

ACC Levy Consultation 2011/12 - Quality Assurance Review

Department of Labour

December 2010

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7 December 2010

Mr Peter Nelson
Department of Labour
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Wellington
NEW ZEALAND

Dear Peter

ACC Levy Consultation 2011/12 - Quality Assurance Review

We are pleased to provide you this advice on our review of the proposed levy rates for the ACC Levy Consultation 2011/12. The consultation covers levies for the Work, Motor Vehicle and Earners' accounts (including the Earners' Account portion of the Treatment Injury Account).

ACC is currently undertaking a separate consultation on experience rating in the Work Account. We comment on the experience rating consultation in a separate letter.

This quality assurance review is a review for reasonableness. It should be noted that the quality assurance review has not provided (nor is it intended to provide) an independent estimate of levy rates, nor is this quality assurance review intended to provide verification that each of the detailed calculations underlying the calculation of the levy rates is correct.

Yours sincerely

Aaron Cutter

Fellows of the Institute of Actuaries of Australia

Jamie Reid

ACC Levy Consultation 2011/12 - Quality Assurance Review

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Part I Executive Summary

1 Scope of our Review

Finity Consulting Pty Limited (“Finity”) has been engaged by the Department of Labour (“the Department”) to carry out a quality assurance review of the proposed 2011/12 levy rates for the Work Account, Motor Vehicle Account and Earners’ Account (including the Earners’ Account portion of the Treatment Injury Account).

ACC is currently undertaking a separate consultation on experience rating in the Work Account. We comment on the experience rating consultation in a separate letter.

Specific requirements for our review set out in our contract with the Department include:

- The sustainability of the proposed levies in the coming year, and for the following five years
- The application of any margins included in the calculation of the levy rates taking into account the reserving position of each Account and the ACC Board’s approved reserving policy.
- The relativities between the levy risk groups in the Work Account.

2 Consultation Levy Rates

Table 1 summarises the proposed levies for each Account, and compares these to the current levies.

Table 1 – Summary of ACC Estimated Levy rates

Account	Units	Current 2010/11	Proposed 2011/12	Increase in Levy Amount	%
	<i>Average per \$100 liable earnings</i>				
Work	<i>(\$)</i>	1.47	1.47	0.00	0.0%
Motor Vehicle	<i>Average per vehicle (\$)</i>	335	343	8.44	2.5%
Earners’	<i>Per \$100 liable earnings (\$)</i>	1.78	1.90	0.12	6.7%

Claims experience over the last year has been more favourable than ACC anticipated on each of the Work, Motor Vehicle and Earners’ Accounts. However, the current levies actually adopted for 2010/11 are lower than those proposed by ACC, therefore favourable experience does not necessarily translate to reduced levies for the 2011/12 year.

In ‘real’ terms, ACC propose no increase to the Work Account (above AWE), a small increase to the Motor Vehicle Account (above CPI), and a substantial increase above AWE (forecast to be 3-4%) for the Earners’ Account.

ACC has estimated future claim costs and expenses based on the most recent experience, fully allowing for an additional year of claims inflation and forecast changes in frequency

for each account. The levies also allow ACC to fund part of the deficit that has amassed for claims that occurred in previous years (“funding adjustments”).

The main drivers of change for each account are as follows:

- **Work Account:** ACC has allowed for inflation in average claim size and incorporated a small increase in claim frequency towards longer term average for current year claims. The allowance for expenses and the cost of incentive programmes (including experience rating) has also increased. However, ACC is reducing the amount collected towards prior year deficits, offsetting increases in the current year levy components.
- **Motor Vehicle Account:** ACC has allowed for inflation in average claim size, with claim frequency assumed to remain at the same level as in 2010/11. The overall amount per vehicle collected towards prior year deficits is unchanged.
- **Earners’ Account:** The main driver of change is that ACC is increasing the amount collected towards prior year deficits. ACC has also allowed for inflation in average claim size.

The drivers of change are described in more detail in Section 2 and in the appendices to this report.

3 Sustainability of Rates

The rates proposed for each account through to 2019/20 are shown in Section 2 of the report.

ACC has increased its target funding ratio (ratio of assets to liabilities) from 100% to 105%. The Work Account funding ratio is forecast to reach 105% during 2016/17. The Motor Vehicle and Earners’ accounts are forecast to reach the target funding ratio in 2019/20 and 2018/19 respectively.

Work Account

ACC has decided to maintain the Work Account levies unchanged at \$1.47 until 2015/16 to improve the funding ratio of the account and offer stability to levy payers. ACC should consider whether a smoother progression of levies from year to year would be preferred by levy payers. However, there is an opportunity to reach ACC’s funding target within six years without increasing levies for this account. This time horizon is neither excessive nor unnecessarily short.

Between 2015/16 and 2019/20 the Work Account levy reduces to \$1.02, which is below the estimated current year claim costs. ACC’s funding ratio for the Work Account includes assets collected specifically to fund gradual process claims but does not include the associated future claims costs. It is not appropriate to set levies below estimated current

year claim costs until ACC has assets to cover all future claim costs, including those in respect of gradual process claims.

We strongly recommend that future gradual process claims be included in the Work Account liabilities when assessing the funding ratio, and the levies for 2016/17 and subsequent years be re-estimated on this basis.

Motor Vehicle Account

The projected Motor Vehicle Account levy increases broadly in line with inflation until 2013/14. From that point the funding adjustment reductions and new levy year cost increases directly offset, maintaining an average levy rate of \$358 per vehicle. At 2019/20 the residual component of the levy reduces to zero, reducing the total levy to \$275. This progression of levies appears reasonable.

Earners' Account

The levy per \$100 of income is proposed to increase from \$1.78 to \$1.90 next year, remain unchanged at \$1.90 through to 2018/19, and increase to \$1.95 in 2019/20. This is consistent with ACC's objective of improving the funding ratio of the account and offering a period of stability to levy payers.

An alternative would be to gradually increase the levy from \$1.78 to \$1.95 over the period to 2019/20. While this would mean the future funding ratio would improve more slowly than projected by ACC, we note that funding position of the Earners' Account has already improved significantly over the last year.

4 Methodology

The process is largely unchanged compared to last year. New accident year claims costs are estimated by ACC having regard to historical claim frequency and severity derived from actual historical claim payments. Further details are given in Section 3, and in the appendices to this report.

ACC continues to refine its analysis, for example, including more detail on the drivers of change compared to previous levy estimates. The technical documents provide evidence of ACC actuaries' detailed knowledge of each payment type.

5 Funding Policy

Target Funding Level

The consultation documents states that the target funding ratio has increased by 5% to 105% in order to reduce the risk of ACC having insufficient assets to pay for future claim costs. While aiming to have more assets will increase the ability of ACC to pay claims, the ability to post-fund deficits means ACC already has very strong claim-paying ability.

In addition, ACC conservatively estimates future investment returns and incorporates a risk margin in its liabilities. A funding level of 100% based on ACC's current funding ratio definition provides a significantly greater than 50% chance of assets being adequate to cover the cost of future claims.

If government and/or ACC wish to hold margins then further work should be undertaken to articulate the purpose of the margin and therefore quantify the size of the margin required. It may be helpful for ACC to identify the range of scenarios the margin mitigates and those it does not. The assessment of any overall margin to be held by ACC should allow for implicit margins already held, specifically the margins on liabilities and the low investment returns.

Moreover, a 5% buffer over 100% funding is small in comparison to the annual fluctuations in funding level that can be expected due to differences between actual and expected investment returns, changes in interest rates, and updated views on the value of very long term liabilities.

Funding Range

Both the current funding target of 105% and the previous 100% target are fixed amounts. As fixed amounts, the target funding level approach does not have regard to sources of volatility in funding level. There is a level of year on year volatility that arises in a "business as usual" environment.

An alternative funding target would be to acknowledge these difficulties in the measurement of funding level and nature of the scheme by replacing a target funding level by an acceptable funding range within which no mitigating action would normally be taken.

Funding Horizon

ACC's policy is to return to full funding over a period of up to ten years. This policy is unchanged from last year, although ACC used a shorter funding horizon in previous years. If ACC's funding position continues to improve, it should consider moving to a shorter, rolling funding horizon.

6 Residual Claims

Legislation has fixed the amounts that ACC will collect towards the cost of accidents that occurred prior to 1999 (referred to as residual claims). While the residual levies are fixed the future claim costs remain uncertain, and any emerging difference between assets and liabilities for residual claims will be allowed for as part of the overall funding adjustment on each account.

ACC has included the specified residual amounts in its calculations without allowance for the time value of money, as this is ACC's interpretation of the legislation. This means that the present value of the residual levies is less than the present value of the liabilities they are intended to cover.

While we are not experts in the interpretation of legislation, we feel that allowing for the time value of money would have produced a more equitable allocation of costs between levy payers.

7 Work Account Industry Relativities

ACC is proposing to increase the number of pricing groups in the Work Account from 117 to 143. The intention is that the levy charged to each industry should better match the historical claims experience.

Discounts available for the safety management programme have been reduced as ACC prepares for experience rating, which is an alternative mechanism for recognising good claims experience in reduced levies.

For 2011/12, ACC has capped the change in the aggregate levy rate for any individual levy payer to +/- 15%. If the calculated change in levies is outside this range then ACC spreads the cost difference over all other levy payers. Last year capping was applied at +/- 25%.

Capping helps reduce the impact of changes in levies on individual employers, and the ability to smooth rates is a potential advantage of ACC being a monopoly provider of workers' compensation insurance. However, industry relativities are intended to signal high claims cost to employers, and so capping rates can reduce the effectiveness of these signals. In addition, we note that smoothing represents a cross subsidy between levy payers, since it prevents levies fully reflecting relative claim costs.

8 Motor Vehicle Account Vehicle Relativities

ACC collects levies through license fees on most motor vehicles and through petrol sales. ACC proposes changing the petrol levy from 9.9 cents per litre to 12.9 cents per litre.

ACC has decided to leave the motor vehicle levy classes and the overall cost relativities of each class unchanged compared to last year. Because ACC proposes changing the petrol levy, and petrol usage varies by vehicle, ACC has changed the licence fee relativities so that the overall relative costs are unchanged.

9 Report Structure

Sections 1 to 5 of this report document the work we have undertaken, our key findings and observations, and set out the reliances and limitations of our work. Further detail is provided in several attachments to this report.

Part II Detailed Findings

1 Background and Scope

In this section we document the purpose of this review and the approach we have taken.

1.1 Purpose

Finity Consulting Pty Limited (“Finity”) has been engaged by the Department of Labour (“the Department”) to carry out a quality assurance review of the proposed 2011/12 levy rates for the Work Account, Motor Vehicle Account and Earners’ Account (including the Earners’ Account portion of the Treatment Injury Account).

The purpose of the review is to provide the Department with assurance as to the projected levies. The review aims to assist the Department with its functions as advisor to the Minister for ACC.

Specific requirements for our review include:

- The sustainability of the proposed levies in the coming year, and for the following five years
- The application of any margins included in the calculation of the levy rates taking into account the reserving position of each account and the ACC Board’s approved reserving policy
- The relativities between the levy risk groups in the Work Account.

Finity has previously carried out a quality assurance review of the 2010/11 levy rates. We prepared separate reports in respect of each account, each dated 30 November 2009.

ACC is currently undertaking a separate consultation on experience rating in the Work Account. We comment on the experience rating consultation in a separate letter.

1.2 Approach

We reviewed the ACC levy reports and a number of ACC Excel based models, and also considered other documents we have reviewed previously. More details on the information reviewed are given in Attachment D.

We reviewed the out-year claims cost forecasts from ACC in relation to the 2011/12 and later accident years, and payments in respect of earlier accident years. These forecasts were reviewed in the context of:

- Drivers of changes compared to the levy rates proposed by ACC last year, and the current levy rates approved by the Minister for ACC

- Longer term increases in claim frequency and severity identified in our review of the ACC levy reports and meetings with ACC managers
- Assumptions for future periods including exposure, numbers of claims and average claims size.

