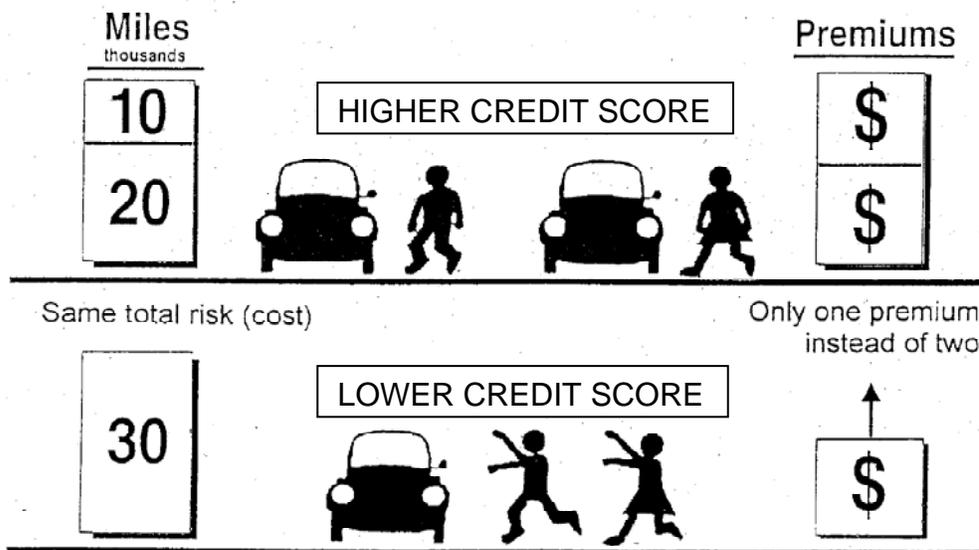


## Affordable Auto Insurance

- How it's being sabotaged by credit-score rating
- Why higher rates for low credit-score drivers can't be regulated away. What can be done instead

- Mandatory insurance works badly because pay-per-CAR premiums offer drivers only one way to economize—use fewer CARS more MILES each.
- Inconvenience keeps drivers from doing this until forced to by high premiums. When groups do share cars, average MILES-per-CAR rises.
- Result: insurers correlate more claims (per 100 car years) with lower-credit groups and raise their pay-per-CAR premiums.



- To get all cars insured, insurers must offer a way to save that doesn't make drivers give up cars—and then have to pay ever-higher pay-per-CAR premiums on the remaining cars they are sharing.
- Texas lawmakers did the right thing when they passed HB 45 in 2001, a law validating the pay-per-MILE option, which is the only workable remedy in a free market.
- Now insurers are just starting to cooperate with this way to make mandatory insurance work better. (See over for “Note to NAIC.”)

## Cents-per-mile choice—How it works

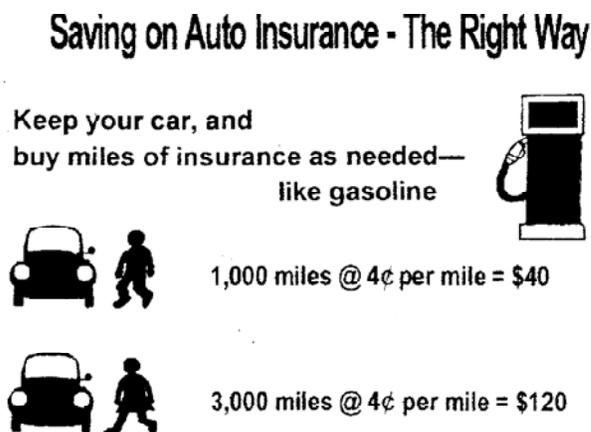
The choice of *exposure unit*\* between the car-year unit and the odometer-mile unit is straightforward for companies to set up. (They've long offered the odometer-mile as an alternative exposure unit for some commercial fleets.)

After first assigning a car as usual to a **risk class** (by territory, car type, driver age, and car use), the company offers the customer a choice between staying with, for example, a fixed premium of \$600 a year for driving coverages (liability and collision) or paying a matching 5.0¢ a mile for the **same risk class** and coverage to buy miles of insurance in advance.

