actually improves resource allocation. There are several features of the New Zealand scheme which suggest this effect is somewhat minimal.

(i) The efficiency pricing rule which requires that prices be equal to true marginal social costs has an all-or-nothing character. Where the rule is not met in all other sectors, enforcing it in one particular sector it may not improve matters and second-best solutions may be difficult and complex. The New Zealand economy being small, it has a large proportion on monopolised and state-run industry. Monopolies are able to set prices above M.C., so that relative prices will not reflect relative social costs. Of the total engaged workforce, 35% are in public employment² and while many state-run concerns compete with the private sector, much public output is provided at less than full cost or zero cost to the consumer. Levies on this sector are, in effect, paid for by general taxation; see for example Case Study A, Appendix III and, as such, they have no direct effect on long-term resource allocation. In addition, high direct taxes, indirect taxes, subsidies of many kinds, are endemic

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1. This fraction will include all non-work portions and a further amount for accidents classified as work accidents, but in reality beyond the control or influence of the employer - a clear cut example is the 'on the way to work' accidents.
 2. For a breakdown of public employment, see New Zealand Monetary and Economic Council, The Public Sector, Report No.31, Govt. Printer, Wellington, October 1976, p.11.

in the New Zealand economy, all of which, except in so far as they reflect social costs and benefits, will distort relative prices.

Table 5.5 lists those industries which do attract the highest levy rates.

TABLE 5.5
HAZARDOUS INDUSTRIES AND LEVY RATES

Flight crew and employees	\$5.00
Minerals, natural gas, oil exploring and prospecting, mining, tunnelling, well-digging	\$5.00
Ship breaking, demolition of buildings, firewood cutting, brush and tree felling, post and rail splitting	\$5.00
Quarrying, crushing, shingle gathering, gravel sandpit operation, pumice processing	\$4.20
Electric power, construction, maintenance of lines, radio and transmitter mast construction and maintenance. Traction line supply.	\$4.20

Source: ACC Levies on Employers, 1975.

As in England the competitive position of the various fuels is likely to be determined by political factors. Besides, oil, natural gas, coal development, all carry the same levy rate, so that any allocative effect must come from differences in the degrees of labour intensity. Perhaps some very long-term allocative effect can be imagined as the costs of fuel exploration become so large that alternative energy sources, such as wind, sun, nuclear power, etc. are developed. But the major decisions are likely to be political and the costs of the levy in the decision insignificant.

For other high levy industries it is hard to imagine alternatives or substitutes, e.g. tunnelling, demolition of buildings, bush and tree felling. The various forms of transport: road, air, rail and shipping, involve widespread externalities only some of which are internalised,¹ hence marginal differences in the risk attached to the operation of each are likely to be totally insignificant.

TABLE 5.6

MEDIUM RISK INDUSTRIES AND LEVIES

Fishing, all types	\$3.20
Construction - wharfs, bridges, etc.	\$3.20
Trenching, flax-milling, drain-laying (buildings)	\$3.20
Metal ferrous, rolling, forging	\$3.00
Smelting, scrapmetal	\$3.70
Sawmilling	\$4.00

For medium-hazard industries, once again substitutes are either difficult to imagine, or the activity is one of national importance, perhaps saving or earning overseas exchange.

(ii) There is further compelling reason why the resource allocation argument is rather flimsy. Levies only apply to the workers engaged in the industrial activity. If through the firm's activities, or through the sale or use of the products concerned, members of the public are injured,

1. There have been recent moves to internalise some of the costs of providing roads by a system of differential road user charges. These are intended to make rail and road more competitive.

these are not allocated to the industry.¹ Thus a bus carrying tourists may be involved in a serious accident, but only accidents to the drivers and other employees will be recorded against the firm and thus the industry. A plane crash may kill many hundreds, but the levy paid will relate only to airline employees. Where the production of a service involves large numbers of the public, this effect is marked, e.g. in the education system a levy is paid which is supposed to reflect the cost of providing educational services; however, accidents which happen to students, who are after all, the bulk of education input, are completely ignored when it comes to allocating accident costs to this sector.

A product may be relatively riskless in its manufacture and thus attract a low levy, and yet be associated with many accidents in its use; alcohol is the obvious example.² To base allocation of resources between competing beverages on the basis of accidents involved in their manufacture may lead to alcoholic beverages being favoured over milk or other incongruous results.

Environmental theory first viewed pollution in the narrow content of production, but it was later recognised that the product, to be properly priced, should bear the full cost of

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1. In addition, abolition of common-law rights has removed the deterrent effect of product liability, although cases can still be brought against exporters; see article 'Huge U.S. Court Awards Cause Insurance Jitters in N.Z.'; New Zealand Herald, Auckland, April 7, 1978, Section 1, p.12.
 2. The role of alcohol in road accidents has received much publicity; however, it has also been implicated in accidents of most kinds and probably has a highly significant role in work-place accidents. See I. Campbell 'Alcohol and Occupational Safety in New Zealand', unpublished paper presented Massey University, 4 February 1977.

its pollution potential not only in production but also consumption.¹ Likewise, the emphasis of the industrial levy system on production to the complete disregard of accidents involved in the product's consumption cannot be expected to give appropriate price signals.

(iii) Because levies are paid on a product or service-produced basis, rather than on occupational basis, incorrect price signals to the manufacturer will actually prevent him from reallocating resources from high accident labour inputs to lower accident labour inputs. Within an industry there will be large variations in the degree of vertical integration among firms, e.g. one firm in the carpet industry may merely make carpets, another paying the same levy may make carpets, dye, cut and sew, lay, employ its own electricians, plumbers, gardeners, maintenance staff and run a full cafeteria. This firm will not be paying the appropriate price for these extraneous labour services, and indeed, would indirectly pay a different rate if the services were acquired by contract. For example, an appliance manufacture which has its own tool-making department would pay a levy of \$1.70 on these workers, but if required to buy the tool-making services from outside, would pay a price reflecting the true levy rate of \$2.50. Thus, although there may be numerous reasons why a firm economises its use of high accident rate labour, the levy itself provides none.