The detailed forecasts cover most of the costs expected for future accident year. However, only high-level information is available on some areas, for example, Public Health Acute Services.

We reviewed the additional components that are required to assess the current and prospective funding positions (inflation, discounting, investment income, bad debt and the funding adjustment component of the levy rate).

In each case we had regard to who is responsible for each of the assumptions and whether this is clearly communicated to the Board and Minister.

1.3 Materiality

Materiality in the context of this review relates not only to estimated costs but also to process and consistency with principles of full funding, stability and equitable allocation of levy rates (between accounts, levy risk groups, motor vehicle types, and between different generations of levy payers). Materiality is judgemental and does not necessarily conform to audit materiality levels.

2 Summary of ACC Proposals

This section summarises ACC’s estimated average levy rates and describes why those estimates have changed. We also show ACC’s projections of funding ratio by account. Further details on each account are given in the appendices to this report, including variations in levies between different groups of employers and motorists.

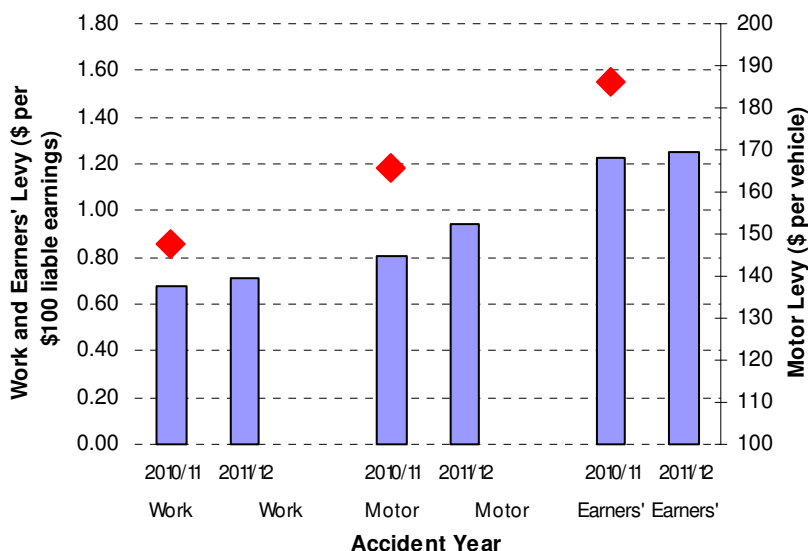
2.1 Recent Claims Experience

There are two main components to the levy:

- Current year claims cost: The estimated total cost relating to claims that are expected to occur during the next year, even if those amounts will not need to be paid until many years in the future.
- Additional levies to cover the deficit between ACC’s assets and liabilities for claims that occurred in previous years.

Figure 2.1 shows ACC’s latest estimate of the current year claims cost for 2010/11 and 2011/12 accident years for each account (blue bars). The red dots show the estimate of the 2010/11 year claims costs produced by ACC last year when estimating 2010/11 levies.

Figure 2.1 – Comparison of Actual and Expected Claims Costs



Claims experience over the last year has been significantly more favourable than ACC anticipated on each of the Work, Motor Vehicle and Earners’ Accounts.

For example, ACC originally expected that the cost of new Work Account claims in 2010/11 would be \$0.86 per \$100 of liable earnings. Having reviewed the claims experience to date, ACC now expects that the costs of new claims in 2010/11 will be \$0.68 per \$100 of liable earnings, as shown in the table. The difference between the two figures reflects the favourable claims experience over the last year.

As a result of improving experience, claims costs, including those relating to 2010/11 current year claims, are now lower than previously expected. In hindsight, a larger proportion of levy income collected has been available for funding adjustments and this has helped improve ACC's overall funding position.

The figures quoted in this section for 2010/11 levies are shown on a hindsight basis, consistent with how ACC documented 2010/11 levies in their reports. A hindsight basis means that differences between current 2010/11 and proposed 2011/12 levy amounts highlight ACC's judgements of how 2011/12 experience will compare to the re-estimated prior year, and do not capture the impact of differences between actual and expected 2010/11 claims experience. In addition, we note that the current levies adopted for 2010/11 are lower than those proposed by ACC and documented in last year's reports. Further detail is shown in the appendices to this report.

2.2 Overall Funding Position

The following table shows ACC's funding ratio at 30 June 2009 and 30 June 2010 by account. We also show the expected 30 June 2010 funding position estimated by ACC one year ago.

Table 2.1 – Summary of ACC Funding Position

Account	Motor	Work	Earners'
Actual at 30 June 2009	38%	62%	55%
Expected at 30 June 2010	42%	55%	51%
Actual at 30 June 2010	48%	76%	80%
<i>Change in Year to 30 June 2010</i>			
<i>Expected</i>	5%	-7%	-4%
<i>Actual</i>	11%	13%	25%

The funding position of each account has improved significantly between 30 June 2009 and 30 June 2010. This reflects better than expected claims experience on each account, as well as the difference between actual and expected investment returns.

In ACC's levy calculations, the Funding Adjustment and Residual Levy amounts are shown separately. Both items represent the component of levy that goes toward reducing the differences between assets and liabilities for prior year claims and while we have also shown these items separately we have considered movements in these amounts together¹.

¹ Specific legislation relates to the Residual Levy amounts, and is summarised in Section 4.2.

2.3 Work

Proposed Levy Rate

Table 2.2 summarises the proposed 2011/12 levy, expressed in dollars per \$100 of liable earnings. We also show components of the levy, and how each component compares to the hindsight split in the current 2010/11 levy.

Table 2.2 – Summary of ACC Estimated Levy rates – Work Account

Levy Component	Current	Proposed	Increase in Levy	
	2010/11	2011/12	\$	%
Expected Cost of New Claims in Levy Year	0.68	0.71	0.03	4.4%
Expenses	0.19	0.21	0.02	10.5%
Cost of Incentive Programmes	0.04	0.07	0.03	75.0%
Funding Adjustment	0.15	0.17	0.02	13.3%
Residual Levy	0.41	0.31	(0.10)	(24.4%)
Total	1.47	1.47	0.00	0.0%

Note that in the table above the current levy Total shown is that actually being charged. The cost of New Claims and Incentive Programmes has been re-estimated and reflects improved experience. The Expenses are also re-estimated. The Residual Levy is as per last consultation and the Funding Adjustment balances the total levy to add to \$1.47.

ACC is proposing leaving the Work Account levy unchanged at \$1.47 per \$100 of liable earnings.

The amount of the levy used to fund claim costs during the levy year is increasing by 4.4%, to \$0.71 per \$100 of liable earnings in the 2011/12 levy year. The assumed 2011/12 frequency is higher than the estimated frequency for the 2009/10 and 2010/11 years, but much lower than the claim frequencies for prior periods. ACC's assumption of a small increase in claim frequency towards the longer term average is not unreasonable.

ACC has increased the assumed average claim size but this is in response to the fact that many ACC benefits increase in line with wages (either of injured workers or people providing services). The size increase does not materially impact the levy rate which is itself expressed as a proportion of liable earnings.

The levy for ACC's expenses and incentive programmes has also increased. The increase in incentive programmes refers to the cost of introducing experience rating, partially offset by the proposed reductions in Workplace Safety Management Practices discounts.

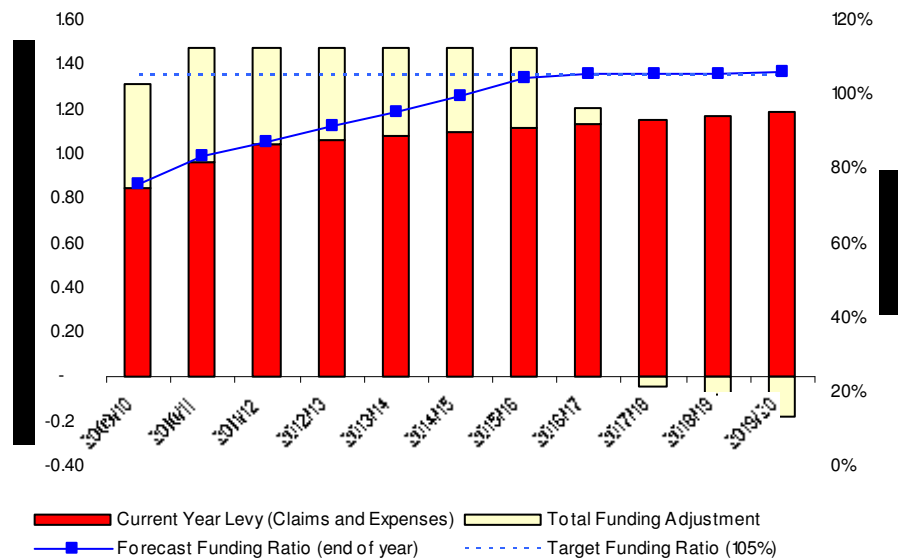
The total amount collected towards prior year deficits (Funding Adjustment plus Residual Levy) is to be reduced, offsetting increases in the other levy components.

Projected Funding Position

Figure 2.2 shows the projected levy rates and funding ratio through to 2019/20. The levy rates are shown split between current year levy (claims and expenses) and total funding adjustment (including residual).

We also show the actual levy rates for 2009/10 and 2010/11, and the actual funding ratio at 30 June 2010.

Figure 2.2 – Future Levies and Funding Ratio – Work Account



The funding ratio is expected to reach 100% at the end of the 2014/15 year, and almost 105% by the end of the following year.

ACC has decided to maintain the Work Account levies unchanged at \$1.47 until 2015/16 to improve the funding ratio of the account and offer stability to levy payers. At 2016/17 the levy decreases dramatically. ACC could consider whether a smoother progression of levies from year to year would be preferred by levy payers. However, there is an opportunity to reach ACC’s funding target within six years without increasing levies for this account. This time horizon is neither excessive nor unnecessarily short.

Between 2015/16 and 2019/20 the Work Account levy reduces to \$1.02, which is below the estimated current year claim costs. ACC’s Residual levy for the Work Account includes an amount to fund gradual process claims that will be reported many years into the future. However, the funding ratio measurement excludes the liability on all gradual process claims that have not as yet been reported. It is our view that this is not an appropriate measure of funding. Moreover, once the funding target has been reached, the Funding Adjustment mechanism works to simply give back the amount in respect of these gradual process claims meaning the levy collected is below that required.

It is clearly inappropriate to set levies below estimated current year claim costs, including those in respect of gradual process claims. We strongly recommend that future gradual process claims be included in the Work Account liabilities when assessing the funding ratio, and the levies be re-estimated on this basis.

2.4 Motor

Proposed Levy Rate

Table 2.2 summarises the proposed increase, expressed as the average levy in dollars per vehicle.

Table 2.3 – Summary of ACC Estimated Levy rates – Motor Vehicle Account

Levy Component	Current	Proposed	Increase in Levy	
	2010/11	2011/12	\$	%
Expected Cost of New Claims in Levy Year	145	152	8	5.4%
Expenses	22	23	1	4.5%
Motorcycle Safety Levy	1	1	(0)	(20.9%)
Funding Adjustment	66	90	23	35.1%
Residual Levy	100	77	(23)	(23.3%)
Total	335	343	8	2.5%

Note that the split of the 2010/11 levy into components was calculated with the benefit of hindsight, as described in the previous section.

ACC is proposing to increase the average rate per vehicle by \$8, or 2.5%. This is due to an increase in the expected cost of claims occurring in the levy year driven by an increase in the average claim size. Claim frequency is assumed to remain at the same level as in 2010/11. The average claim size is expected to increase each year as the cost of benefits such as paying for carers increases, at a rate exceeding inflation, over time.

