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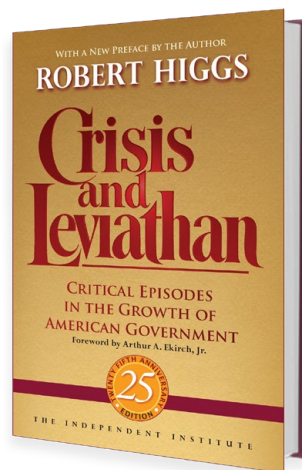
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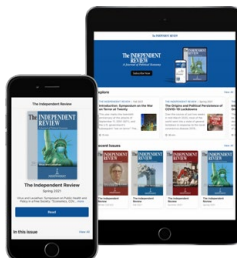
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“I Can’t Drive 55”

The Economics of the CB Radio Phenomenon

— ◆ —

TYLER WATTS AND JARED BARTON

The natural effort of every individual to better his own condition, when suffered to exert itself with freedom and security is so powerful a principle that it is alone, and without any assistance, not only capable of carrying on the society to wealth and prosperity, but of surmounting a hundred impertinent obstructions with which the folly of human laws too often encumbers its operations.

—Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*

Speed Limit 55: Rationale and Reaction

In response to the 1973 oil crisis, the U.S. Congress passed and President Richard M. Nixon signed into law the Emergency Highway Energy Conservation Act in January 1974. This law compelled each state government to set a maximum highway speed of 55 miles per hour (mph) in order to continue to receive federal highway funds. According to Nixon’s official statement upon signing the bill, the law “aimed principally at helping to reduce gasoline and diesel fuel consumption during the energy crisis” (Nixon 1974). All state governments quickly complied and

Tyler Watts is an assistant professor of economics at Ball State University; Jared Barton is a Ph.D. student in the Department of Economics at George Mason University.

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began posting 55-mph speed limits. All fifty states had complied with the National Maximum Speed Limit (NMSL) by March 1974 (Transportation Research Board 1984, 105).

Although survey data showed widespread public support for the NMSL, with consistent public approval ratings in the 70 to 80 percent range (Transportation Research Board 1984, 126), the law also elicited significant protest. The *Wall Street Journal* commented many years later, “That 1974 federal speed limit was arguably the most disobeyed and despised law since Prohibition” (“Safe at Any Speed” 2006), and rock singer Sammy Hagar scored one of his most popular songs with “I Can’t Drive 55” in direct response to the NMSL. Moreover, the fact that every state raised its maximum speed limit higher than 55 mph after the NMSL’s final repeal in 1995 suggests that it was widely unpopular while it was in force.¹ Table 1 shows all of the states’ speed limits before, during, and since the period when the NMSL was in effect. Figure 1 is a graphic display of current maximum legal speeds throughout the United States.

Besides being unpopular, the law was also uneconomical both in the aggregate and for individuals. Most cost-benefit studies of the NMSL have found that its costs exceeded its benefits (Castle 1976; Lave 1979; Jondrow, Bowes, and Levy 1983; Forester, McNown, and Singell 1984). More important, any speed limit lower than a driver’s desired speed must be privately inefficient, as Dwight Lee (1985) has noted; otherwise, all drivers would drive at or below the limit without legal compulsion, rendering it unnecessary.

The private inefficiency of the 55-mph limit was acute for truckers, who are constantly involved in long trips on the open highway and are especially affected by time costs that compliance with a 55-mph limit might impose.² These time costs have more economic significance to truckers paid by the mile. For them, “another way of measuring distance is time” (Boyer 1997); driving slower means earning less, and driving faster, within limits, means earning more. This fact of the trucker’s economy is enshrined in the adage, “If you’re not moving, you’re not making money” (Agar 1986).

Each trucker discovers his optimal speed based on his highly specialized knowledge of his truck’s per mile costs, the price and availability of fuel, the urgency of the cargo, the road conditions, and other factors. Most truckers grumbled about the 1974 change of the speed limit, indicating that speeds in excess of 55 mph—when conditions warranted—were more economical for them. As continued technological development made trucks more powerful and faster, as competition for loads increased (especially after trucking deregulation in 1980), and as real fuel prices declined after the 1979 oil crisis faded away, the speeds that truckers considered optimal were bound to increase even further.

