

Driverless cars and insurance telematics

It won't happen overnight, but it will happen (maybe, eventually)

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The Naylor Report

Dr Michael Naylor of Massey University recently released a report *A Perfect Storm in Insurance: How to survive the looming waves of disruptive technology*. The report considers a range of new technologies that Naylor believes will combine to disrupt up to 80% of insurance job activities and see motor insurance premiums drop by over 90% by 2030.

Whilst one should embrace new technology and enjoy the excitement of new developments, one should also be realistic about the timeframes involved to effect such major changes.

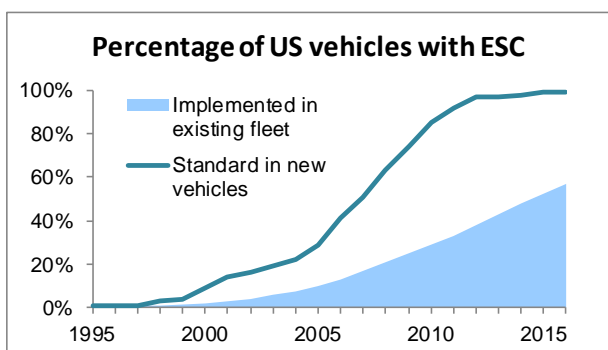
Driverless cars

Driverless cars are often touted as a soon-to-be major disruptor for the insurance market. How much risk needs to be insured when the driving decisions are carried out by an algorithm?

Developments in automated driving are fascinating and make for great headlines. But the reality is that it takes many years to replace a nation's vehicle fleet. In New Zealand the average light vehicle is over 14 years old and ageing. Trucks and buses are even older. Even if one were to flick a magic switch such that every new car sold from tomorrow was autonomous it would still be decades before our vehicle fleet was comprised of mostly autonomous vehicles.

Vehicle safety developments

So how long does it take for new technologies to make their way into our vehicle fleet? Electronic Stability Control (ESC) is one of the most significant vehicle safety developments of the last few decades. The chart below looks at some data from the Insurance Institute for Highway Safety (IIHS), a US based organisation aimed at reducing crashes.



Source: IIHS

ESC was developed in the early 1990s and became available in US vehicles from around 1995. By 2012 ESC was standard in 97% of new registered US vehicles. Yet by that point still only 38% of the vehicles on US roads had ESC.

The average age of a US light vehicle is around 11.5 years, so is comparatively newer than the average NZ vehicle. The NZ Transport Agency is mandating ESC for vehicles entering the country over a period from 2015 to 2020. We can probably expect to see extensive use of this early 1990s technology at some point after 2020.

Insurance telematics

Another disruptor which Naylor discusses is telematics: devices that feed information to insurers or other stakeholders on an individual's driving habits. The concept extends further (for example to monitoring devices in the home) but has been little utilised beyond motor insurance.

Premium volumes

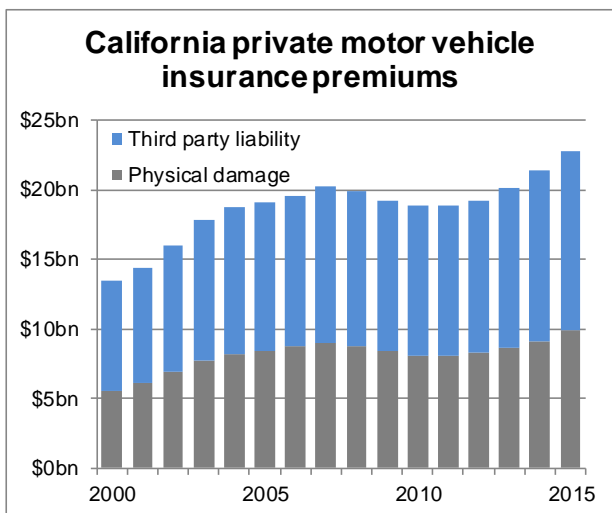
Telematics insurance policies are popular in the US and UK where motor insurance premiums are high, particularly for young males. The main reason for this is the third party bodily injury component.