The miles are added to the odometer reading and recorded on the insurance ID card. The owner buys more miles when needed. The company has the odometer read annually and when the owner changes cars or companies. Owners pay only for insurance used, and if the odometer limit is exceeded, the car is uninsured. It's that simple.\*\*

Pay-per-mile also **eliminates a major enforcement problem**. Today's ID card shows the policy term but not whether insurance has lapsed through non-payment of installments. Under the pay-per-mile alternative, checking the odometer reading against the ID card's odometer limit (also recorded in Texas's online database) shows immediately whether insurance is actually in force.\*\*\*

Driving a car, not owning it, is what produces cost for the insurance company, mile by mile, and that's the actuarially sound way to pay for it.



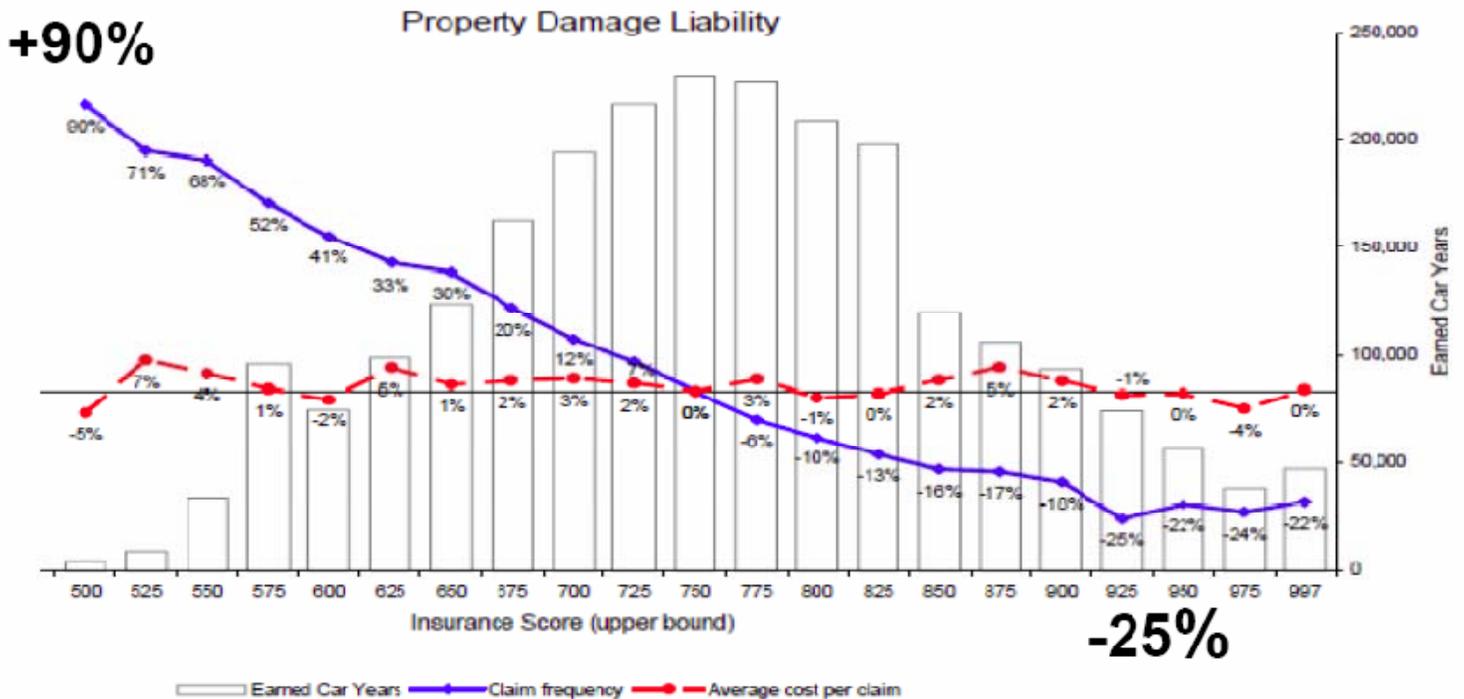
\* At the Casualty Actuarial Society's 1988 Ratemaking Seminar, CAS Fellow Richard Woll distinguished between car-miles as an odometer *exposure-unit* measure and the estimated future mileage discount classes as one of many possible classification variables (including education and occupation levels as inverse proxies for group-average miles per car year).

"[I]t makes an awful lot of sense to think of it [mileage] as an *exposure* variable. However, when you are trying to explain classification effects, you have got to recognize that mileage is a *classification* variable today, not an exposure variable. What is explained by mileage on a prospective basis is quite different than looking backward and explaining effects through past actual mileage."