Apart from the nonhomogeneity of firms within an industry, there is considerable variation among firms as to the way in

1. Thus recommendations, such as a levy on hard-to-dispose-of packaging, have been made; see Seneca and Taussig, pp.172-6 and 236.

which levies are actually allotted among different occupational groups. Some adhere closely to the regulation that all are to be levied at the same rate, while others differentiate as far as possible - see Case Study D, Appendix III. Local bodies also exhibit wide variation in occupational breakdown - see Case Study E.

(iv) Finally, the experience under the Act so far suggests that class levy rates will be adjusted infrequently. Over time, however, previously non-compensatable accidents and occupational diseases become accepted as precedents are set. These cases may not be attributable to a particular event or even entirely to a particular industry, and begin the inevitable progression towards a unified sickness-accident scheme. Some recent examples of this can be seen in the first lump-sum assessments to be made for industrial deafness.¹ Where an industrial environment produces a disability after a long period of time, levies have a much more tenuous relationship to actual costs.² Precedents will encourage more claims, the future quantum of which for a particular industry may be quite unpredictable.

5.2.2 The Case in Equity.

Even if the resource allocation argument is unconvincing, there may be a case in equity for differential levies. Certainly the concept of non-subsidization is applauded by most employers.³ There are several facets to

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1. See A.C.C. Report v.3, no.4, September 1978, p.11 and no.5, November 1978, p.1. The maximum award to date under section 119 for industrial deafness has been \$2,000.
 2. Carcinogenic and teratogenic effects of exposure to chemicals will doubtless become compensatable, but will be difficult to detect and evaluate.
 3. See Employers' Federation, 'Accident Compensation Changes Sought', Employer May 1978, p.6.

the concept of equity. Firstly, horizontal equity requires that persons in equal situations pay equal shares. If accident compensation is not a redistributive good, but similar to a private good, then horizontal equity requires that those with equal potential usage of the scheme pay equal premiums. Thus in so far as accidents are an inevitable outcome of particular industrial processes, charging the employer a differential levy to reflect this extra hazard seems fair. However, whether the levy should cover the normal risks of being alive and remove all financial pressure from the employee is debatable. If empirical studies of accident causation in different industries indicate significant contributory negligence, or deviant behaviour or the phenomenon of moral hazard, then there is a case in equity for attributing part of the burden of accident compensation to the worker directly. This could be done by building in an 'excess', thus the worker could be required to carry the first few days of the accident himself, or receive less than full wages. This would be preferable to levying his wages directly as it would satisfy both the equity principle and provide incentives to safety.¹

As far as firms are concerned, requiring non-work accidents to be funded out of the levy is discriminatory for reasons previously mentioned, see pp.81-2. From the employee's point of view, whether he engages in high-risk non-work

1. The present system whereby the worker receives 100% wages for the first week of lost time is currently the subject of much criticism especially in the Freezing Industry where the operation of moral hazard is quite obvious; see Chapter VI.

pursuits or not, is immaterial to the amount the employer pays on his behalf. And although the levy is income-related, only earnings-related compensation is income-related, while medical, hospital, lump-sum and other benefits are not. Because discrimination by risk is not made, accident compensation for non-work injuries becomes like any other social insurance, which in New Zealand would be commonly funded on the basis of vertical equity through general taxation. This applies particularly to the non-earnings-related benefits, some of which are no different from other similar benefits already provided in the social security system. Funding the earnings-related component through earnings-related levies only partly satisfies the horizontal equity criterion, as it allows subsidization of high-risk users by low risk. The feature of the present system which does not satisfy current concepts of vertical equity in New Zealand, is the proportionate nature of the non-work levy coupled with the narrow wage base. Only wages up to a ceiling are included without any basic exemptions allowed, so that the proportionate tax becomes regressive above the ceiling. J. Brittain¹, in analysing the U.K. system has argued against payroll taxes as a means for funding social security for this reason. The problem could be overcome if individuals paid a separate progressive or proportionate rate of tax on all income for the purpose of funding non-work accident expenditure. However, if this solution allows closer accord with equity principles, it does nothing for safety incentives.

1. J. Brittain, The Payroll Tax for Social Security, Brookings Institute, Washington, 1972.

To return to the user-pays concept, or horizontal equity for non-work accidents, risk discrimination could theoretically be made by varying the rate of tax depending on the risk potential of the individual. Thus young men, who indulge in risky sports, ride bikes, etc. would expect to pay a higher rate of tax. The difficulties of categorising people, however, would be immense, and although where persons with equal risk pay equal premiums, it is specious to regard those who are injured as being subsidised by the others as each has had the equal benefit of cover; in real-world situations it is difficult to circumscribe identical groups and any practical scheme would need to encompass a range of risks in order to give a sufficient basis for pooling.

To summarise, horizontal equity requires that the user-pays principle is satisfied, while if redistribution is involved, vertical equity is the appropriate concept and in most Western economies this would mean that a system should be adopted which does not increase income inequality, i.e. proportionate or progressive general taxes are called for. The non-work component of levies, when paid by the firm, satisfies neither horizontal equity, nor vertical, neither does it provide any safety incentives. Of the remaining portion of the levy, in so far as it truly reflects the actual differences in hazard between the industries and does not cover accidents which may occur randomly as part of the risks of normal living, horizontal equity is satisfied. Rather than levy the individual for his part in accidents which occur at work, equity and safety incentives would be better served by using an 'excess' approach.

