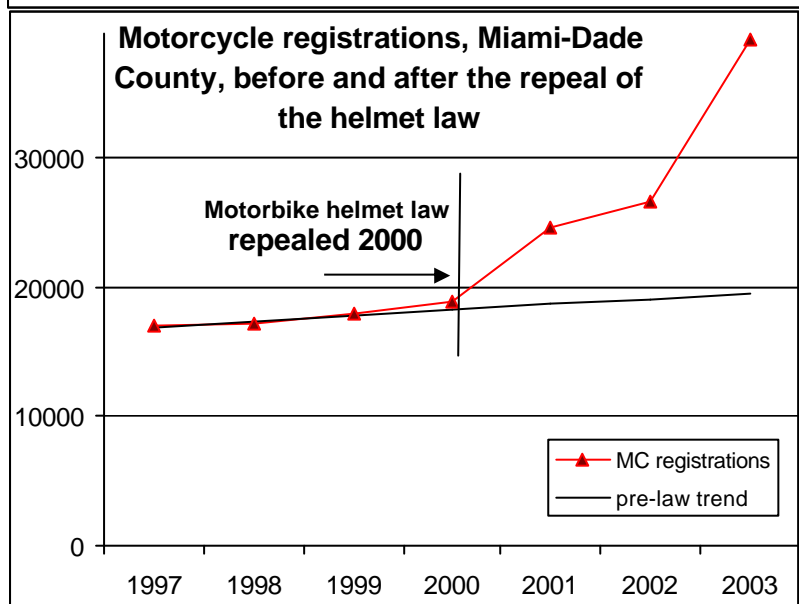
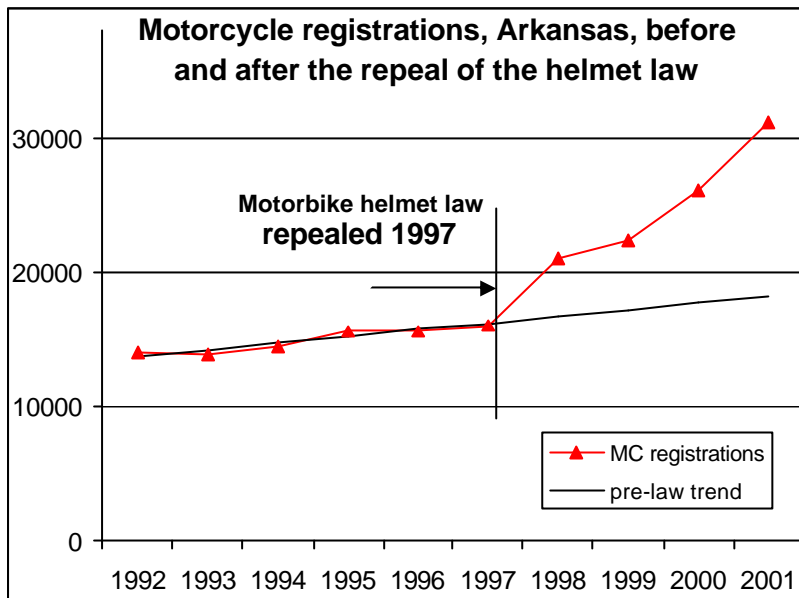


Twice as many motorcycle registrations after US helmet laws repealed



Two recent papers studied the effect of repealing motorbike helmet laws in the US. Motorcycling jumped in popularity – within a few years, registrations were double what would have been expected from the pre-law trend (see graphs).^[1 2]

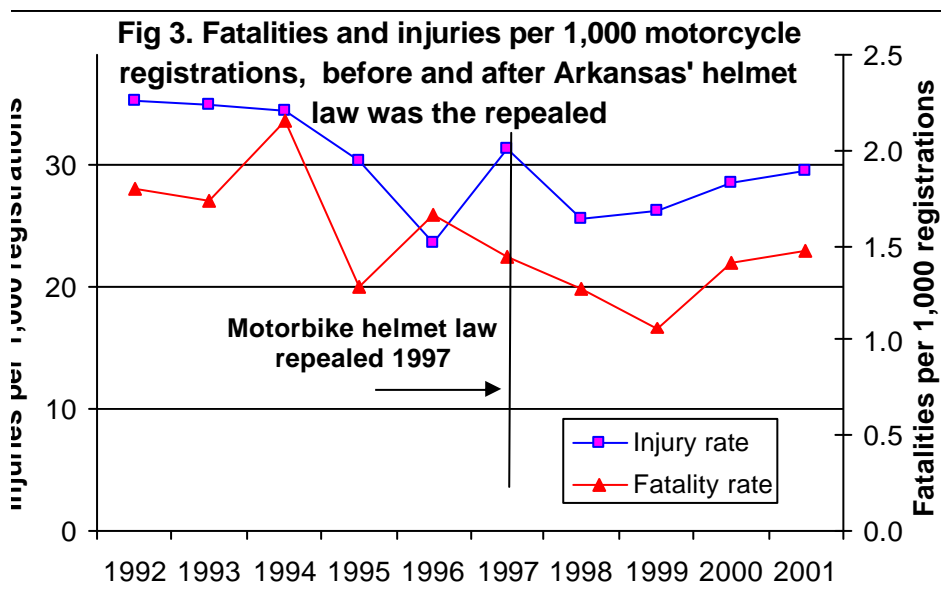
The start of increase coincided in both cases with the repeal of the law – 1997 in Arkansas, 2000 in Miami-Dade. This strongly suggests that the increases were caused by repealing the laws, and not other factors.

If having to wearing a helmet discourages substantial numbers of people from motorcycling, the effect on bicycling is likely to be even greater. The energy expended pedalling a bicycle generates heat. Especially at low speeds such as cycling uphill, riders can overheat – helmets prevents sweat from evaporating, and it drips down the forehead and into the eyes.