\*\* In October 2008, a new insurance company in Texas began offering (only) cents-per-odometer mile premiums using this method. For a description visit [www.MileMeter.com](http://www.MileMeter.com).

\*\*\* **Note to NAIC:** Regarding ability-to-pay for mandatory insurance, it is essential that, when the odometer limit is exceeded, liability coverage must be considered cancelled for non pre-payment of premium—now the case when an installment is not paid when due. Otherwise drivers who do keep pre-paid miles on their odometers will be paying higher cents-per-mile liability insurance prices than they should. See the report to Texas legislators that prompted enactment of HB 45 in 2001—"Why the Standard Automobile Insurance Market Breaks Down in Low-Income Zip Codes" at [www.centspermilenow.org](http://www.centspermilenow.org). (The report is on the lower right.)

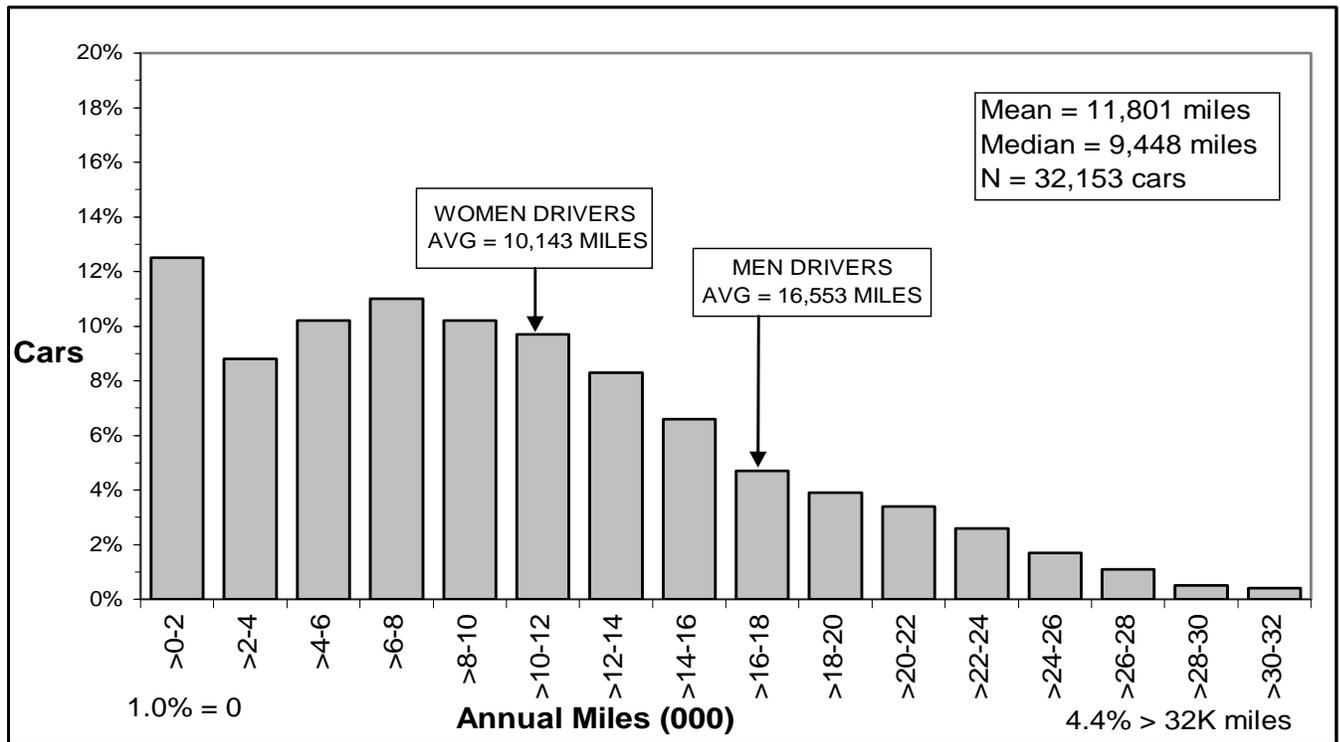
Figure 1. Liability Claims vs. Credit Scores  
(from Miller & Smith 2003)



➤ Claims per 100 car years: +90% to -25% of average

➤  $1.90 / 0.75 = 2.5$  times

e.g., 15,000 miles / 6,000 miles = 2.5 times



**Figure 2** Distribution of cars by annual miles. Calculated from 1995 Nationwide Personal Transportation Survey data. See Hu and Reuscher, 2004.