5.3 TREATMENT OF NON-WORK ACCIDENTS

5.3.1 Road Accidents.

As the Act is constituted, the only non-work activity to be separately financed is motor vehicle driving. Flat-rate levies on vehicle owners form a pool from which road accidents are financed. Because levies are not income-related, high income road users are to some extent subsidised by low income road users, i.e. the combination of income-related benefits and flat-rate funding is regressive in total incidence. However, those accidents which happen on the way to and from work (5½% approximately for all work accidents) and work accidents involving motor vehicles are a charge on the Earners' Fund. Thus these payments are made from levies paid by industry and are not a call on the levies paid by the motor vehicles concerned.¹

Because levies on motor vehicle owners are lump-sum, paid annually, they may cause some lower income persons to cease driving altogether, but basically once paid can have no impact on safety incentives or on the level of activity.² It could be argued that incentives might be improved, if, as with the recommendation for industrial accidents, the individual is required to bear an excess. However, at present the first week compensation for non-work accidents is not paid and even if it were, it would be hard to imagine 'moral hazard' being of much relevance in road accidents. Another

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1. There is a somewhat anomalous position here in that some vehicles will only ever have work accidents, but still pay the motor vehicle levy which goes to the M.V. Fund.
 2. Commercial driving may be more dependent on average than marginal costs - but tax deductability will reduce this effect.

solution which might be considered is to make the levy paid adjustable according to the individual's experience. But statistically this poses insurmountable problems. If small firms' accident records cannot be taken as 'credible' or as adequate indication of their true 'goodness' or 'badness', as measured against the class norm, then the experience of an individual certainly cannot.

Should one accident be the basis of a penalty? How would accidents be weighted - would one serious accident be worse than two small ones? There are insurmountable problems with penalties on the individual in a no-fault system, but rebates are no better. From the arguments of Chapter IV, a zero-accident experience would never be grounds for a rebate when E_a is small, which is the case for an individual even if a long-time period is taken.

To use Calabresi's ideas, it would seem that some broader allocation of costs for motor vehicle accidents would be appropriate. At present the Commission, anxious not to reintroduce fault, have sought to make each class of vehicle pay for the costs of its own accidents. For an accident involving a motor-cyclist and a car, the cyclist is most likely to suffer injury and when he does, the cost is allocated to the motor-cyclist class. Thus the recent recommendation to Parliament for a massive 500% increase in levies - see Table 5.2.

The attitude of the Commission is summarised in a statement made by the Chairman, Mr Sanford, in the Auckland Star :

Mr Sanford^{de} said he could not comment one way or the other on the motor-cyclists' claims that about two-thirds of accidents involving motor cycles and other vehicles are the fault of the other vehicles. The question of blame has no bearing on accident claims or on what the levy should be, he said.¹

The statistics for motor-cycle and power-cycle accidents for 1976 reveal 3161 accidents in which 92 drivers and pillion passengers were killed, and 3330 were injured.²

Other vehicle involvement	2265	or	<u>72%</u>
Accidents involving motor-cycle alone or an obstruction	741	or	<u>23.62%</u>
Pedestrian	115	or	<u>3.6%</u>

Even if it is inadmissible to introduce fault as a criterion, the concept of involvement proposed by Calabresi would indicate that one-half of all motor vehicle/motor-cycle accident costs should be charged to motor vehicles. On the above figures, this would account for the costs of 36% of all motor-cycle accidents.

The Act has provision for collecting premiums from drivers rather than as at present from motor vehicle owners. This has the potential to allow those drivers whose driving records are worse to pay higher premiums. Criteria of the number and type of convictions could be used even if no injuries or accidents were actually incurred.

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1. Auckland Star, Auckland, 2 May 1978, p.2.
 2. N.Z. Ministry of Transport, Motor Accidents in New Zealand, Statistical Statement Calendar Year 1976, Ministry of Transport, Wellington, p.62.

A substantial number of road accidents involve alcohol and ways in which this could be discouraged financially, to reinforce the legal attitude, could be examined. Perhaps taverns and other facilities could be levied, particularly if parking is provided or encouraged. If the levy rate was annually adjusted for the whole industry, hotel associations would have an incentive to ensure clients behaved appropriately.¹ A case could also be made for allocating costs of accidents to local bodies, where several accidents occur at the same place, indicating hazardous road conditions. In so far as local bodies are under pressure to economise, the levy will provide an incentive to eliminate the hazardous road conditions.²

5.2.2 Other Non-work Activity.

It seems entirely inappropriate to levy motor-vehicle driving as at present and ignore all other non-work activity. From an economic point of view, it is unsound to levy one type of activity and let other dangerous activities escape without any financial disincentive. In other words, one cannot recommend MC pricing in one sector when it does not operate elsewhere, and indeed the worst of possible solutions may be that accidents increase because only one activity has been levied. The Commission has provided tables of statistics which relate to all accidents for the period January - June 1977, and from these figures approximate annual statistics may be extrapolated.

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1. Some establishments now provide courtesy cars for patrons.
 3. Slippery white road paint has been implicated in many motor-cycle accidents for example. The council in one suburb in Auckland has successfully altered the road texture in one trouble spot to prevent skidding and the potential for further action in other areas is clear.

TABLE 5.7
CLAIMS FOR JANUARY - JUNE, 1977.

Total No. of claims:	53,147	
<u>Work Injuries</u>		
Total work injuries	27,871	(402 involve a vehicle)
To and from work accidents	1636	
Unclassified	36	
Total:	<u>29,543</u>	
<u>Non-Work Injuries</u>		
Road	4503	
Sport/Recreation	7225	
Home	7527	
Other Place	4349	
Total:	<u>23,604</u>	
Actual work injuries as a percentage of total injuries:		52.5%
Non-work injuries and on-the-way-to- work injuries as a percentage of total injuries:		47.5%
Actual non-work injuries excluding on-the- way-to-work injuries:		44.41%

Of the non-work accidents, 19,324 or 81.87% occur to the self-employed or employee class and of these 3,463 claims are accidents involving a motor vehicle, 3,013 of these occur on the road, and the rest at home or sport, etc.