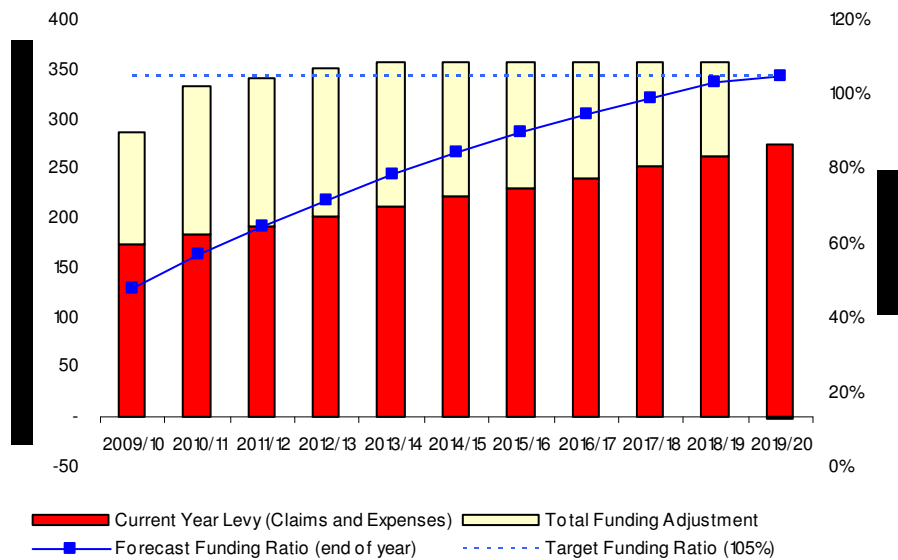
The funding adjustment will increase by \$23 and the residual levy will reduce by \$23, meaning that the total contribution per vehicle towards ACC's deficit is unchanged.

Projected Funding Position

Figure 2.3 shows the projected levy rates and funding ratio through to 2019/20. The levy rates are shown split between current year levy (claims and expenses) and total funding adjustment (including residual).

We also show the actual levy rates for 2009/10 and 2010/11, and the actual funding ratio at 30 June 2010.

Figure 2.3 – Future Levies and Funding Ratio – Motor Vehicle Account



The levy per vehicle is expected to increase by around 2% per year through to 2013/14, and then remain at \$358 per vehicle. Because Motor Vehicle levies are shown in dollars per vehicle (contrast with a percentage of liable earnings for the Work Account), constant levy rates represent a levy reduction in real terms.

Future new year levy rates increase year on year due to higher average claim sizes. The spread of funding adjustments over time allows the overall increase in levies to be moderated. Levies are proposed to reduce in 2019/20 when no funding adjustment is anticipated.

The funding ratio is expected to reach 100% during the 2018/19 year, and 105% by the end of the 2019/20 year.

The Motor Vehicle Account moves towards full funding more slowly than the Work Account, even though the 2011/12 Motor Vehicle funding adjustment is over 40% of the total levy rate. This reflects not only the low current Motor Vehicle Account funding ratio but also the longer term nature of the liabilities on this account.

2.5 Earners'

Proposed Levy Rate

Table 2.4 summarises the proposed increase (expressed as the levy per \$100 of earnings).

Table 2.4 – Summary of ACC Estimated Levy rates – Earners' Account

Levy Component	Current	Proposed	Increase in Levy	
	2010/11	2011/12	\$	%
Expected Cost of New Claims in Levy				
Year	1.22	1.25	0.03	2.5%
Expenses	0.36	0.37	0.01	2.8%
Funding Adjustment	0.15	0.24	0.09	60.0%
Residual Levy	0.05	0.04	(0.01)	(20.0%)
Total	1.78	1.90	0.12	6.7%

Note that the amounts shown above include the Earner's Account share of Treatment Injury costs. Note also that the split of the 2010/11 levy into components was calculated with the benefit of hindsight, as described in the previous section.

ACC is proposing to increase the average levy by \$0.12, or 6.7%. This is largely due to an increase in the total amount collected towards ACC's deficit (residual and funding adjustment) from \$0.20 to \$0.28.

Cost of claims and expenses are expected to increase from current (2010/11 year) levels. ACC has allowed for inflation in average claim size, and incorporated a small increase in claim frequency towards the longer term average.

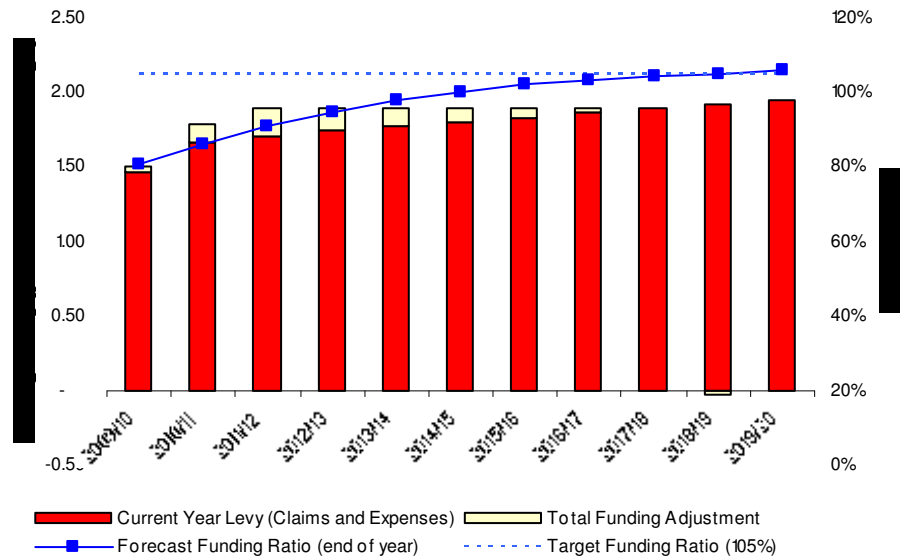
We note that the expected cost of new claims of \$1.22 in the current levy shown above is considerably less than the basis underlying the actual pricing from last year of \$1.55, due to favourable claims experience over the past year.

Projected Funding Position

Figure 2.4 shows the projected levy rates and funding ratio through to 2019/20. The levy rates are shown split between current year levy (claims and expenses) and total funding adjustment (including residual).

We also show the actual levy rates for 2009/10 and 2010/11, and the actual funding ratio at 30 June 2010.

Figure 2.4 – Future Levies and Funding Ratio – Earners’ Account



The levy per \$100 of income is expected to remain unchanged at \$1.90 through to 2018/19, and increases to \$1.95 in 2019/20. The current year levy rate increases due to increases in the average claim size, but this is offset by reductions in the funding adjustment.

The funding ratio is expected to reach 100% during the 2014/15 year, and 105% by the end of the 2018/19 year.

2.6 Alternative Scenario

ACC is proposing no increase in levy rates for the Work Account. The Department has asked us to comment on the impact of leaving 2011/12 levy rates at the 2010/11 level for the Earners’ Account and Motor Vehicle Account.

Holding the Earners’ Account levy at the current rate would reduce 2011/12 revenue by \$105 million compared to ACC’s projections. Assuming no other changes to ACC’s projection assumptions the funding ratio at the end of 2011/12 would be approximately 1.7% worse than expected.

Holding the Motor Vehicle Account levy at the current rate would reduce 2011/12 revenue by \$28 million, and the funding ratio would be 0.4% worse than expected. Note that the revenue and funding ratio changes would be recognised over two years due to the method of revenue accrual used in this account.

Because Motor Vehicle Account levies are shown in dollars per vehicle (contrast with a percentage of liable earnings for the Earners’ Account), constant levy rates represent a levy reduction in real terms. In the absence of changes to funding adjustments or other assumptions, Motor Vehicle Account levies should be expected to increase each year because many ACC benefits increase in line with wages (either of injured motorists or people providing care).

The levies on both accounts would be sufficient to cover projected 2011/12 claim costs and expenses and cover part of ACC's deficit without an increase in levy rates. However, lower levies would mean that the accounts would move towards full funding more slowly than is currently anticipated by ACC (lower funding ratio for future periods). Assuming no changes to other ACC projection assumptions, larger than expected levy increases would be needed in future years to reach ACC's funding target by 2019/20.

ACC's position as a monopoly provider of long term insurance means there is considerable ability to adjust rates from year to year. However, such adjustments do not change the claims cost that ACC will eventually be required to pay, only the date at which the claim costs are funded.

3 Overall Methodology

This section describes the process used by ACC to estimate levy rates, and describes some of the global assumptions that apply to each account. We comment on account specific methodology in the appendices.

3.1 Process for Establishing Average Levy Rates

The process used by ACC to produce the average levy rates is described below:

- PwC is engaged by ACC to estimate ACC's outstanding claims liabilities. The estimated outstanding claims liability recommended by PwC is adopted directly in calculating the fund balances in each account at 30 June 2010. Projected cash-flows for accident dates up to 30 June 2010 are also used in calculations of fund balances at future dates.
- PwC does not estimate liabilities for certain types of gradual process claims, so these estimates are produced by ACC.
- ACC estimates future funding positions based on current asset and liability balances, and expected future cashflows. The relevant projected cashflows are investment returns, future levy rates, and claim payments.
- New accident year claims costs are estimated by ACC having regard to historical claim frequency and severity derived from actual historical claim payments and PwC's projected future claims payments for accident dates to 30 June 2010. ACC applies its adopted frequency and severity to projected exposure (the number of motor vehicles or workers expected to be covered by the account). The timing of the future claim payments for new accident years is then calculated after applying an assumed payment pattern.
- Other components required to be funded by the proposed levy are:
 - ▶ Claim management expenses, which are estimated directly by ACC
 - ▶ The cost of Public Health Acute Services, which is estimated by the Ministry of Health.
- The average levy rate for each account represents the funds required to meet the projected cashflows, allowing for:
 - ▶ Inflation, discounting and investment return
 - ▶ A proportion of the total expenses of running ACC
 - ▶ With the exception of the Motor Vehicle Account, the potential for bad debt (that is, non-payment of levies)
 - ▶ Any deficits or surpluses arising from previous periods. ACC has discretion over the period in which surpluses or deficits are reflected in the levy rates, although the amount that can be attributed to the Residual Levy is now legislated (refer to Section 4.2).

In the case of the Work Account, ACC then considers the change in the average rate needed to fund discounts available through the Workplace Safety Management Programme and experience rating.

The process is unchanged compared to last year. However, ACC has further refined its analysis, for example, including more detail on the drivers of change compared to previous levy estimates. The technical documents provide evidence of ACC actuaries' detailed knowledge of each account and payment type.

3.2 Economic Assumptions

Investments and Discounting

ACC adopt the same assumptions for investment returns (on ACC's assets) and discounting (to establish the present value of ACC's expected future claim payments) in the levy calculations. The same assumptions are adopted for each account.

ACC's assumed discount and investment return rate is 6.0%, based on the long term average return from investing in 10 year New Zealand government bonds.

ACC previously based its assumptions for each of the first three years on the bond yields that were available for those periods, rather than using the long term average. In practice the two approaches produce similar results at present, as shown in the following table comparing the assumptions used this year and last year.

Table 3.1 –Investment Return and Discounting Assumptions

Assumption	ACC Estimates	Year						
		2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	Later Years
Discount rate and investment return	Current	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
	Prior	5.3%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
	<i>Increase</i>	<i>0.7%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>

Other Economic Assumptions

Table 3.2 shows the other economic assumptions adopted by ACC and compares these to the assumptions used last year. The same assumptions are used for each account.

Table 3.2 –Other Economic Assumptions

Assumption	ACC Estimates	Year						
		2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	Later Years
Average Weekly Earnings (AWE)	Current	3.4%	3.4%	3.4%	3.5%	3.5%	3.5%	3.5%
	Prior	2.8%	3.3%	3.5%	3.6%	3.6%	3.6%	3.5%
	Increase	0.6%	0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%
Labour Cost Index (LCI)	Current	2.6%	2.6%	2.6%	2.7%	2.7%	2.7%	2.7%
	Prior	2.0%	2.5%	2.7%	2.8%	2.8%	2.8%	2.7%
	Increase	0.6%	0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%
Consumer Price Index (CPI)	Current	2.0%	5.9%	2.4%	2.4%	2.5%	2.5%	2.5%
	Prior	1.8%	2.3%	2.5%	2.6%	2.6%	2.6%	2.5%
	Increase	0.2%	3.6%	-0.1%	-0.2%	-0.1%	-0.1%	0.0%

Short term wage and other cost indices have increased compared to ACC's previous estimates, while longer term estimates are largely unchanged. The increase in the 2011/12 CPI inflation is largely due to the proposed increases in GST.