1. Only two states, California and Oregon, have kept speed limits for trucks at 55 mph.

2. Simple algebra indicates that traveling at 55 mph instead of 65 mph adds exactly one hour of drive time to a trip of 357.5 miles. Put differently, adhering strictly to 55 mph (versus 65 mph) over an eight-hour shift limits a trucker’s productivity by exactly 80 miles (not counting stops for fuel, food, and so forth).

Table I
Pre-NMSL and Post-NMSL Maximum Speed Limit, by State

State	Pre-1974		1987-1995		State	Present		Pre-1974		1987-1995		Present	
	1974	1987 ^a	1987 ^a	1995		Interstate	Other Primary	1974	1987 ^a	Interstate	Other Primary ^e		
Alabama	70	55	65	65	Montana	55	65	none	55	65	65	60	
Alaska	70	55	65	65	Nebraska	75	65	75	55	65	75	60	
Arizona	75	55	65	65	Nevada	65	65	none	55	65	75	70	
Arkansas	75	55	65	65	New Hampshire	65	65	70	55	65	65	55	
California	70	55	55	55	New Jersey*	55	50	50	50	50	65	50	
Colorado	70	55	65	65	New Mexico	65	75	70	55	65	75	65	
Connecticut	60	55	55	55	New York*	65	65	50	50	50	65	55	
Delaware	60	55	55	55	North Carolina*	65	65	55	55	65	70	55	
Florida	70	55	65	65	North Dakota	70	70	75	55	65	75	65	
Georgia	70	55	65	70	Ohio	70	70	70	55	55	55 ^c	55	
Hawaii	70	55	55	55	Oklahoma*	55	55	55	55	65	75	65	
Idaho	70	55	65	65	Oregon	65	65	75	55	55	55	55	
Illinois	70	55	55	55	Pennsylvania	55	55	65	55	55	65	55	
Indiana	70	55	60	65	Rhode Island*	55	60	50	50	50	65	50 ^f	
Iowa	75	55	65	70	South Carolina	55	65	70	55	65	70	55	
Kansas	75	55	65	70	South Dakota	65	70	75	55	65	75	65	
Kentucky	70	55	65	70	Tennessee	55	70	75	55	65	70	55	
Louisiana	70	55	65	70	Texas	55	70	70	55	60	75 ^d	70 ^g	
Maine	70	55	65	65	Utah	55	65	70	55	65	75	65	

(Continued)

Table 1
(Continued)

State	Pre-1974			1974-1987			1987-1995			Present					
	Pre-1974	1974	1987 ^a	1974	1987 ^a	1987 ^a	1974	1987 ^a	1987 ^a	1974	1987 ^a	1987 ^a	Interstate	Other	Primary ^c
Maryland*	50	55	50	50	55	50	Vermont*	50	50	65	65	65	65	50	50
Massachusetts*	50	55	50 ^b	70	55	55	Virginia	70	55	65	65	65	65	55	55
Michigan	70	55	55	50	55	55	Washington*	50	50	60	60	60	60	60	60
Minnesota	65	55	65	70	55	55	West Virginia	70	55	65	70	70	70	55	55
Mississippi	70	55	65	70	55	55	Wisconsin	70	55	65	65	65	65	55	55
Missouri	70	55	60	70	55	60	Wyoming	75	55	65	75	75	75	65	65

Source: Department of Transportation/National Highway Administration; National Motorists Association.

Note: Present-day speed limits were not all immediately adopted after 1995.

* Indicates states that lowered their speed limits following the 1973 increase in oil prices but before the 1974 national law.

^(a) In 1987, Congress allowed states to increase the speed limit to 65 mph on rural interstates and other interstate-quality roads.

^(b) 55 mph on Massachusetts Turnpike.