From these figures it may be deduced that 19.03% of non-work injuries, or 4,280 accidents, occur to non-earners and hence are paid for through the Supplementary or Motor Vehicle Fund.

Assuming that the 3,013 accidents to Earners which occur on the road are funded through the Motor Vehicle Scheme, the

remaining 16,311 = 35% accidents will be funded through the Earners Scheme.

When accidents on the way to work are included¹, this becomes 17,947 accidents, or 37%. These extrapolations are confirmed by some broad statistics supplied by the Commission:

TABLE 5.8
WORK, NON-WORK DIVISION OF CLAIMS, EARNERS'
FUND

<u>Year Ended</u>	<u>Work Claims</u>	<u>Non-Work Claims</u>
31.3.75	63,245	28,139
31.3.76	71,471	38,460
31.3.77	68,067	39,033
31.3.78	62,717	40,584

Non-work claims as a percentage of total claims has risen from 30.8% in 1975 to 39% in 1978. If on-the-way-to-work accidents are 5% of work accidents, then for 1978 these total 3,100. Thus, if these are included in the non-work claims, 42% of all claims are non-work related.

If it is assumed that non-work and work accidents require similar funding, then it can be deduced that approximately 42% of levies are required to fund the non-work component (including on-the-way to and from work accidents), for earners.

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1. Under Workers' Compensation, because the employer often made the transport arrangements for workers, accidents on the way to and from work came under the industrial accident cover umbrella. Nowadays this seems an anachronism and in most cases the employer cannot be held responsible in any way for these accidents - hence it seems logical to regard them as non-work accidents.

Under the original levy structure, 20¢ was allowed per \$100 of wages earned for non-work accidents. The average levy is about 1% of leviable wages, so that about 42¢ out of each levy rate is necessary to fund non-work accidents. Firms which are levied less than 42¢ are therefore not contributing at all to their work injuries and are in fact being subsidised. If the non-work component is removed from the firms' levy, the burden on industry will be considerably lighter and if more complete statistics validate the figure of about 42¢, then high-rate industry can expect to pay 42¢ less, less further amount which reflects the existing subsidy to those firms paying a levy less than 42¢ at the moment.

The major dilemma confronting alternative means of funding non-work accidents, is that benefits are in part earnings-related but while a tax on incomes will ensure that low income users are not subsidising high, general taxes cannot, without extreme difficulty, be made to discriminate between risks or be related to safety. If, on the other hand, Calabresi's ideas of charging activities on the basis of their involvement is used, this has potential for safety incentives, but could not without extreme difficulty be made income-related. Thus, as with the motor vehicle fund, high income users (who get high earnings-related compensation) would be subsidised by low income earners.

A compromise may be possible, the individual could be charged a simple surcharge on income¹ which would cover all

1. This could be income up to a ceiling which relates to the ceiling of benefits, or on all income which would have the advantage of spreading the burden and could be made to cover extraneous non-work accident expenditure which cannot be otherwise allocated, of the non-earnings-related kind, e.g. Acts of God, arbitrary domestic accidents - the medical, hospital and other related expenditure.

earnings-related compensation for all non-work accidents including motor vehicle accidents, and the rest of the expenditure on these accidents financed by charging the activities concerned in such a way as to maximise safety incentives. Thus an individual would pay twice, once through the tax to cover the earnings-related benefits and again indirectly when he participates in hazardous non-work pursuits. It would then remain to charge non-work activities in such a way as to relate the levy to accidents incurred, rather than a lump-sum assessment, as are the present levies on motor vehicles.

5.3.3 The non-earnings-related benefits of non-work accidents: Many accidents involve merely medical attention and thus do not become subject of an individual claim to the Accident Compensation Commission, who pays the doctor in bulk. The claims that do proceed will have medical, hospital, physiotherapy and other associated costs, none of which are income-related. To gauge some idea of the size of this non-income-related component, figures are taken from the Earners' and Motor Vehicle Compensation Statements for year ended March 1978 - see Tables 5.9a and 5.9b. The 40% figure for non-work accidents has been used as a rough way of splitting up expenditure in Table 5.10.

TABLE 5.9a
Accident Compensation Commission
EARNERS' COMPENSATION FUND

STATEMENT FOR THE YEAR ENDED 31 MARCH, 1978

	1978			1977 Corresponding Amounts		
	For Current Year	For Prior Years	Total	For Current Year	For Prior Years	Total
	\$	\$	\$	\$	\$	\$
Income -						
Gross levy revenue	79,457,887	...	79,457,887	71,897,204	...	71,897,204
Investment income	3,651,591	5,416,179	9,067,770	2,285,706	3,391,641	5,677,347
Total income	83,109,478	5,416,179	88,525,657	74,182,910	3,391,641	77,574,551
Expenditure -						
Earnings related compensation or loss of potential earnings, payable to injured persons	25,369,258	13,661,921	39,031,179	25,143,274	10,360,505	35,503,779
Earnings related compensation or remittance grants, payable to dependents	493,299	2,899,203	3,392,502	880,439	1,562,521	2,422,960
Funeral expenses and dependents allowance	440,385	169,963	610,348	560,001	154,224	714,225
Non-economic loss	1,085,932	10,750,906	11,836,838	1,260,943	4,887,459	6,148,402
Medical treatment	5,901,469	692,639	6,594,108	5,635,391	541,324	6,176,715
Hospital treatment	1,057,912	550,606	1,608,518	1,229,904	84,098	1,314,002
Dental treatment	1,004,646	262,533	1,267,179	874,381	211,349	1,085,730
Conveyance for medical attention	851,387	58,215	909,602	566,939	38,766	605,705
Rehabilitation - aids, training, and grants	16,752	96,924	113,676	43,359	35,917	79,276
Other expenditure	199,427	213,164	412,591	254,386	153,293	407,679
Total compensation and medical expenditure	36,420,467	29,356,074	65,776,541	36,449,017	18,029,456	54,478,473
Revenue collecting agency fee	2,491,237	...	2,491,237	2,267,375	...	2,267,375
General Fund transfer	5,533,633	1,510,207	7,043,840	3,967,545	1,119,051	5,086,596
Total expenditure	44,445,337	30,866,281	75,311,618	42,683,937	19,148,507	61,832,444
Addition (or reduction)	38,664,141	(\$25,450,102)	13,214,039	31,498,973	(\$15,756,866)	15,742,107
Fund Balance -						
Balance of fund - 1 April		66,592,051	66,592,051		52,036,974	52,036,974
Reduction for prior years		25,450,102	25,450,102		15,756,866	15,756,866
		41,141,949	41,141,949		36,280,108	36,280,108
Addition for current year		38,664,141	38,664,141		31,498,973	31,498,973
Extraordinary item			(1,187,030)	(1,187,030)
Balance of fund - 31 March		79,806,090	79,806,090		66,592,051	66,592,051