3.3 Expenses

The expenses that have been incorporated in each Account's proposed levies are in line with ACC's latest internal operational budgets. This is appropriate.

3.4 Bad Debt

Table 3.3 shows ACC's assumptions for bad debt (non payment of levy invoices) and shows how the current assumptions compare to those adopted by ACC last year. Note that different groups pay the current year and residual (pre-1999) Work levy, so there is a small difference in the bad debt loadings.

Table 3.3 – Bad Debt Assumptions

Account	Assumed 2011/12 Bad Debt as % of Forecast Levy Income	
	Current	Prior
Post Work 1999	1.7%	1.9%
Pre 1999	1.6%	1.9%
Earners'	0.2%	0.9%

ACC increased the bad debt loadings last year in response to the poor economic outlook. Actual experience has been better than expected, so ACC is reverting to the level of bad debt assumed in earlier years.

Motor Vehicle Account levies are collected when a vehicle is licensed or when petrol is purchased. No bad debt is assumed for this account as levies are not invoiced, and there is no allowance for unlicensed vehicles.

4 Funding Policy

4.1 Background

Because ACC's assets and liabilities are inherently uncertain, funding deficits or surpluses will emerge from time to time. ACC includes funding adjustments in the levies to address these deficits or surpluses, and has a funding policy to guide how the funding adjustments are specified.

This section comments on ACC's funding policy under the following headings:

- Residual claims
- How ACC assesses the level of funding (funding ratio definition)
- The funding ratio that ACC is targeting
- The funding horizon over which ACC intends to move towards its target.

We comment on the actual levies proposed as a result of applying the policy in Section 2.

4.2 Residual Claims

Legislation has fixed the amounts that ACC will collect towards the cost of accidents that occurred prior to 1999 (referred to as residual claims). The amounts to be collected are equal to the estimated outstanding claims at 30 June 2009, and are shown in the table below. The amounts are to be collected before 2019.

Account	Specified Residual Amount (\$ millions)
Work	3,404
Motor	2,884
Earners' (*)	457
Total	6,745

(*) Includes the Earners' share of the Treatment Injury Account

We note that, while legislation fixed the future residual levy income, the future claim costs remain uncertain. Any emerging difference between assets and liabilities for residual claims will be allowed for as part of the overall funding adjustment on each account.

ACC has included the amounts shown in Table 4.1 as part of future proposed levies to be collected over the period 2010/11 to 2018/19. ACC has made no allowance for the time value of money in its calculations, as this is ACC's interpretation of the legislation. This means that the present value of the residual levies is less than the present value of the liabilities they are intended to cover.

While we are not experts in the interpretation of legislation, we feel that allowing for the time value of money would have produced a more equitable allocation of costs between levy payers.

4.3 Funding Ratio Definition

The funding ratio is the ratio of assets to liabilities. Currently ACC's funding is measured relative to a liability value that incorporates a risk margin and is discounted using a risk free rate.

The risk margin on liabilities is intended to cover estimated future claims outgo at a 75% probability of sufficiency. This means that there is an estimated 3 in 4 chance that actual claim outgo will be less than is provided for in the levy rates. There is a 1 in 4 chance that actual outgo will exceed the amounts allowed for in the levies.

ACC's definition aligns well with accounting principles, and it therefore not inappropriate for reporting a funding ratio. However, it is a conservative approach when considering ACC's financial health because the risk margin is not expected to be paid out as claims. In addition, investment earnings that supplement levy income are expected to outperform risk free (Government bond) returns.

In summary, measuring funding using an accounting approach (i.e. risk free discounting plus a risk margin) has the following advantages and disadvantages:

- Advantages: consistency with financial statements, results in a stronger financial position and therefore increases the certainty that funds in each account will be adequate to cover future costs
- Disadvantages: the level of over collection of levies is not easily observed in the levy rates, intergenerational cross subsidies are expected to arise with this approach and there is an opportunity cost to levy payers that could be avoided given ability to post fund. The true "financial health" in terms of the ability of existing assets, future levy and investment income to cover the future obligations of the ACC is misrepresented under this approach.

Gradual Process Claims

As described in Section 2.3, we strongly recommend that future gradual process claims be included in the Work Account liabilities when assessing the funding ratio.

4.4 Target Funding Level

Funding Buffer

ACC targets a funding ratio of 105%, where liabilities are measured using the 'accounting approach' described above. ACC previously targeted a funding ratio of 105% for residual liabilities, and 100% for other liabilities. The consultation documents state that the target

funding ratio has increased to reduce the risk of insufficient assets to pay for future claim costs.

In other documents, ACC has noted that a higher target funding ratio will provide reserves for one-off catastrophes such as earthquakes and provide a buffer to absorb investment risk. ACC has also noted that private insurance companies hold an excess of assets over liabilities.

Unlike a private insurance company, ACC is able to adjust future levies to address deficits or surpluses. While aiming to have more assets will increase the ability of ACC to pay claims, the ability to post-fund deficits means ACC already has very strong claim paying ability.

ACC has large amounts of liquid assets available to meet any short-term needs, for example, claims arising from an earthquake.

In order to build up the additional 5% margin of assets over liabilities, in the short term ACC will need to charge levies that exceed the claims costs. The points relating to intergenerational cross subsidies and opportunity cost noted above are therefore relevant here.

If government and/or ACC wish to hold margins then further work should be undertaken to articulate the purpose of the margin and therefore quantify the size of the margin required. It may be helpful for ACC to identify the range of scenarios the margin mitigates and those it does not. The assessment of any overall margin to be held by ACC should allow for implicit margins already held, specifically the margins on liabilities and the low investment returns.

Moreover, a 5% buffer over 100% funding is small in comparison to the annual fluctuations in funding level that can be expected due to differences between actual and expected investment returns, changes in interest rates, and updated views on the value of very long term liabilities.

Funding Range

Both the current funding target of 105% and the previous 100% target are fixed amounts. As fixed amounts, the target funding level approach does not have regard to sources of volatility in funding level. There is a level of year on year volatility that arises in a “business as usual” environment.

An alternative funding target would be to acknowledge these difficulties in measurement and nature of the scheme by replacing a target funding level by an acceptable funding range within which no mitigating action would normally be taken.

We suggest that ACC investigate using a funding range as part of funding policy to aid in their objective of levy stability.

4.5 Funding Horizon

ACC's policy is to return to full funding over a period of up to ten years. This policy is unchanged from last year, although ACC used a shorter funding horizon in previous years.

In terms of funding horizon, given the level of underfunding in recent years, a ten year plan is acceptable. It is difficult to view a horizon of more than ten years as being consistent with a fully funded philosophy. In a "normal" environment, ACC should consider adjusting this horizon for returning to full funding to be more like 3-5 years. Anything below three would create too much volatility in the levy rates.

If ACC's funding position continues to improve, it should consider moving to a shorter, rolling funding horizon. For example, when approaching 2019, the horizon would be 3-5 years hence and not be fixed at 30 June 2019.

4.6 Conclusion

A potential advantage of the structure of compensation delivered by ACC it is that its long term nature provides a unique ability to respond to unfavourable financial trends with mitigation strategies designed to bring claims outgo back into line with levy income.

Deficits or surpluses can be addressed by changing benefit levels, levy rates or both. The extent of changes required depend on the speed at which the solvency ratio is required to return to full funding.

While there is no single "correct" funding policy, our opinion is that approaches that do not lead to "knee jerk" restoration to full funding but that gradually revert are appropriate. Such policies are more aligned with gradual changes in levy rates and/or benefit levels and therefore may be regarded as more palatable by stakeholders.

There is an opportunity to refine the policy to further improve levy stability and value. Specifically our recommendations are:

- Future gradual process claims should be included in the Work Account liabilities when assessing the funding ratio
- ACC should articulate better the requirement for margins in funding calculations
- We feel that a target funding range would better than having a single funding target
- ACC should consider reverting to a shorter, rolling funding horizon as its financial position improves.

5 Reliances and Limitations

5.1 Distribution and Use

This report is being provided for the sole use of the Department of Labour (the Department) for the purposes stated in Section 1. It is not intended, nor necessarily suitable, for any other purpose. This report should only be relied on by the Department for the purpose for which it is intended.

We understand that the Department may wish to publish this report on its website. Permission is hereby granted for such distribution of the report on the condition that the entire report, rather than any excerpt, be distributed. No other distribution of this report is permitted without our prior written consent.

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Finity has performed the work assigned and has prepared this report in conformity with its intended utilisation by a person technically competent in the areas addressed and for the stated purposes only. Judgements about the conclusions drawn in this report should be made only after considering the report in its entirety, as the conclusions reached by a review of a section or sections on an isolated basis may be incorrect.

The report should be considered as a whole. Members of Finity staff are available to answer any queries, and the reader should seek that advice before drawing conclusions on any issue in doubt.

5.2 Data and Other Information

Finity was provided with ACC's report and models that are the subject of this review. We have relied on the accuracy and completeness of all data and other information (qualitative, quantitative, written and verbal) provided to us for the purpose of this report. We have not independently verified or audited the data. It should be noted that if any data or other information is inaccurate or incomplete, we should be advised so that our advice can be revised, if warranted.

5.3 Nature of the Review

This quality assurance review is a review for reasonableness. It should be noted that the quality assurance review has not provided (nor is it intended to provide) an independent

estimate of the Work Account Levy Rates. Nor is this quality assurance review intended to provide verification that each of the detailed calculations underlying the calculation of the levy rates is correct.

Outcomes remain dependent on future events, including legislative, social and economic forces. Deviations are normal and are to be expected. Whilst the quality assurance review may act to increase the confidence in the judgements made in selecting assumptions, it does not reduce the inherent uncertainty of the eventual outcome.

Part III Appendices

A Work Account

This appendix provides more details on ACC's proposed levies for the Work Account. We include:

- More detail in the drivers of change compared to ACC's previous projections.
- ACC's assumptions for the most significant payment types.
- A description of account-specific methodology.

The description of account-specific methodology refers to the calculations for industry levy relativities, the Partnership Programme for large employers, and CoverPlus Extra for self-employed and shareholder-employees.

A.1 Analysis of Changes

Table A.1 compares the forecast cost of accidents in the 2011/12 year to ACC's previous expectations.

Table A.1 – Analysis of Changes – Work Account

Payment Type	Non-Fatal Weekly Compensation	Medical	Other Payments	Total
Forecast average cost for 2010/11 - Previous ACC Projections	0.48	0.15	0.23	0.86
Difference between actual and expected experience	(0.11)	(0.02)	(0.03)	(0.16)
Change in discount rate	(0.01)	0.00	(0.01)	(0.02)
Changes in other assumptions	0.01	0.01	0.01	0.03
Forecast average cost for 2011/12 - Current ACC Projections	0.37	0.13	0.21	0.71

Table A.1 compares the forecast cost of accidents in the 2011/12 year to ACC's previous expectations.

On average, Work levies for 2011/12 include an average of \$0.71 per \$100 liable earnings for the estimated cost of accidents occurring in that year. Over half of that cost is in respect of non-fatal weekly compensation. Medical payments make up around 20% of the cost, and other payment types represent around 30% of the cost.

When ACC estimated the 2010/11 levies, the expected cost of 2010/11 claims was \$0.86 per \$100 liable earnings. ACC has now reduced that estimate for 2010/11 to allow for favourable recent experience and changes in economic assumptions, resulting in an assumed cost of \$0.68 per \$100 liable earnings (\$0.86 - \$0.16 - \$0.02).