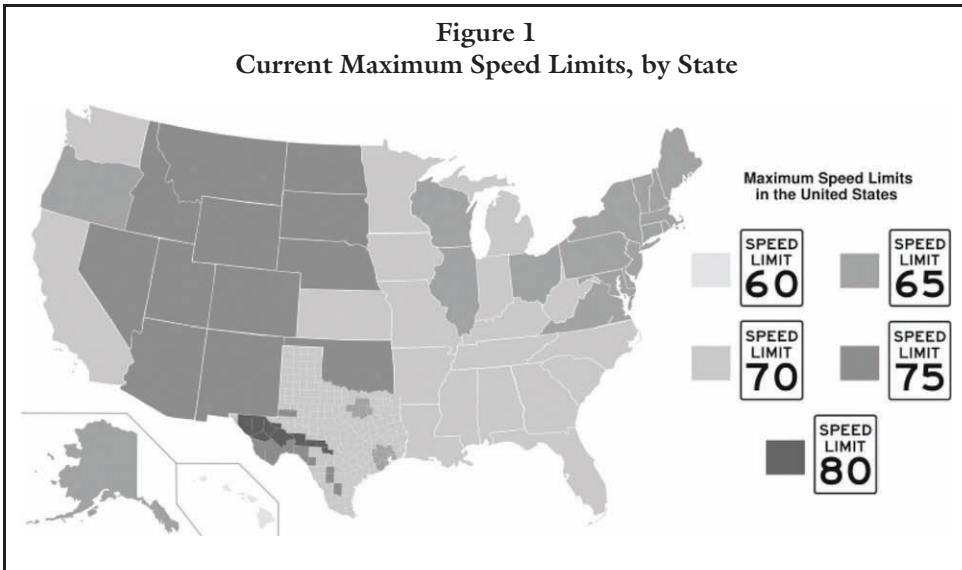
^(c) 65 mph on Ohio Turnpike.

^(d) 75 mph during daylight hours; 65 mph at night.

^(e) 60 mph during daylight hours; 55 mph at night.

^(f) 50 mph during daylight hours; 45 mph at night.

^(g) 70 mph during daylight hours; 65 mph at night.



Given the imposition of potentially uneconomical speed limits and the truckers’ consequent higher cost of doing business, it was only natural for these entrepreneurs to seek a remedy—a means of safely speeding when they deemed compliance with the 55-mph limit to be inefficient. Given the technology available in 1974, truckers (and car drivers later) who were not already taking advantage of citizens’ band (CB) radio quickly found that it was an effective tool for avoiding entanglements with “Smokey the Bear”³ and thereby operating successfully at greater, more economical speeds. Therefore, the CB market boomed, and CB radio became a widespread, increasingly sophisticated economic and cultural institution on American roads.

The CB craze of the mid- to late 1970s is thus an archetypical case of an entrepreneurial response to a change in relative prices. Because the relative price change of the altered time constraint was enacted so swiftly over such a large economy and the subsequent boom in CB sales and usage was so immense, a case study of the CB phenomenon of the 1970s merits the attention of economists.⁴

The next section provides empirical evidence of the explosive growth in CB use immediately after the NMSL’s implementation. Then we document the impetus for this growth spurt—widespread adoption of CB radio by America’s truckers and later

3. “Smokey the Bear,” or simply “Smokey” or “Bear,” is a common, CB-inspired slang name for state police patrols on U.S. highways. The name originates in the custom of many state police and state highway patrol officers to wear the four-corner “campaign” hats, much like that worn by U.S. forest rangers and their mascot, Smokey Bear, who is well known to the public from forest-fire-prevention campaigns.