TABLE 5.9b
 Accident Compensation Commission
 MOTOR VEHICLE COMPENSATION FUND

STATEMENT FOR THE YEAR ENDED 31 MARCH 1978

	1978				1977 Corresponding Amounts			
	For Current Year	For Prior Years	Total	For Current Year	For Prior Years	Total	Total	
	\$	\$	\$	\$	\$	\$	\$	
Income -								
Gross levy revenue	22,248,201	...	22,238,201	21,530,409	...	21,530,409	21,530,409	
Investment income	1,197,634	4,915,862	6,113,496	998,587	2,786,425	3,776,012	3,776,012	
Total income	23,445,835	4,915,862	28,361,697	22,519,996	2,786,425	25,306,421	25,306,421	
Expenditure -								
Earnings related com- pensation or loss of potential earnings, payable to injured persons	2,999,317	2,223,360	5,223,677	2,745,563	1,414,428	4,160,991	4,160,991	
Earnings related com- pensation or re- marriage grants pay- able to dependents	291,297	1,432,952	1,724,249	308,545	822,297	1,130,842	1,130,842	
Funderal expenses & dependents allowance	510,867	173,773	684,640	338,204	109,222	467,426	467,426	
Non-economic loss	269,341	3,629,750	3,899,091	403,366	1,757,059	2,160,435	2,160,435	
Medical treatment	519,859	127,191	647,050	333,993	68,742	402,735	402,735	
Hospital treatment	81,781	116,237	198,018	75,958	81,985	157,943	157,943	
Dental treatment	112,535	70,728	213,263	119,548	60,487	180,035	180,035	
Conveyance for medical attention	162,418	11,106	173,524	125,299	8,568	133,867	133,867	
Rehabilitation - aids, training and grants	6,448	87,498	93,946	35,334	44,696	80,030	80,030	
Other expenditure	218,362	165,145	383,507	224,563	122,376	346,939	346,939	
Total compensation and medical expenditure	5,202,225	8,038,740	13,240,965	4,731,373	4,489,870	9,221,243	9,221,243	
Revenue collecting agency fee	1,024,161	...	1,024,161	1,019,777	...	1,019,777	1,019,777	
General fund transfer	1,828,420	492,661	2,321,081	1,375,664	388,008	1,763,672	1,763,672	
Total expenditure	8,054,806	8,531,401	\$16,586,207	7,126,814	4,877,878	\$12,004,692	\$12,004,692	
Addition or (reduction)	15,391,029	(\$3,615,539)	11,775,490	15,393,182	(\$2,091,453)	13,301,729	13,301,729	
Fund Balance -								
Balance - 1 April		49,612,491		35,123,732				
Reduction for prior years		3,615,539		2,091,453				
Addition for current year		45,996,962		33,032,279				
Extraordinary item		15,391,029		15,393,182				
Balance of fund - 31 March		\$61,387,981		\$49,612,491				

Source: Annual Report of the Accident Compensation Commission 1978, p.13.

TABLE 5.10

NON-WORK COMPONENT OF LEVIES AND EXPENDITURE

	Earners Fund	Non-Work Portion	M.V. Fund (all non-work)
Gross levy Revenue	79.5	31.8	22.2
Earnings Related Ex- penditure payable injured persons and dependents. Current year	25.8	10.4	3.2
Other non-earnings- related expenditure	10.6	4.2	2.0
Administration and collecting fees	8.	3.2	2.8
Earnings-related portion of retained fund	19.3	7.7	7.7
Non-earnings-related portion of retained fund	19.3	7.7	7.7

Payments for accidents beyond the current year in the Earners Fund indicate an approximate 50-50 split between those payments made for earnings-related compensation and those for other expenses. On this basis¹ the total amount of the non-work levy required for earnings-related compensation, excluding M.V. accidents, is $10.4 + 7.7 = 18.1M$. The amount required for non-earnings-related expenditure is $4.2 + 3.2 + 7.7 = 15.1M$.

If the earnings-related component was funded through a

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1. Here the grossly simplifying assumption is made that the 50-50 split will continue in subsequent years. In the absence of claims detail, this is the best that can be done. It is also assumed that the levies collected are 'correct' i.e. sufficient to meet all future requirements of accidents in that year. In fact, the Commission indicate that the levy revenue is insufficient.

general surcharge, and if 79m does reflect 1% of leviabile national income, then a surcharge of about 22¢ per \$100 of leviabile income would cover the earnings-related aspect of non-work compensation. If separate funding of motor vehicle accidents is abandoned, then figures from this fund could be included.

5.3.4 Allocation of Costs to Non-Work Activity.

The 15.1m of non-work accident payments which are not earnings-related (and excluding motor vehicle accidents paid for under the motor vehicle scheme) plus a further 10.9m from the supplementary fund which pays for accidents to non-workers (total 26m) could be allocated to activities which statistically are most associated with injury.

A survey of all sports claims received by the Commission 1/4/77 to 30/9/77¹ revealed a total of 7995 claims, of which 4878 or 61.01% were for football injuries. Of non-claim and claim sports injuries, football must also be responsible for a huge quantum of medical and physiotherapy expense.