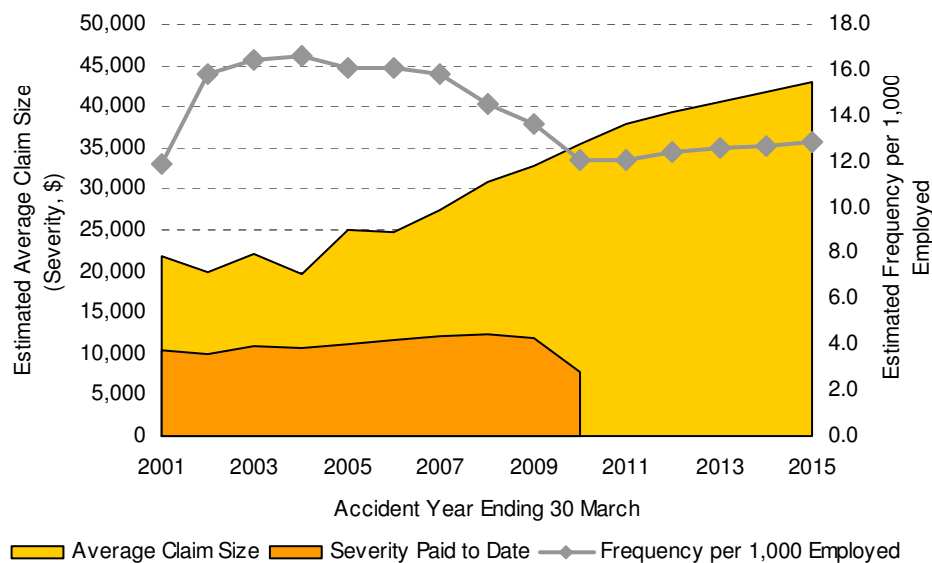
The main reason for the change in estimated claim costs is the difference between actual and expected experience for Non-Fatal Weekly Compensation (\$0.11 per \$100 liable earnings).

The estimated 2011/12 claims cost of \$0.71 per \$100 liable earnings is \$0.03 per \$100 liable higher than the revised 2010/11 year projection. ACC has increased the assumed average claim size because many ACC benefits increase in line with wages (either of injured workers or people providing care).

The assumed 2011/12 frequency is higher than the current estimate for the previous two years, but much lower than the claim frequencies for prior periods. ACC’s assumption of a small increase in claim frequency towards the longer term average is not unreasonable.

Figure A.1 shows the projected frequency and average claims size assumptions and compares these to the historical experience. The figure shows only entitlement claims, meaning that claims that only receive medical benefits are excluded.

Figure A.1 – Work Estimated Frequency and Severity (Entitlement Claims Only)



Note that ACC’s exposure measure is the number of self-employed people plus the number of employees not covered by the Partnership Programme.

A.2 Payment Type Analysis

This section summarises information from ACC’s reports for the most material payment types.

Non-Fatal Weekly Compensation

Table A.2 summarises the information for this payment type from ACC’s model, and the following figure summarises this information graphically.

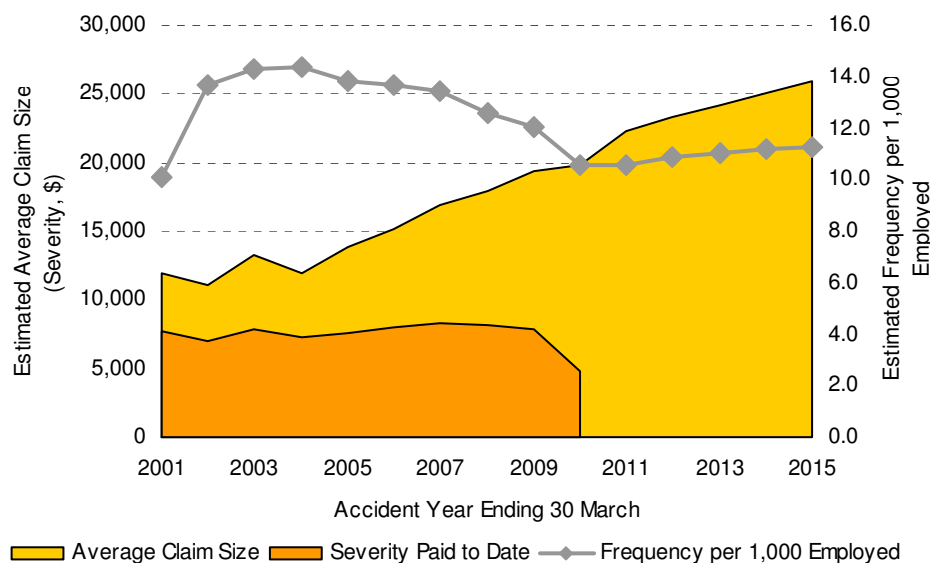
Table A.2 – Summary of ACC Projections – Non-Fatal Weekly Compensation

Accident Year	Employed (000)	Number of Claims	Frequency (per 1,000 employed)	ACC Estimates			% Increase in Cost per Employed
				Ultimate Payments (\$000)	Severity (\$)	Cost per Employed (\$)	
2001	1,551	15,691	10.11	187,942	11,978	121	
2002	1,479	20,268	13.70	223,225	11,014	151	25%
2003	1,519	21,678	14.27	286,482	13,215	189	25%
2004	1,563	22,461	14.37	267,772	11,922	171	-9%
2005	1,619	22,412	13.84	311,488	13,898	192	12%
2006	1,655	22,679	13.70	344,552	15,193	208	8%
2007	1,691	22,749	13.45	384,989	16,924	228	9%
2008	1,726	21,705	12.57	387,955	17,874	225	-1%
2009	1,737	20,942	12.06	404,282	19,304	233	4%
2010	1,722	18,191	10.56	360,594	19,822	209	-10%
2011	1,738	18,357	10.56	409,300	22,296	236	12%
2012	1,769	19,213	10.86	448,100	23,322	253	8%
2013	1,795	19,784	11.02	477,400	24,131	266	5%
2014	1,811	20,214	11.16	506,700	25,067	280	5%
2015	1,827	20,626	11.29	534,400	25,910	292	5%

Claim frequency has been reducing since 2004, and claim frequency in 2010 was much lower than in the previous year. ACC is predicting that claim frequency will increase, but remain below 2009 levels. This is because ACC attributes some of the recent improvement to the impact of the recession, rather than changes in the way ACC operates.

Payments are linked to pre-claim earnings, and so claim severity is expected to increase year on year.

Figure A.2 – Non-Fatal Weekly Compensation - Estimated Average Frequency and Severity



Medical – Short Term and Other

Table A.3 summarises the information for Short Term Medical and Other Medical from ACC’s model, and the following figure summarises this information graphically. Note that in adding together the two payment types the number of claimants may overstated, because some accidents may result in a range of medical benefits being paid.

Table A.3 – Summary of ACC’s Medical Projection (Short Term and Other)

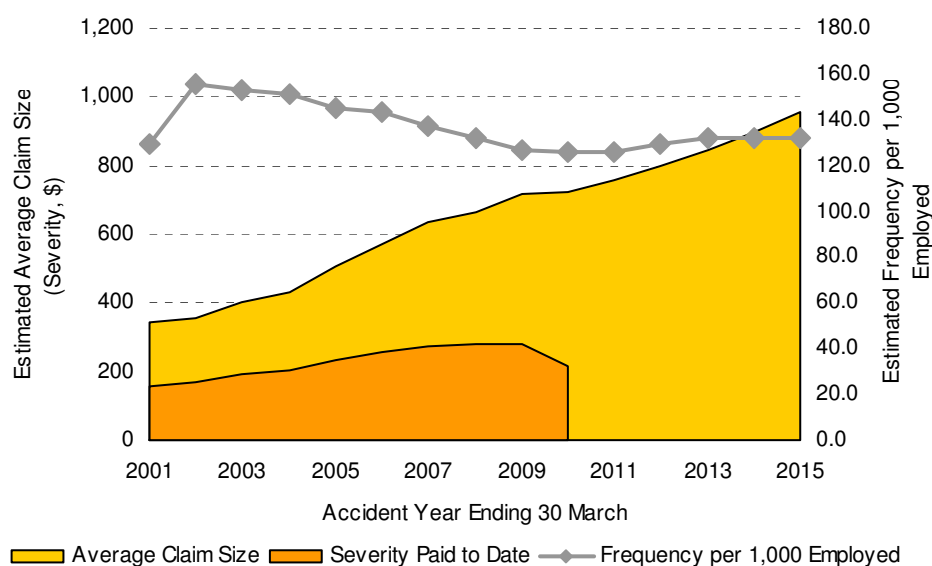
Accident Year	Employed (000)	Number of Claims	Frequency (per 1,000 employed)	ACC Estimates			
				Ultimate Payments (\$000)	Severity (\$)	Cost per Employed (\$)	% Increase in Cost per Employed
2001	1,551	200,538	129.26	69,407	346	45	
2002	1,479	230,162	155.58	82,441	358	56	25%
2003	1,519	231,903	152.70	92,682	400	61	10%
2004	1,563	236,107	151.02	101,271	429	65	6%
2005	1,619	235,125	145.20	118,494	504	73	13%
2006	1,655	237,624	143.59	136,168	573	82	12%
2007	1,691	232,304	137.40	147,139	633	87	6%
2008	1,726	228,251	132.21	151,229	663	88	1%
2009	1,737	219,416	126.34	156,660	714	90	3%
2010	1,722	215,948	125.39	155,864	722	91	0%
2011	1,738	219,293	126.18	166,355		96	6%

					759		
2012	1,769	229,160	129.51	183,529	801	104	8%
2013	1,795	236,323	131.69	199,059	842	111	7%
2014	1,811	238,929	131.95	214,438	897	118	7%
2015	1,827	241,323	132.08	230,178	954	126	6%

Changes to contracts for physiotherapy and high-tech imaging helped to moderate inflation in average claim costs in the last year. However, in the absence of specific initiatives planned for future years, claim size inflation is expected to continue at the levels seen historically.

Claim frequency is assumed to gradually return to the 2008 level over the next few years, but remain below the levels seen prior to 2008.

Figure A.3 – Medical (Short Term and Other) - Estimated Average Frequency and Severity



A.3 Account Specific Methodology

The description of account-specific methodology refers to the calculations for industry levy relativities, the Partnership Programme for large employers, and CoverPlus Extra for self-employed and shareholder-employees.

ACC is currently undertaking a separate consultation on experience rating in the Work Account. We comment on the experience rating consultation in a separate letter.

Industry Levy Relativities

The levy rate paid by an employer or a self-employed person depends on the industry in which they are involved. ACC estimates the relative riskiness of different industries

based on the historical claims experience. In aggregate, the amount of levy income collected should be the same as if everyone paid the average rate.

Method

Business activities are classified in accordance with a variant of the Australian and New Zealand Standard Industry Classification system, referred to by ACC as ANZSIC 2006. This results in 535 different classification units (CUs), which define business activities to a high level of precision.

In order to make sure the projections are based on credible statistics, the CUs are grouped into levy risk groups ("LRGs"). ACC reviews the amount of claims relative to earnings for each LRG over the last seven accident years.

ACC then estimates the relative riskiness of each LRG. In some cases ACC needs to group LRGs or use Partnership Programme data to ensure the statistics are credible. The total levy is then allocated between different business types based on risk.

There are a number of adjustments applied to obtain the final levy. These adjustments relate to:

- a constraint on the maximum permitted annual rate change for each group, relative to the average increase
- allowance for discounts available to certain businesses participating in safety management programs
- to allow for the fact that ACC does not process small invoices.

Findings

ACC is proposing to increase the number of LRGs from 117 to 143, and move some CUs between LRGs. The intention is that the levy charged to each CU should better reflect the riskiness of the employers covered, as shown by historical claims experience.

We have not reviewed the detailed modelling, but have been provided with a tool showing the historical claims to earnings ratio for each CU, together with levy rates based on the current and proposed groupings. We observe that the new levy relativities appear to give a better fit to claims experience than the current levy relativities for the CUs we have reviewed.

Discounts available for the safety management programme have been reduced as ACC prepares for experience rating, which is an alternative mechanism for recognising workplace safety. The method of calculating the premium adjustment for this programme is unchanged compared to last year. Loadings have also been estimated for the cost of experience rating.

ACC caps the change in the aggregate levy rate for any levy payer to +/- 15%. If the calculated change in levies is outside this range then ACC spreads the cost difference over all other levy payers. Last year capping was applied at +/- 25%.