As well as often being uncomfortable, there is rarely anywhere on a pushbike to store a helmet, so bicyclists are often inconvenienced by having to carry helmets around at their destination, e.g. when shopping.

Repealing bicycle helmet laws might therefore be expected to produce an even more dramatic increase in bicycling. This is particularly true because of the emergence of city bicycle schemes where bikes can be borrowed from numerous locations throughout a city with nothing to pay if they are returned

within half an hour. Paris' scheme is so popular, the city was described as "cycling mad".^[3] In contrast, plans for a city bike scheme in Melbourne, Australia, were dropped because helmet laws were seen as an insurmountable barrier.



No increase in fatality or injury rates

Although helmet laws were introduced to save lives, there is little evidence that (apart from discouraging motorcycling) they made a significant difference. Injuries and fatalities per registered motorbike were trending downward in Arkansas and the repeal of the law had no obvious effect (Fig. 3). Injury and fatality rates were, if anything, lower after the law was repealed. Curiously, 47% of fatally injured motorcyclists in Arkansas were not wearing a helmet even before the repeal; this increased to 78%.

In contrast, before Miami-Dade's law was repealed, about 80% of fatally injured motorcyclists wore helmets, falling to about 53% in 2001 and 30% in 2002 and 2003. Again there is no evidence of an increase in the fatality rate after the repeal. Other factors, such as overall road conditions and 'safety in numbers' are probably more important.

Implications for bicycle helmet laws

Helmet laws make sense only if the disadvantages of discouraging cycling are less than the gains from reduced injury costs. Motorcycling has few health benefits, and a very high fatality rate – 40 fatalities per 100 million vehicle miles compared to 1.2 for passenger cars.^[4] A sophisticated cost-benefit analysis would therefore be required to weigh up the costs of injury vs potential benefits e.g. from reduced fuel consumption.

In contrast, bicycling has a lower risk of injury than motorcycling and the health benefits are substantial. Even without a helmet, the life-years gained from cycling outweigh those lost by an estimated 20:1^[5]. A study in Denmark found that people who did not cycle to work had 39% higher mortality than those who did.^[6] Adjusting for leisure time physical activity made little difference to the estimate of benefit, suggesting that the exercise gained by cycling to work is additional to normal leisure-time physical activity. Being sedentary carries a similar risk of dying prematurely as smoking 20 cigarettes a day.^[7]

In 1999, physical inactivity cost the US an estimated 24 billion dollars per year or 2.4% of health care expenditures. Lack of physical activity is also a major cause of obesity, costing an estimated 70 billion dollars in addition to the direct costs to the US of physical inactivity.^[8] In Australia, with less than 10% of the US population, it was estimated that if another 40% of people undertook regular, moderate, and effective exercise, the community would save \$2.4billion/year in reduced costs associated with heart disease, low back pain, absenteeism, and workplace productivity.^[7]

Conclusions

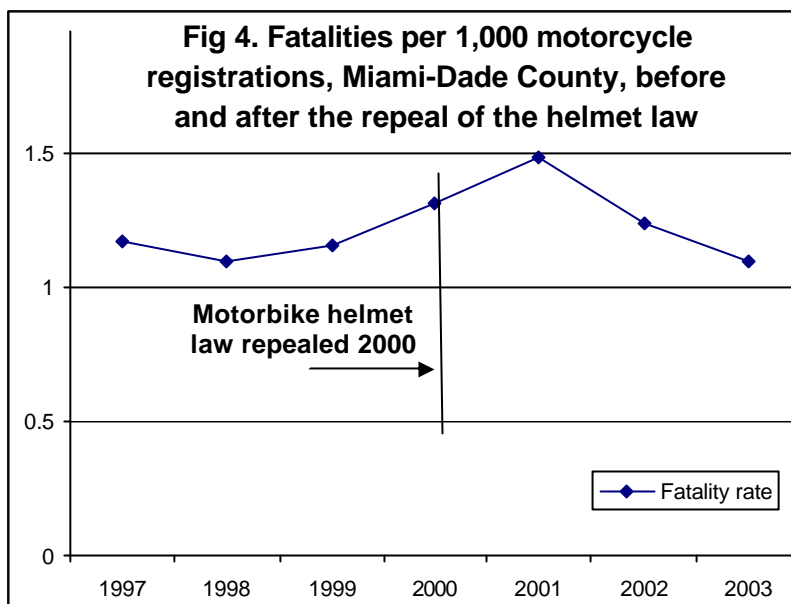
The substantial increase in motorcycle registrations with the repeal of motorcycle helmet laws suggests that repealing bicycle helmet laws would also generate a substantial increase in bicycling. For example, repealing Australia's helmet laws would remove the main barrier to implementing city bike schemes similar to the one that sent Paris "cycling mad".^[3] The energy expended while cycling can increase the risk of overheating, making bicycle helmets more uncomfortable than motorbike helmets. Lack of storage facilities at the destination can make them more inconvenient than motorbike helmets. Consequently, bicycle helmet laws might be expected to be a greater deterrent to participation than motorbike helmet laws.

The repeal of the US motorbike helmet laws didn't increase injury or fatality rates per registered motorbike. So there is no reason to believe the repeal of bicycle helmet laws would result in any increase in injuries or fatalities per km – in fact, because of 'safety in numbers', Australia had lower injury and fatality rates per km before helmet laws were introduced.

Repealing bicycle helmet laws is therefore likely to produce substantial benefits from increased cycling without increasing fatality or injury rates per km cycled. It represents one of the best and cheapest ways to encourage cycling and improve the health of the nation.

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