Lesson I. When people economize on car insurance

- They generally first remove marginal cars from pool, cars used less than average.
- But doing this raises the pool average miles, and so is *adverse selection*.

Lesson II.

- Category averages completely fail to measure individual mileage.
- Only odometers can measure the use of individual cars.

Annual mile group averages versus range of individual cars and drivers (1995)

Category	Group value	Group Avg. Annual Miles	High to low	Range in annual miles
Car age	0 to 2 years old	16,092	1.84 times	0 miles to > 32,000 miles
	10 years & older	8,758		ditto
Driver sex	Men	16,553	1.63 times	ditto
	Women	10,143		ditto

## Two theories for *why* claim predictors “work”

Predictor variable (of liability claims per 100 car years)		Correlation direction	Theory 1 Variable proxies for avg. driver negligence	Theory 2 <sup>†</sup> Variable proxies for avg. miles per car year
1	Credit score	negative	“Lack of stability and impulsive behavior affect both driving and credit history.”*	All 5 variables are measures of need to economize on liability insurance, which can be done directly by giving up some cars and driving the remaining insured cars more miles each.
2	Zip code income	negative		
3	Education and occupation levels	negative		
4	Installment plan	positive		
5	No prior insurance	positive		
6	Driver sex – man (Controversial for adults. Used where allowed—in 44 states—mainly for cars accessible to young drivers)	positive	“[T]he psychobehavioral characteristics of risk-taking are related to impulsivity, sensation seeking, aggression, and sociability with men engaging in more overall risky behavior than women.”**	At every age men average more miles than women, and presumably so do the cars they drive relative to the cars women drive.
7	At-fault accident (Use is not allowed for small liability claims)	positive	“[D]rivers [who were] accident prone in past are likely to be accident prone in the future”***	As sub-classes, “accident-sampled” cars continue to average more miles per car than the main classes from which they are separated.
8	Not-at-fault accident. UM & UIM claims are good predictors (Use is not allowed. Why?)	positive		
9	Car age (not disallowed but not used for liability prices. Why?)	negative		Annual mile averages decrease with car age
<sup>†</sup> Butler, 2007 * Brockett and Golden, 2007 ** Brockett et al., 2005 *** American Academy of Actuaries, 2002.				

# “STATE TRENDS AND OPTIONS FOR DEALING WITH UNINSURED MOTOR VEHICLES”

Montana Revenue and Transportation Committee meeting

December 3, 2009, 8-10 am

Presentation by

Patrick Butler, PhD

Auto Insurance Project Director

National Organization for Women, Washington, DC<sup>1</sup>

## SJR 16 STUDY – KEY CONCERNS

WHEREAS, the high cost of mandatory vehicle insurance is making compliance by low-income households very difficult and the purchase of adequate coverage above the required limits financially difficult for those who do buy insurance; and

WHEREAS, fines, punishment, loss of driving privileges, and other penalties often result in loss of employment and produce a further stress on law enforcement and social services and yet increased compliance is not being achieved;

## TRENDS ACROSS STATES

State insurance requirements (and other taxes on car ownership) will increasingly prevent low-income car ownership.

Social services funds (e.g., TANF) for education and employment will increasingly make grants for mandatory insurance to accompany assistance with car repairs and gasoline.

States are raising the coverage required (e.g., property damage liability from \$10,000 to \$25,000 last year in Texas), which is a subsidy to owners of more expensive cars.

Online database enforcement—now secondary to enforcement following accidents or traffic violation stops—leads to car impoundment, as recently started in Dallas and El Paso.

We predict that increasing online enforcement will itself further raise monthly charges per car for lower status groups. Car sharing can increase total miles of driving over what two car would do.

## OPTIONS

Review past legislative initiatives on auto insurance price categories (class factors) versus price (exposure) units in Pennsylvania, Texas, and Montana

Legislators could formally examine both of these rival explanations for why the poor pay more:

- A. Lower-status groups of drivers (by lower credit and lower occupation and education levels) *are more negligent*, which is precisely what insurers are teaching by charging these groups higher monthly premiums.
- B. Insurers' dollars-per-car premium structure perversely *forces these groups* to use fewer cars for the same total miles of driving, and then to pay ever higher premiums for doing so.

The [www.centspermilenow.org](http://www.centspermilenow.org) website banner since its inception in 2001 says it all:

### **Per-Mile Premiums for Auto Insurance**

### **The Only Way to Make Mandatory Automobile Insurance Work**

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