Capping helps reduce the impact of changes in levies on individual employers, and the ability to smooth rates is a potential advantage of ACC being a monopoly provider of workers' compensation insurance. However, industry relativities are intended to signal high claims cost to employers, and so capping rates can reduce the effectiveness of these signals. In addition, we note that smoothing represent a cross subsidy between levy payers, since they prevent levies reflecting relative claim costs.

The average levy rate proposed has a number of components, including claim costs, funding adjustments and an expense loading. We note that the risk relativities are applied to the total average rate. This means that, broadly speaking, companies in an industry that is more risky than average pay not only a greater share of future claim costs, but also a greater share of all of the other cost components including expenses.

We would expect that at least some of the expenses of ACC would be insensitive to risk. A refinement to the current approach would be to separately identify cost components that are not directly related to claim amounts. These would include ACC's overhead costs. The levy would then consist of a fixed component, plus a risk rated variable component.

Risk Rating for Residual Claims

Risk rating of the Residual component of the levy is based on 41 LRGs. The make-up of the LRGs and the levy relativities have not changed since 2006, and ACC is proposing that these remain unchanged going forward. While this approach may result in an inequitable allocation of costs, it is consistent with ACC's treatment of the residual levy as a fixed amount.

Partnership Programme

The Partnership Programme (also known as the Accredited Employers Programme) is a scheme allowing employers who meet certain criteria to voluntarily manage and pay their employees' work-related accident compensation claims. These payments reduce the amount of claims that ACCs has to pay, and so ACC reflects the expected savings in the levies of Partnership Programme employers.

There are a number of options available under the programme, reflecting differences in:

- Cover period: Employers decide the period during which they will manage and pay claims.
- ACC Insurance: Employers decide the amount of insurance to purchase from ACC in case claims significantly exceed the expected level.

ACC manages the programme in two main streams, the Partnership Discount Plan (PDP) and the Full Self Cover plan (FSC). The main difference between the plans relates to what happens at the end of the cover period. Under FSC the employer must pay ACC a fee to hand back the claims, reflecting the expected future claim costs. PDP employers do not have to pay ACC a fee when they hand back the claims.

The following table provides more details on the options under each of the PDP and FSC.

Table A.4 – Summary of AEP Options

		Partnership Discount Plan	Full Self Cover Plan
Cover Period Options (calendar years)		1 or 2 years	2, 3 or 4 years
ACC Insurance	Compulsory	None	Stop loss (see description under PDP).
	Optional	Stop loss, which limits the total claims cost paid by the employer during the cover period. Limits available range from 160% to 250% of the expected claim cost.	High cost claims cover, which limits the cost of any single claim. Limits available range from \$250,000 to \$2.5 million.
Payments to ACC	Initial	Discounted levy, and optional cost of additional insurance	Discounted levy, and cost of additional insurance.
	Variable	No additional payments to ACC.	Discount higher than for PDP. Amount paid at end of cover period depends on claims open at that time.

The methods used by ACC (described below) are unchanged from last year, and remain appropriate (subject to our comments on risk margins). However, there is no evidence that the ACC models have been tested to show that they have actually been producing appropriate results.

An example of a test that should be shown in the ACC technical report is a comparison of how much levy income is received from Partnership Programme employees and an estimate of ACC’s ultimate costs in respect of the programme (that is, a comparison of actual and expected experience). Similar statistics should also be produced for the account excluding Partnership Programme, to indicate whether any cross-subsidy exists.

If disequilibrium is indicated by these calculations, it may be necessary to introduce a greater degree of risk adjustment into the calculations. Because the Partnership Programmes are optional, employers will only join if they believe it is to their advantage. This feature places an even greater emphasis on monitoring actual experience versus expected.

Partnership Discount Plan (PDP)

ACC estimates the proportion of claims that will be paid in each of the years following an accident, and so be covered by the employer. The calculations also consider the

apportionment of expenses, funding adjustment and other cost components. The discount offered for the one-year program is equal to the proportion of ACC outgo that is paid in the first year. The discount for the two year program is calculated similarly.

Table A.5 below shows that the average level of discount proposed in the current 2011/12 consultation is similar to the prior 2010/11 discount.

Table A.5 – Comparison of PDP Discounts

	Current	Prior
One Year Scheme	49.8%	49.0%
Two Year Scheme	58.4%	57.1%

The level of discount is risk rated by industry, reflecting differences in the speed at which claims are paid. This is appropriate, since a business where a relatively small proportion of claims are paid in the first couple of years should be given less incentive to join the scheme.

Full Self Cover Plan (FSC)

ACC calculates the expenses of running the FCS plan and the cost of the mandatory stop loss and optional high claim cost covers (HCCC).

The stop loss rates vary depending on the expected claim amount of the employer. ACC uses a model to simulate the number of claims received, and then a claim size for each claim.

The probability of exceeding the stop loss limit is reduced if the employer purchases HCCC, since this reduces an employer’s liability for certain large losses. Therefore the model produces separate sets of results for each of the different HCCC limits that may be purchased.

The model assumptions are based on ACC’s claim data. Having reviewed the most recent data ACC decided not to change the stop loss and HCCP assumptions compared to last year, with the exception of risk margins.

ACC applies a risk margin to the results, which is said to “provide an acceptably low probability of ruin to ACC”. The risk margins have increased slightly since last year, reflecting the recent review of liability risk margins.

ACC should consider whether it is appropriate to include a margin in the estimates. All estimates allow for the risk margin held on ACC’s liabilities, and loadings are also applied to allow for ACC’s expenses. However, employers that are not in the partnership programme are not required to pay a further loading on their premiums to reduce probability of ruin of ACC.

CoverPlus Extra (CPX)

ACC Coverplus Extra allows self-employed and shareholder-employees to guarantee the level of weekly benefits they would be entitled to in the event of injury. The advantage of this scheme to the worker is that they do not have to prove their level of earnings in the event of a claim.

ACC has applied the same method to estimate CPX levies for 2011/12 as was applied for 2010/11.

The levy rating structure for CPX is based on the “standard” levies paid by self-employed individuals (that is, those who choose not to join CPX). However, the rate is scaled up since claimants are entitled to receive 100% of the agreed level of cover. Self-employed claimants not in CPX can usually only claim 80% of their income. The levy rate is then applied to the level of agreed cover, rather than to the self-employed worker’s income.

A 3% loading is applied to CPX levy rates to allow for the additional expenses of running the CPX scheme.

B Motor Vehicle Account

This appendix provides more details on ACC's proposed levies for the Motor Vehicle Account. We include:

- Detail on the drivers of change compared to ACC's previous projections.
- ACC's assumptions for the most significant payment types.
- A description of account-specific methodology.

B.1 Analysis of Changes

Table B.1 compares the forecast cost of accidents in the 2011/12 year to ACC's previous expectations.

Table B.1 – Analysis of Changes – Work Account

Payment Type	Social Rehabilitation (Serious Injury)	Non-Fatal Weekly Compensation	Other Payments	Total
Forecast average cost for 2010/11 - Previous ACC Projections	58	44	63	165
Difference between actual and expected experience	(6)	(6)	(6)	(18)
Change in discount rate	(1)	(1)	(1)	(3)
Changes in other assumptions	2	2	3	8
Forecast average cost for 2011/12 - Current ACC Projections	54	40	59	152

The motor levies for 2011/12 include an average of \$152 per vehicle for the estimated cost of accidents occurring in that year. Over one third of that cost is in respect of social rehabilitation payments for serious injuries and one quarter is in respect of weekly compensation.

The table should be read as follows:

- When ACC estimated the 2010/11 levies, the expected cost of 2010/11 claims was \$165 per vehicle.
- ACC has now reduced that estimate for 2010/11 to allow for favourable recent experience and changes in economic assumptions, resulting in an assumed cost of \$145 per vehicle (165 – 18 – 3).
- The estimated 2011/12 claims cost of \$152 per vehicle is \$8 higher than the revised 2010/11 year projection.

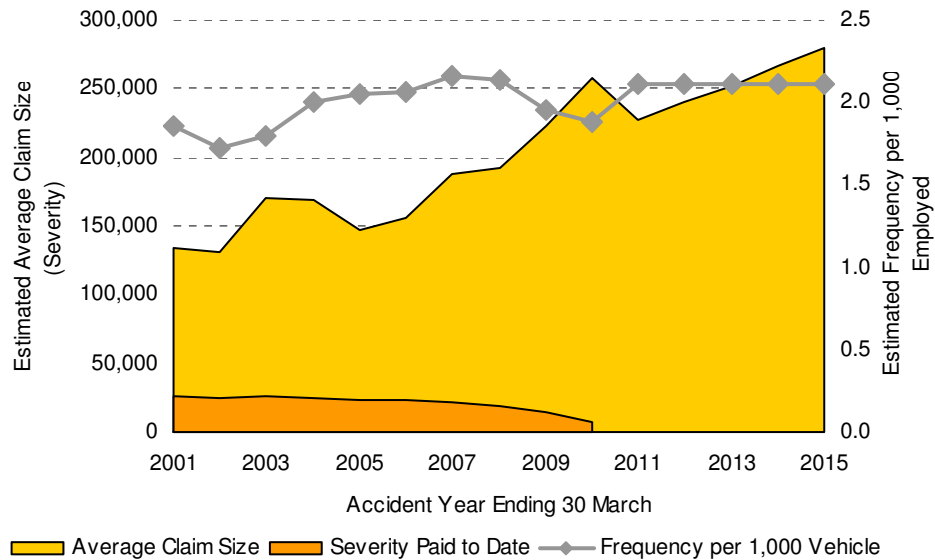
The trends are similar for each of social rehabilitation, weekly benefits and other payments.

The \$8 increase in the average levy is due to an increase in the expected cost of claims occurring in the levy year due to an increase in the average claim size, with claim

frequency assumed to remain at the same level as in 2010/11. The average claim size is expected to increase each year as the cost of benefits, such as those linked to carers' wages, increase over time.

Figure B.4 shows the projected frequency and average claims size assumptions and compares these to the historical experience. The figure shows only entitlement claims, meaning that claims that only receive medical benefits are excluded.

Figure B.4 – Motor Estimated Frequency and Severity (Entitlement Claims Only)



Claim frequency is expected to remain at around one entitlement claim for every 5000 vehicles, consistent with average experience over since 2004. While average claim sizes vary from year to year there is clear evidence of inflation over time.

ACC will have to meet the costs of some claimants for the rest of their life. The figure shows that only a very small proportion of total claims costs have been paid to date. For example, only 8% of the total cost of accidents in 2001 have been paid, and the proportion paid is lower for more recent years. The fact that the average costs need to be based on estimates increases the uncertainty of the projections.

We note that, for most payment types, claims are notified to ACC shortly after an accident. This means that historical frequencies can be estimated more accurately than average costs.

B.2 Payment Type Analysis

This section summarises information from ACC's reports for the most material payment types.

Social Rehabilitation (Serious Injury)

Table B.2 summarises the information for this payment type from ACC's model, and the following figure summarises this information graphically. Note that both care and capital benefits for injured claimants are included.