Extrapolating, in a rather arbitrary manner, from the total injury statistics for six months of the year, for a whole year, approximately 47,200 non-work accidents would be expected.² Hence, if one assumes football accidents are largely confined to the six months of the above survey, they account for about 10% of all non-work accidents. Roughly speaking then, about 10% or 2.6M ought to be allocated to the

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1. A.C.C. unpublished statistics 'Sports Injuries Statistics. Number of Claims Received from 1/4/77 - 30/9/77.'
 2. Table 5.8 indicates 40,584 of these occurred to Earners.

activity of playing football. This could be done in several ways. If all clubs were affiliated with the national association, the association itself could allocate levies among clubs according to their records or other safety criteria, or simply on a pro rata basis. Pressure could be brought to bear on club officials and others interested - promoting the sport to inculcate safe play, alter rules, or require protective clothing to be worn. The club could either recover levies through fees on players, or spectators, or finance the levy from its general funds. This should provide appropriate incentives to the club and those in a position to do so to improve safety. If the sum to be imposed on the sport was altered annually to reflect actual costs, the association would have a real incentive to promote safety. Other sports, e.g. squash, boxing,¹ tennis, fencing, suba diving, etc. which have strong associations and which require most participants to belong, could be levied.

Where sport or leisure pursuits are engaged in in an individual capacity, e.g. skateboard riding, hang-board gliding, mountaineering, small-craft boating, etc., it becomes more difficult to allocate costs effectively. A lump-sum tax could be levied on associated equipment, e.g. purchase of a skateboard etc., but this, after purchase, would not affect safety. If specific activities are a cause for concern, then barring them, except under controlled conditions,

1. Recent criticism by the Dental Association has been made that boxers and others requiring expensive dental treatment after accident, are treated free under A.C.C. while other deserving orthodontic cases have to pay. There would seem a good case for levying the Boxing Association - which may then enforce, mouthguards, etc.

may be necessary.¹ Once the activity is controlled, there is potential for imposing charges directly on the activity.²

It may be argued that if the earnings-related component is removed and only the remaining expenditure allocated in ways suggested above, that because less than full social costs are imposed, the optimal incentives on offending activities will not operate. One would have to accept that the situation is less than ideal; however, imposing some of the costs may be better than imposing none. It must also be remembered that determination of true social costs of accidents is a highly debatable issue - see Chapter III - and the total benefits provided by a particular accident compensation scheme are not necessarily an adequate measure of true social losses. In addition, in New Zealand's case, a system of highly subsidised medical and hospital care mean that medical costs are understated in the Commission's accounts. Against this, is the fact that while earnings-related levies paid by industry are tax-deductible, costs allocated as above would not be, nor would levies on individuals' incomes necessarily be.

5.4 REBATES AND PENALTIES IN THE NEW ZEALAND SYSTEM

5.4.1 Legislative Basis for Rebates and Penalties.

The original Act, section 73, provided for rebates and penalties to be assessed on the basis of the record of the employer or self-employed person, and refers to the accident

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1. Certain countries have outlawed skateboard riding for example.
 2. Loss of freedom, bureaucratic interference, excessive regulation, may be some of the prices to be paid for implementing such schemes.

rate as the basis for assessing whether the firm is better or worse than average. The section was felt to be unworkable because the Commission only collect statistics pertaining to accidents beyond the first week, thus a true indication of an employer's record would not be available, also man-hours worked are difficult to police and subject to inaccuracy. Nevertheless, the original legislation emphasised frequency rather than claims experience as the appropriate guide. The subsequent amendment (see Appendix II) broadens the basis for rebates and penalties by reference to the 'general accident experience' of the employer, implying now claims data will be used as the basis. In addition, the Commission have been given broad powers of discretion in implementing such rebates and penalties.¹

... the Commission may from time to time, after having regard to the accident experience of an employer or a self-employed person as compared with the general accident experience of employers or self-employed persons in the same class of business and such other factors as it considers relevant under the circumstances, in its discretion and on such terms and conditions as it thinks fit by notice in writing to the employer or self-employed person concerned ...
etc.

Neither the Act nor the Amendment limit the size of establishment to which such rebates and penalties are to apply and even the self-employed are to be included. In contrast, in the U.S.A. about 85% of employers are considered too small to be experience-rated.

1. Taken from the Accident Compensation Amendment Act, p.3, see Appendix II (emphasis added).

The amendment has been passed in response to pressure exerted by groups such as the Employers' Federation who, feeling over-burdened with the weight of the levy system, have pressed for the implementation of section 73.¹ Unfortunately, the legislation provides no clear guidelines as to how this will proceed. Clearly the intention is to promote safety, as rebates are referred to as 'safety incentive bonuses' and the amendment is headed 'Rewards and Penalties according to Safety Records'.

5.4.2 The Criterion for Rebates and Penalties.

From previous discussion the first priority is the establishment of an accurate system of levies. The portion of the levy which is related to the expected loss can be then modified by some rate modification formula which reflects actual experience and the statistical reliability of that experience. Under the New Zealand scheme, the quantum of any one claim can be highly variable. The time allowed for minor injury may vary according to different medical assessment. For death, payments will be related to dependency and remarriage ability of remaining spouse, and for a single unencumbered person, costs to the Commission may be negligible. The size of the fund needed to be set aside to pay for earnings-related compensation, medical expenses and rehabilitation for accidents of long-term nature will vary according to the life expectancy and earnings loss of the injured person, and could be in the vicinity of

1. New Zealand Employers Federation Inc., Accident Compensation Review, Wellington, April 1978, p.29. Recommendation 6 states that 'A system of merit rebates should be introduced for firms with higher levels of safety performance!.