4. A model for this paper is provided by Frederick Bell (1968); Bell tracks the market effect of a regulatory change—in this case Pope Paul VI’s relaxation of Roman Catholics’ requirement to abstain from meat on Fridays.

by a large part of the motoring public. Although some commentators have noted that the CB was merely a fad, we provide qualitative evidence showing that the CB radio was an important tool of the trade for professional drivers. After that, we explain the economics behind this development. CB radio was not new in 1974; it had been in use for some time, but as a nascent network good, it awaited a shock to its economic value to make widespread use viable. The network effects of CB contributed to its continued value long after speed limits had been substantially raised and thus no longer operated as a binding constraint on truckers. In the final section, we discuss the political economy implications of the CB phenomenon. The NMSL-inspired development of the CB network provides a classic example of regulation's unintended consequences. Yet whereas most stories about unintended consequences focus on a policy's cascade of unanticipated ill effects, the CB radio story brings to light entrepreneurs' resilience in the face of uneconomical regulations and provides a cautionary tale for those who might seek to achieve the "common good" by treading on private economies.

The CB Radio Phenomenon

Since the beginning of the automobile, manufacturers and the motoring public had developed more and more sophisticated means for drivers to send signals to each other. Not until two-way radio communication became available and affordable, however, could drivers actually talk to each other as they drove. When these two conditions were met, CB radio became a practical means of real-time highway communication. The Federal Communications Commission (FCC), responsible for assigning rights to the radio spectrum to various radio users, first established a citizens' radio band in 1945. It initiated the modern CB network, which operates on a more technically feasible spectrum range, in 1958 (Marvin and Schultze 1977, 106–8).

With the development of transistor technology, which replaced vacuum tubes, from the late 1950s through the 1970s, radio transceivers (two-way radio units) became much cheaper, more reliable, and convenient. The advent of CB radio and the technological advances that made it cheap and reliable gave truckers the ability to communicate instantly with each other within a substantial range, usually 12 to 18 miles, but potentially at much greater distances, depending on the equipment (Phalon 1974).

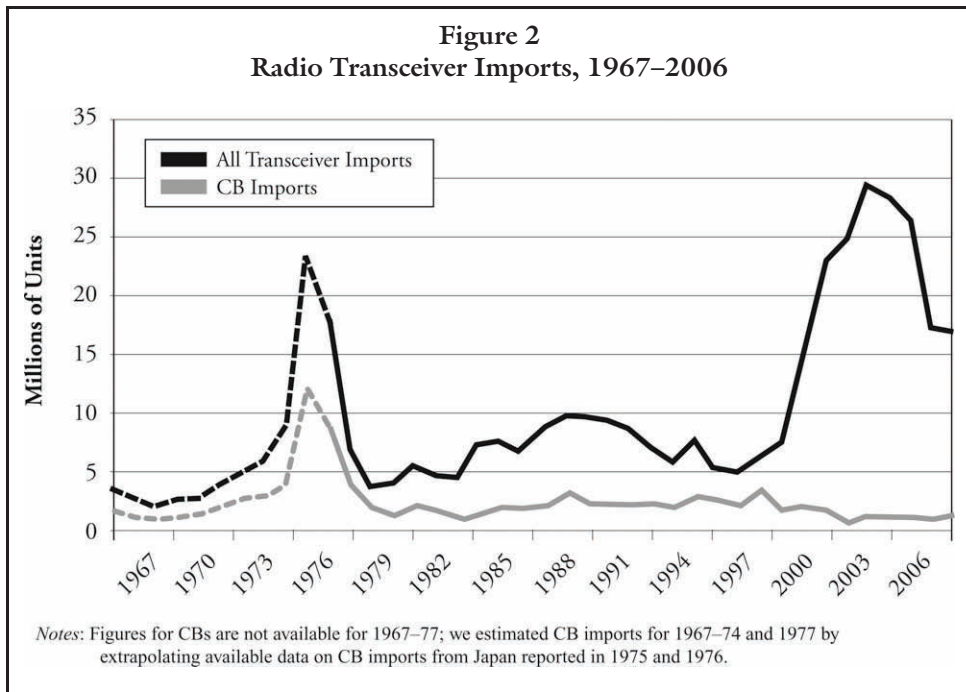
At the time of the CB craze, the FCC regulated CB radio, requiring all users to be licensed and to adhere to certain protocols dictating the content and format of CB transmissions. Demonstrating the voraciousness of the post-1974 appetite for CBs, FCC data show approximately 800,000 licensed CB users during the 1966–73 period, but 12,250,000 licensed users by the end of 1977 (Jensen and Meckling 1994). Yet although license statistics clearly show the dramatic growth of CB radio during the mid-1970s, they are not the best indicator of true growth because of high

rates of noncompliance. At least 10 percent of CB users operated without licenses, and the FCC’s efforts to crack down on such illegal use were insignificant and futile. The agency eventually abandoned the licensing requirement altogether in 1982 (Mayer 1982).