Table B.2 – Summary of ACC Projections – Social Rehabilitation (Serious Injury)

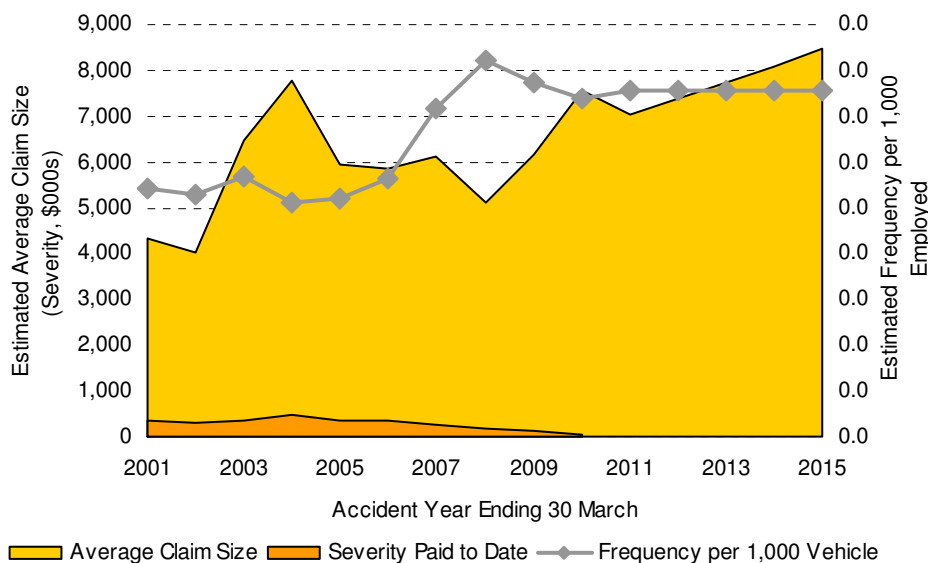
Accident Year ending 30 June	Vehicles (000)	Number of Claims	Frequency (per 1000 vehicles)	ACC Estimates			% Increase in Cost per Vehicle
				Ultimate Payments (\$000)	Severity (\$000s)	Cost per Vehicle (\$)	
2001	2,476	67	0.027	289,814	4,324	117	
2002	2,533	67	0.026	268,793	4,010	106	-9%
2003	2,637	75	0.028	486,334	6,482	184	74%
2004	2,748	70	0.025	544,992	7,783	198	8%
2005	2,846	74	0.026	440,139	5,946	155	-22%
2006	2,941	83	0.028	486,342	5,857	165	7%
2007	3,012	108	0.036	659,269	6,102	219	32%
2008	3,089	127	0.041	650,816	5,123	211	-4%
2009	3,093	119	0.039	733,246	6,140	237	13%
2010	3,093	114	0.037	863,773	7,557	279	18%
2011	3,129	118	0.038	834,000	7,054	267	-5%
2012	3,167	120	0.038	883,280	7,381	279	5%
2013	3,205	121	0.038	935,410	7,724	292	5%
2014	3,244	123	0.038	990,610	8,082	305	5%
2015	3,283	124	0.038	1,049,060	8,457	320	5%

While very few social rehabilitation claims are reported each year, the lifetime cost of caring for each claimant averages several millions of dollars.

The increase in claim frequency since 2006 is attributed to a change in the definition of serious injury claims, which resulted in a reclassification of some non-serious injuries. Claim frequencies are now expected to stabilise at the current level.

The changes in claim definition mask the trend in claim severity. Inflation for social rehabilitation claims is analysed in detail as part of the valuation of ACC liabilities, and ACC has used this analysis to produce the levy assumptions.

Figure B.5 – Social Rehabilitation (Serious Injury) - Estimated Average Frequency and Severity



Non-Fatal Weekly Compensation

Table B.3 summarises the information for this payment type from ACC’s model, and the following figure summarises this information graphically.

Table B.3 – Summary of ACC Projections – Non-Fatal Weekly Compensation

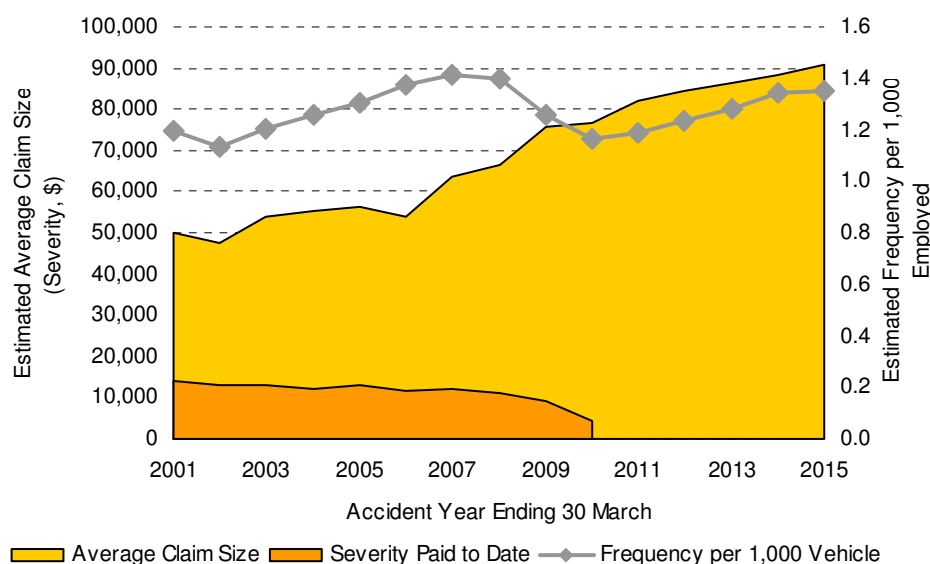
Accident Year ending 30 June	Vehicles (000)	Number of Claims	Frequency (per 1000 vehicles)	ACC Estimates			% Increase in Cost per Vehicle
				Ultimate Payments (\$000)	Severity (\$)	Cost per Vehicle (\$)	
2001	2,476	2,965	1.20	148,587	50,109	60	
2002	2,533	2,875	1.13	137,365	47,787	54	-10%
2003	2,637	3,167	1.20	170,065	53,700	64	19%
2004	2,748	3,458	1.26	191,837	55,475	70	8%
2005	2,846	3,707	1.30	208,741	56,307	73	5%
2006	2,941	4,052	1.38	218,518	53,935	74	1%
2007	3,012	4,251	1.41	270,065	63,537	90	21%
2008	3,089	4,329	1.40	287,025	66,306	93	4%
2009	3,093	3,891	1.26	295,635	75,970	96	3%
2010	3,093	3,605	1.17	276,202	76,624	89	-7%
2011	3,129	3,727	1.19	306,130	82,129	98	10%

2012	3,167	3,907	1.23	330,400	84,560	104	7%
2013	3,205	4,102	1.28	354,870	86,503	111	6%
2014	3,244	4,352	1.34	383,600	88,135	118	7%
2015	3,283	4,449	1.36	403,170	90,621	123	4%

Claim frequency increased significantly between 2002 and 2008, but results for 2009 and 2010 are much more favourable. ACC has assumed that the claim frequency in 2011 will also be favourable, albeit slightly higher than in 2010. Payments are linked to pre-claim earnings.

ACC has assumed that claim frequency after 2011 will increase towards long-run average levels. This is a reasonable projection basis at this time, and estimates can be refined over time depending on whether the ACC’s current results are sustained.

Figure B.6 – Non-Fatal Weekly Compensation - Estimated Average Frequency and Severity



B.3 Account Specific Methodology

ACC collects levies through license fees on most motor vehicles and through petrol sales. The estimates in previous sections refer to the average levy per motor vehicle. ACC collects different levies for different types of vehicle.

ACC proposes changing the petrol levy from 9.9 cents per litre to 12.9 cents per litre. There is no levy on diesel sales.

The main consideration for affordability is that levies for motorcyclists are significantly less than the expected claim costs. We note that some level of cross subsidisation between

motorcyclists and other motorists is an inevitable feature of a no-fault accident compensation scheme.

In determining the relative levies for different types of vehicle, ACC considers both the relative claim costs and the affordability of levies. ACC has refined its analysis of relative claim costs this year by linking its claim database to information from the Ministry of Transport.

Having considered the new analysis ACC has decided to leave the motor classes and the overall cost relativities of each class unchanged compared to each year. Because ACC proposes changing the petrol levy and petrol usage varies by vehicle, ACC has changed licence fee relativities so that the overall relative costs are unchanged.

C Earners' Account

This appendix provides more details on ACC's proposed levies for the Earners' Account.

C.1 Analysis of Changes

Table C.1 compares the forecast cost of accidents in the 2011/12 year to ACC's previous expectations.

Table C.1 – Analysis of Changes – Earners' Account

Payment Type	Non-Fatal Weekly Compensation	Medical	Other Payments	Total
Forecast average cost for 2010/11 - Previous ACC Projections	0.63	0.39	0.53	1.55
Difference between actual and expected experience	(0.14)	(0.08)	(0.07)	(0.30)
Change in discount rate	(0.01)	(0.01)	(0.01)	(0.03)
Changes in other assumptions	0.00	0.02	0.01	0.03
Forecast average cost for 2011/12 - Current ACC Projections	0.47	0.32	0.46	1.26

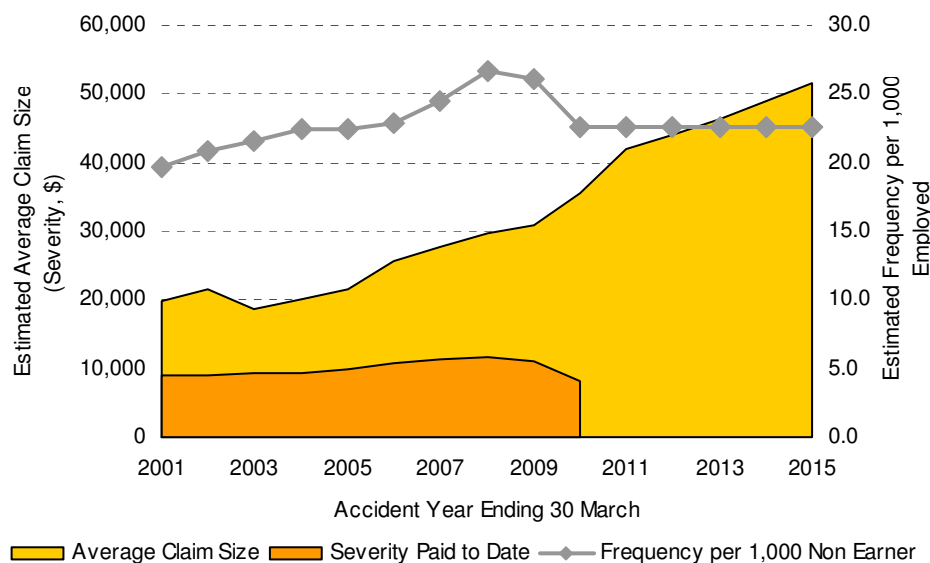
The earners' levies for 2011/12 include an average cost of \$1.26 per \$100 of liable income for the estimated cost of accidents occurring in that year. Almost two thirds of that cost is in respect of non-fatal weekly compensation and medical benefits.

When ACC estimated the 2010/11 levies, the expected cost of 2010/11 claims was \$1.55 per \$100 liable earnings. ACC has now reduced that estimate for 2010/11 to allow for favourable recent experience and changes in economic assumptions, resulting in an assumed cost of \$1.22 per \$100 liable earnings (\$1.55 - \$0.30 - \$0.03).

The main reason for the change in estimated claim costs is the difference between actual and expected experience for Non-Fatal Weekly Compensation (\$0.14 per \$100 liable earnings).

The estimated 2011/12 claims cost of \$1.26 per \$100 liable earnings is \$0.03 per \$100 liable higher than the revised 2010/11 year projection. ACC has allowed for inflation in average claim size, as shown in Figure C.1 below. The figure shows only entitlement claims, meaning that claims that only receive medical benefits are excluded.

Figure C.1 – Earners’ Account Estimated Frequency and Severity (Entitlement Claims Only)



Claim frequency is expected to remain at the same level as the 2009/10 year, which is significantly lower than the frequencies between 2006/07 and 2008/09.

C.2 Payment Type Analysis

This section summarises information from ACC’s reports for the most material payment types.

Non-Fatal Weekly Compensation

Table A.2 summarises the information for this payment type from ACC’s model, and the following figure summarises this information graphically.