\$200,000 - \$400,000 dollars.¹ These factors influence the quantum of the claim but do not fairly reflect the particular employer's safety worthiness. The Act also provides for lump-sum payment up to a maximum of \$17,000 for non-economic loss which provides further variability.

It would seem fair that the quantum of a claim recorded against an employer should either be subject to a maximum with excess losses spread equally among all members of the industrial group, or be based on an average for the type of injury. Once claims material is used rather than pure frequency, the chance in the outcome must increase. Some kind of value judgment is needed to decide what importance is to be attached to severity as opposed to pure frequency. In American formulae the emphasis is on frequency for smaller risks that do qualify for experience-rating.

To use a hypothetical example in reference to the simple probability basis of rebates and penalties developed in Chapter IV - suppose the E_a for a firm = 100

then A_a could be between $100 + 20$ and $100 - 20$

and the hypothesis that the firm is not better nor worse than the average could not be refuted using 95% certainty criterion.

The ratio A_a/E_a for acceptable experience would be between 0.8 and 1.20.

1. This raises the whole vexed question as to the appropriate rate of discount to apply to determine how much fund is required for each accident, when benefits are 'inflation-proof'. Recent controversy has centred around the desirability of funding at all in an 'insurance' sense, see for example, criticisms in a paper delivered to the 1978 Conference of the Law Society, J.P. Woodhouse, 'Compensation for Personal Injury in 1978', March 1978, pp.19-20.

If severity is to be taken into account, assuming that for simplicity, minor accidents cost A_1 , medium A_2 , major A_3 , and that for the particular industry

P_1 = probability of minor accidents

P_2 = probability of medium accidents

P_3 = probability of major accidents

then for the firm experiencing 100 accidents per year

the expected claims $E_c = 100 (P_1A_1 + P_2A_2 + P_3A_3)$.

Suppose $P_1 = 0.8$, $P_2 = 0.18$, $P_3 = 0.02$, so that the firm would expect 80 minor, 18 medium and 2 serious accidents on average, say

$$A_1:A_2:A_3 = 1:3:10^1$$

$$\begin{aligned} \text{then } E_c &= 100A_1 (0.8 + 0.18 \times 3 + 0.02 \times 10) \\ &= 154A_1. \end{aligned}$$

If these types of accidents are Poisson distributed, then the firm can expect the number of minor accidents to be between 62 and 98, the number of medium accidents to be between 10 and 26, and the number of major accidents to be between 0 and 4.

Thus acceptable experience will range from

$$(70 A_1 + 10 A_2) \text{ to } (4 A_3 + 26 A_2 + 90 A_1).$$

Accident costs can be between $100 A_1$ and $208 A_1$.

So that the ratio of A_c/E_c can vary from 0.66 to 1.35 and still not be reasonable grounds for rebates and penalties.

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1. This weighting will depend on how much of the total costs of more serious accidents firms are to be held accountable for.

The only investigations presented to date on the feasibility of an American-type formula¹ for determination of rate-modification factors in New Zealand have been made by I. Campbell, the A.C.C. director of Safety and former chairman of the Workers' Compensation Board, in several unpublished papers and submissions. He considered application of the rate-modification formula

$$\frac{\text{Primary actual losses} + B + W \text{ (excess actual losses)}}{\text{Primary expected losses} + B + W \text{ (excess expected losses)}}$$

under the old Workmen's Compensation scheme, and concluded that because of the typical smallness of New Zealand firms, practically all risks would be judged on primary values. The majority of firms would have been too small to be rated by this formula¹ and if B and W were chosen to make it equitable, many more firms would have been relatively unaffected. Such a formula was never implemented. Under section 73 of the unamended Act he put forward a method of calculating the merit of the individual employer's performance based on frequency which he considered was the 'obvious benchmark'.² Instead of man-hours which are difficult to collect accurately, he suggested wages as a base as in Ontario, and a sliding scale of penalties and rebates for those whose experience departs significantly from the norm. Unfortunately this method of measuring frequency must assume a uniform wage rate throughout the industry. In the case study made in Chapter VI,

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1. See Chapter IV, p. 64.
 2. I. Campbell, 'Measurement of an Employer's Performance with regard to Work-Related Accidents', unpublished report to the A.C.C.

it is clear that wage-rate can in fact vary considerably.

This diminishes the usefulness of this approach.

He concludes:

All the studies I have made of various schemes lead me to the conclusion that a graduated scale of rebates and penalties have a very limited, if any, effect. Those who advocate such a scheme are moved more from the apparent logic and equity of the principle rather than by the outcome. Without doubt, however, a system of fairly severe penalties can be effective.

If severe penalties are to be applied a great deal of attention needs to be given to the criteria used, and the method of application. We are restricted to using the frequency rate and inevitably that must mean that at times an employer with a large number of small claims would be penalised whilst an employer with few but costly claims will escape. This is not necessarily inequitable, as often the quantum of the claim is largely a matter of chance, in no way related to the degree of hazard. Again, if a high accident frequency goes unchecked, then inevitably some serious injuries must occur.¹

5.4.2 The Self-Employed.

If the majority of New Zealand firms prove too small to be experience-rated, it is difficult to see how the self-employed who in effect are 'a firm of one' could ever be, and yet the current legislation anticipates that this will occur.

Should one accident be the basis of penalty? The number of accidents involving personal injury per year would involve some sort of weighting - would two small accidents be worse than one serious one? One can imagine a situation where an individual suffers an accident through no fault of

1. Ibid, p.6.

his own and to add insult to injury, is assessed a penalty. Perhaps in the case of fatality, the estate could be levied! This is rather like a fire-insurance company sending the bill to the person whose house has just burned down. In fairness, proponents of rebates and penalties have in mind something like the no-claims bonus offered under car insurance. However, without reintroduction of a system of fault, it is difficult to see this analogy. For example, a person may be involved in an accident which causes injury to others, but because he escapes unhurt there is no entry against his own record and thus he could receive a no-claims bonus. In addition, the quantum of damage to a car can be immediately assessed, while the costs of personal injury may take a long period to assess. From the arguments of Chapter IV a zero-accident experience would never be grounds for a rebate for a small number of expected accidents, which would be the case for an individual even if a long-time period is taken.