In New Zealand ACC provides no-fault bodily injury cover regardless of how an accident happens. This includes cover for injuries on New Zealand roads, regardless of the fault of the respective drivers. The impact of this for NZ insurers is that premiums do not need to cover bodily injury.

By contrast, the cost of cover for third party bodily injury in the US and UK is immense. Claims management companies and 'ambulance-chasing lawyers' served to increase insurance settlements for bodily injury claims to ludicrous levels (although [recent reforms](#) have countered some of this).

As an example, the chart on the following page shows the breakdown of California's private motor insurance premium between that to cover physical damage and that for liability (of which the largest component is bodily injury). Similar analysis of UK motor premiums reveals that around half of the claims costs are for bodily injury.

Motor insurance premiums in New Zealand are comparatively cheap, thanks to ACC. But this means that the cost/benefit case for insurers to invest in telematics technology is weakened.



Source: California Department of Insurance

Device costs

The cost of vehicle telematics devices is reducing, but there is some way to go before the numbers stack up for New Zealand.

In the UK, professionally installed hardwired ‘black boxes’ are the device of choice for telematics policies. The costs are significant (generally a few hundred pounds), not least because they require installation by an expert. But motor premiums for young males can be a few thousand pounds per year. Small percentage savings on claims costs can quickly justify the added expense.

In the US, detachable devices which utilise a vehicle’s OBD-II port are more common. The devices are cheaper (some are now available under \$100) but come with limitations (for example, the policyholder is able to remove the device at will). US insurers have also made progress in working with vehicle manufacturers to utilise the information already captured by vehicle computers.

In New Zealand there have been attempts to enter the telematics market using the cheaper smartphone option (for example Tower’s [SmartDriver](#) product). But the reliability of smartphone data is questionable and the cost of investing in more sophisticated devices simply isn’t justified with our low margin, low volume premiums.

Big brother costs

Device costs will come down and the argument for insurers to invest will be strengthened. But consumers are becoming more aware of privacy issues and more wary of Big Brother monitoring. Do young males in the UK like being monitored by their insurer? Definitely not. But when the alternative is an annual premium some multiple of the value of their car then compromises must be made.

Consumers will accept some monitoring by Big Brother, but only if the price is right. For New Zealand insurers, the price is unlikely to be right anytime soon.

Conclusion

So does this mean that New Zealand insurers needn’t worry about disruptive technologies? No. The market is changing and insurers, like any other industry, will need to adapt or die.

But don’t fire the underwriters just yet. The conditions overseas that have spurred the development of telematics in the insurance industry simply don’t exist in New Zealand, at least not yet. And whilst new technology will undoubtedly make its way into the sector (and is already), our comparatively cheap motor premiums and ageing vehicle fleet mean that this isn’t going to destroy the industry tomorrow. The wise insurer will follow new technology closely and take a considered and measured approach to technology investment.

Insurance is about spreading risk, sometimes human risk such as car crashes and sometimes natural risk such as earthquakes. Perhaps in time (lots of time) driverless cars will see small motor vehicle claims replaced by massive Product Liability claims. And technology also brings new risks to be insured, for example [OBD car theft](#). In the medium-long term a varied mix of autonomous, semi-autonomous and non-autonomous vehicles will make for an interesting pool of risks to insure.

As long as the future is uncertain there will be a need for insurance, whatever form that takes. We look forward with measured anticipation to new technology in the insurance sector.

Further reading

Download the Naylor Report [here](#).

Melville Jessup Weaver is the New Zealand Alliance Partner of Willis Towers Watson. WTW run a programme called [DriveAbility Marketplace](#) in the US which aggregates telematics data from insurers and reports back on driver behaviour.

MJW has done considerable research into the applicability of telematics in the NZ environment with an expert understanding overlaid with practical knowledge of the sector.

ABOUT MELVILLE JESSUP WEAVER

Melville Jessup Weaver is a New Zealand firm of consulting actuaries providing advice on superannuation, insurance and asset consulting. The firm, established in 1992, has offices in Auckland and Wellington and is an alliance partner of Willis Towers Watson, a leading global services company and is located on the web at willistowerswatson.com.

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