Table C.2 – Summary of ACC Projections – Non-Fatal Weekly Compensation

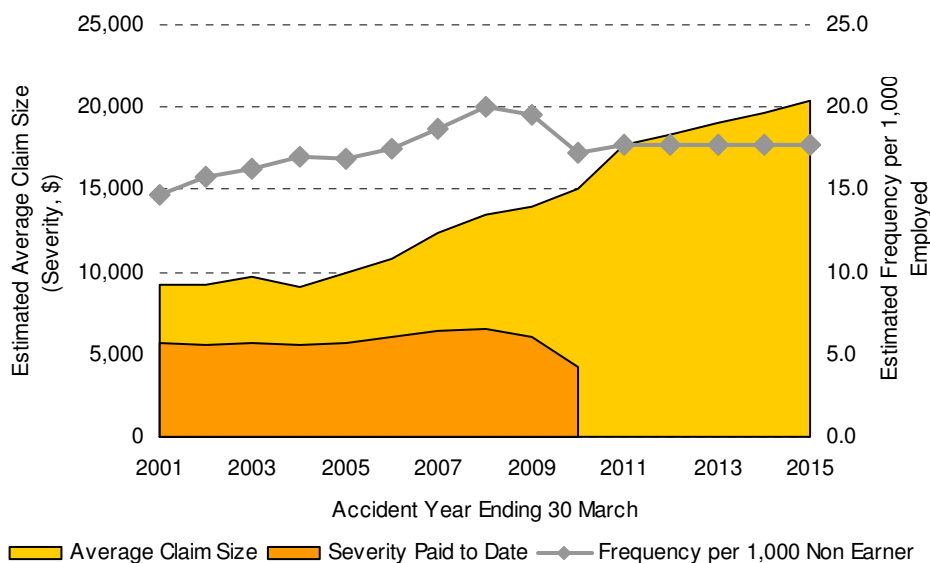
Accident Year ending 30 June	Employed (000)	Number of Claims	Frequency (per 1,000 earners)	ACC Estimates			% Increase in Cost per Employed
				Ultimate Payments (\$000)	Severity (\$)	Cost per Employed (\$)	
2001	1,810	26,495	14.64	242,783	9,163	134	
2002	1,863	29,307	15.73	268,816	9,173	144	8%
2003	1,915	31,203	16.30	302,851	9,706	158	10%
2004	1,971	33,562	17.02	304,173	9,063	154	-2%
2005	2,042	34,490	16.89	342,228	9,923	168	9%
2006	2,099	36,725	17.50	397,114	10,813	189	13%
2007	2,145	40,130	18.71	494,607	12,325	231	22%
2008	2,173	43,585	20.06	588,478		271	17%

					13,502		
2009	2,192	42,774	19.51	597,149	13,961	272	1%
2010	2,164	37,236	17.21	560,780	15,060	259	-5%
2011	2,182	38,554	17.67	682,945	17,714	313	21%
2012	2,226	39,330	17.67	719,326	18,289	323	3%
2013	2,258	39,889	17.67	758,585	19,017	336	4%
2014	2,278	40,248	17.67	792,332	19,686	348	4%
2015	2,299	40,611	17.67	827,212	20,369	360	3%

The trends in frequency and severity for this payment type are similar to those of the Earners' Account in total. The 2010/11 and 2011/12 years are expected to have the same claim frequency.

Average claim size has increased faster than earnings in recent years as claim durations increased. ACC has anticipated that claim inflation will moderate in future years.

Figure C.2 – Non-Fatal Weekly Compensation - Estimated Average Frequency and Severity



Medical – Short Term and Other

Table A.3 summarises the information for Short Term Medical and Other Medical from ACC's model, and the following figure summarises this information graphically. Note that in adding together the two payment types the number of claimants may overstated, because some accidents may result in a range of medical benefits being paid.

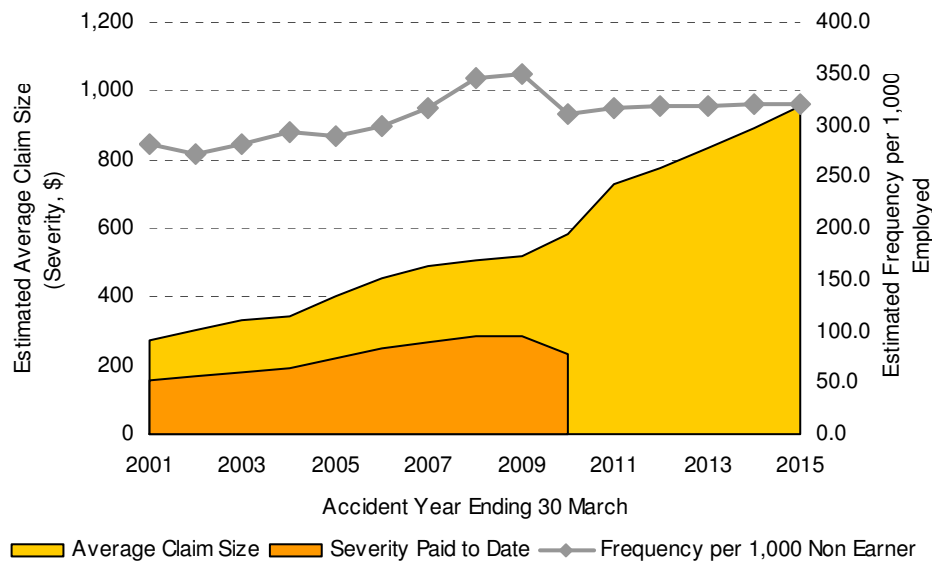
Table C.3 – Summary of ACC's Medical Projection (Short Term and Other)

Accident Year ending 30 June	Employed (000)	Number of Claims	Frequency (per 1,000 earners)	ACC Estimates			% Increase in Cost per Employed
				Ultimate Payments (\$000)	Severity (\$)	Cost per Employed (\$)	
2001	1,810	510,599	282.08	140,710	276	78	
2002	1,863	507,844	272.59	154,611	304	83	7%
2003	1,915	539,430	281.71	178,271	330	93	12%
2004	1,971	579,207	293.81	200,556	346	102	9%
2005	2,042	591,436	289.67	239,169	404	117	15%
2006	2,099	626,260	298.42	284,462	454	136	16%
2007	2,145	677,290	315.72	329,459	486	154	13%
2008	2,173	751,339	345.77	381,149	507	175	14%
2009	2,192	764,593	348.79	395,277	517	180	3%
2010	2,164	673,367	311.20	391,889	582	181	0%
2011	2,182	692,289	317.25	502,384	726	230	27%
2012	2,226	708,084	318.08	549,191	776	247	7%
2013	2,258	719,879	318.85	598,238	831	265	7%
2014	2,278	728,117	319.62	648,997	891	285	8%
2015	2,299	736,460	320.40	703,198	955	306	7%

ACC considers that recent reductions in claim frequencies have removed some small claims from the scheme, and therefore anticipates increases average claim size in the 2011/12 year.

In future years ACC anticipates small increases in claim frequency, and increases in average claim size of around 7%.

Figure C.3 – Medical (Short Term and Other) - Estimated Average Frequency and Severity



C.3 Treatment Injury Account

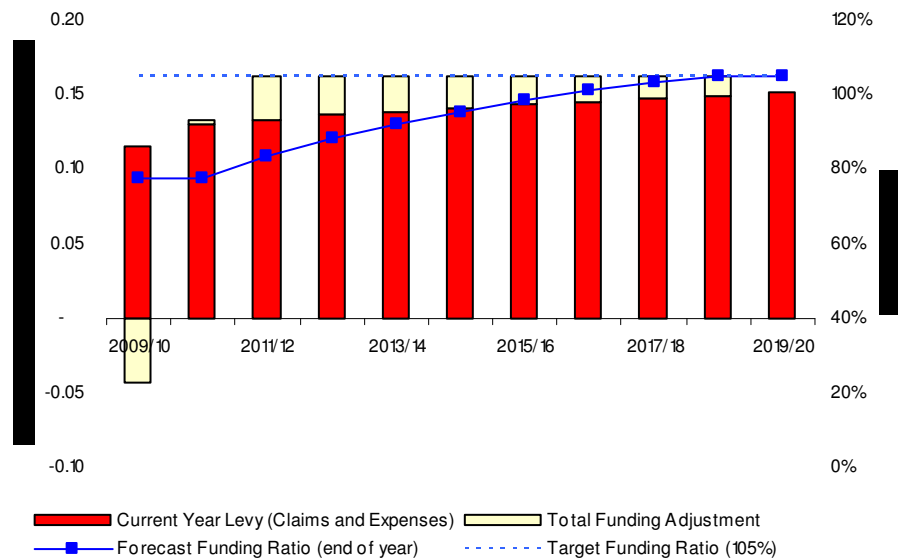
The Treatment Injury Account covers the cost of injuries caused by medical treatment. ACC estimates future Treatment Injury Account costs in the same way as for other accounts, and allocates part of the cost to the Earners’ Account.

A significant proportion of Treatment Injury Account costs relate to lifetime care for birthing complications or injuries otherwise sustained by new born babies during delivery, which are allocated to the Non-Earners’ Account. In setting levies for the 2011/12 year, 32% of the 2011/12 accident year Treatment Injury Account costs (before discounting) are allocated to the Earners’ Account, compared to an assumed 28% adopted in setting the 2010/11 levies. For accident years prior to 2011, 17% of the outstanding claims costs (before discounting) are allocated to the Earners’ Account.

The deficit for the Earners’ Treatment Injury Account for post-1999 claims has been reduced to \$150 million at 30 June 2010 from \$257 million at 30 June 2009. However, this result is worse than the expected deficit \$127 million based on the projections from the 2010/11 levy work. ACC has not included a detailed analysis of the movement in this funding position and so we cannot comment on the precise reasons for the change in funding position, or the difference from expected. However, we are aware that the ACC has increased the expected number and cost of elective surgery and other medical in response to emerging experience which is a likely source of this change.

Figure C.4 shows the projected levy rates and funding ratio through to 2019/20. The levy rates are shown split between current year levy (claims and expenses) and total funding adjustment (including residual). We also show the actual levy rates for 2009/10 and 2010/11, and the actual funding ratio at 30 June 2010.

Figure C.4 – Future Levies and Funding Ratio – Earners’ Treatment Injury Account



Note that the split of the 2010/11 levy into components was calculated with the benefit of hindsight, as described in Section 2.3.

The total levy rate for 2011/12 is 22% higher than the current levy rate for 2010/11, largely due to an increase in the funding adjustment, and is expected to remain at that level through to 2018/19.

The current year levy for 2011/12 shown above is considerably higher than the current year levy assumed in the levy setting analysis undertaken for 2010/11. As mentioned above, this appears to be driven by a substantial deterioration in experience for Elective Surgery claims for this account. The level of documentation in ACC’s technical report does not enable us to make definitive comments on the reasonableness of the projection assumptions for the Earners’ Account portion of the Treatment Injury Account relative to the relevant historical experience for this account. Although Treatment Injury is relatively small in the context of the entire Earners’ Account levy, we believe the experience warrants greater attention in setting levy assumptions. We suggest that ACC explicitly document the historical experience and projection assumptions for the major payment types for the Earners’ portion of the Treatment Injury accounts so as to ensure the reasonableness of the projection assumptions in setting levies for this account.

The funding ratio for this account is expected to reach 100% during the 2014/15 year, and 105% by the end of the 2018/19 year. However, this depends on the claims costs for future accident periods being relatively stable (with increases of 1% - 3% per annum). Given the historical increases in claims costs for this account, ACC will need to manage cost pressures effectively in order to achieve this result.

D Information Provided

D.1 ACC

- ACC Levy Consultation 2011/12 documents for each account
- ACC Actuarial Services 2011/12 Technical Report on Levy Setting Methodology for each account
- Supporting models used by ACC to estimate Levy rates.

D.2 PwC Valuation Report

“Accident Compensation Corporation – Valuation of Outstanding Claims Liabilities as at 30 June 2010”, report dated 27 August 2010

D.3 Finity Reports

We have referred to our previous reports, including:

- Our quality assurance review of the 2010/11 levy rates. We prepared separate reports in respect of each account, each dated 30 November 2009
- “Quality Assurance Review of PricewaterhouseCoopers’ June 2010 Valuation of ACC’s Outstanding Claims Liabilities”, report dated 7 December 2010.

D.4 General

We have also relied on information (both written and verbal) provided by ACC, PwC and the Department.