In addition, because rebates and penalties are to be given on the basis of work experience and not non-work, another set of problems arise. Firstly the distinction between work and non-work activities is almost impossible for the self-employed, as the two merge in many areas. It would be in the interests of the self-employed to try to classify all accidents as non-work so that no claims are recorded against their work record. One could envisage a situation where a self-employed person has a careless sports accident involving great expense to the Commission, and yet receives a bonus for a good work record at the end of the year! The

other problem is the uniform levy rate of 1% no matter what the occupational status of the self-employed. Some variability according to occupation may provide greater equity than a rebate and penalty scheme.

5.4.3 The Effect of Rebates and Penalties.

One of the justifications for rebates and penalties which Somers and Somers mention is the removal of rate inequity. Where firms are indeed wrongly classified, rebates and penalties may improve equity, but this would have nothing to do with safety. To give bonuses or penalties on the basis of a no-claim experience or excessive claims experience, would have to satisfy the statistical probability criterion previously discussed if they are not to be arbitrary and meaningless. To give a bonus or penalty without the certainty that the firm's true underlying frequency is better or worse than average would tend to remove benefits of loss-spreading. If rebates exceed penalties, then either the whole industrial class frequency has improved and a reduction is called for, or the levy rate must rise, so those who are genuinely average or do not qualify for merit-rating will pay more. In many industries, e.g. sawmilling, larger industries have a better frequency record and so, under merit-rating, the smaller concerns who need help will be penalised - not by a penalty assessment but by a higher basic levy.

The arguments advanced by Atijah (see 4.5) against the effectiveness of merit-rating would seem relevant in the New Zealand context. If a three-year moving average is used,

and long-term claims are to be incorporated into the firm's record, then as these may take two years or more to finalise, rebates and penalties will refer to experience 5 or 6 years out of date. Where bonuses rather than rebated rates of levies are given, inflation may have well reduced their worth to insignificant proportions, especially as they are to be taxable and penalties to be tax deductible.¹

Unless very clear criteria are promulgated and understood, many firms will find themselves not with the expected rebate, but with a penalty, and one could predict that the appeal provisions will be fully used, creating yet more delay and perhaps antagonism.

Finally, it would seem from the American experience and the work of L. Russell, that the elasticity of R with respect to frequency reduction is low for most firms. This, coupled with the fact that as presently conceived the portion of the levy which could be influenced by merit-rating, once non-work and standard expenses are deducted is relatively small, means that for most firms a given x% frequency reduction will result in a very much smaller percentage reduction to premium. The resulting saving would have to be compared with the cost of reducing accident frequency which may be considerable. The potential accident reduction from any given investment may be quite difficult to predict. And when in the New Zealand scheme the employer suffers not only all the indirect costs of accidents, but also the first week 100% wages lost, then it is reasonable to assume that any profit-making reasonably high-risk firm will already be doing a great deal to reduce accidents.

1. Point clarified by A. Malcolm, M.P. for Eden in personal letter.

5.4.4 Accident Taxes and Safety.

If rebates and penalties are considered dubious and ineffective means to make premiums more like accident taxes - is there any other way? The first week provisions of the Act do in fact act like an accident tax, because they are entirely dependent on accidents incurred. They are probably most effective in high-risk industries where there is a dominance of short-term accidents, e.g. the Freezing Industry. The national average for first-week compensation is 0.07% of national payroll compared with an average of 1% for levies.¹ For many firms, the cost of levies far exceeds first-week payments and the incentive offered by the latter is minimal - see, for example, Case Study G, Appendix III. For the Freezing Industry, however, first-week payments average 25% of total direct costs (first-week and levy) and for individual firms examined were found to be as high as 33%.

In certain industries, the industrial structure may allow the levy to be administered as an accident tax. One industry which has tried this with considerable success is the state coal industry.² Twelve mines are under the control of the Mines Department and produce about 80% of the national output. The individual concerns have an incentive to remain viable otherwise they could face the threat of closure.

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1. K.L. Sandford, 'Accident Compensation - its Development and Future', unpublished paper presented to the New Zealand Law Society Conference, March 1978, p.14.
 2. See Accident Compensation Commission Report, vol.3, no.4, September 1978, pp.20-25.

Before the new A.C.C. scheme, the Mines Department self-insured and allocated costs in such a way as to impose maximum incentive on the member mines. Each mine paid its own ordinary short-term compensation payments and, in addition, contributed \$300 an accident to the fund which then provided for lump-sum and damages claims. Thus any mine that managed to achieve no accidents paid nothing. The scheme was adapted when the Act was introduced, so that the \$300 charge per accident remained and each mine paid a variable amount per payroll so that overall, 5% of total payroll was collected and paid to the Commission. The financial incentives, coupled with the intensive safety programmes are claimed to have been instrumental in reducing the frequency rate from 30 to 10 per 10,000 within five years.

The success in this case stems from the fact that the taxes were not insured against, and that although state-run, the individual mines still compete with each other. Other national or monopolised industries may have potential for such internal charging systems.

In conclusion, for many firms levies are a considerable cost, far in excess of costs incurred for first-week liability. Investment in safety personnel, equipment and techniques may be expensive and may result in a reduction in first-week payments which would be a minor percentage of total direct costs. Each industry has its individual problems and experience under the Act. For some, incentives and equity may be improved by removal of the non-work component of levies and by requiring the firm to carry a

larger portion of direct expenditure by increasing the first-week provisions. Either the firm could be responsible for a longer initial period, or be required to pay full medical and other expenses associated with the first week. For other industries, where the employee has the potential to reduce his own accidents or at least claims, an excess could be warranted. Either less than full or zero compensation in the first week could be paid.