A better indicator of the spread of CB use is total sales of CB units. Because sales figures for the units are not available, we resort to import statistics. The lion’s share of CB units sold in the United States during this time was manufactured overseas, mainly in Japan and Taiwan, with Japanese firms alone possessing a 90 percent market share (Dahlby 1976). Figure 2 shows U.S. transceiver imports from 1967 to 1989.

As figure 2 makes strikingly clear, CB radio had been growing steadily from the late 1960s, but this growth exploded in the 1975–77 period. Estimates of the size of the nationwide CB network range from 30 million users (Owen 1999, 235) to 50 million (Wee 1996) by 1977. A large segment of this network consisted of on-the-road users; reports estimate that one-third of *all* trucks were CB equipped as of 1976 (“55: Lower Speed, Lower Cost” 1976, 26); for trucks that frequented rural highways, the estimated proportion of CB users was much higher, at 75 percent, and 25 percent of cars on these roads were also CB equipped (Marvin and Schultze 1977, 113).

It is easy to conclude, based on these statistics, that the observed boom in CB sales and use was a direct response to the imposition of the NMSL. In the next



section, we present evidence in support of this claim, arguing specifically that truckers led the way in the CB boom for economic reasons. For truckers, CB use was a matter of profit maximization.

CB Radio and Its Uses

To understand why the 55-mph speed limit was so devastating to truckers and hence why CB was such a valuable tool for them, some basic facts about the trucking industry in the United States are in order. Truckers operate under one of two basic arrangements:

Company drivers. These drivers are employees hired by trucking companies. They do not own the trucks and are not responsible for truck maintenance. According to Jack Nickerson and Brian Silverman, “company-driver compensation can take a variety of forms, but interstate drivers are typically paid per-mile rates” (2003, 94).

Owner-Operators. These drivers are self-employed entrepreneurs. They own and maintain their own rigs and are responsible for keeping their trucks and themselves employed and earning. Owner-operators can work as truly “independent” truckers, contracting for one haul at a time via transport brokerages, or they can lease themselves to a larger trucking company for a fixed period, agreeing to accept whatever hauls they are assigned based on the terms of the lease contract. When owner-operators operate on a one-load-at-a-time basis, they are typically paid a fixed freight price; when they are leased to larger trucking firms, they are typically paid by the mile. Thus, regardless of lease term, owner-operators have ample incentive to use their specific knowledge of fuel economy versus drive-time trade-offs to operate at maximum productive efficiency (Nickerson and Silverman 2003, 94).

Regardless of the particular proportions of owner-operators and company drivers during the NMSL era,⁵ it is clear that most truckers, for obvious economic reasons, are paid either by the mile or by the job because this “piecework” compensation scheme gives them the incentive to maximize output for any given time input.

The 55-mph NMSL clearly reduced the speeds at which truckers could legally operate and hence their overall productivity in moving goods from point A to point B in a given time. As one study unequivocally states, “The 55 mph speed limit lowers the productive capacity of the nation’s trucking industry and raises labor costs” (Transportation Research Board 1984, 116). The stricter time constraints imposed by the reduced speed limit are obviously more costly for drivers who are paid by the mile. But the NMSL also had a negative economic impact on salaried or hourly

5. Nickerson and Silverman report that the proportion of total miles driven by owner-operators was consistently slightly less than one-third for the 1980s and 1990s (2003, 92); Thomas Corsi and Curtis Grimm report that owner-operators accounted for 25.52 percent of total carrier miles in 1977 (1987, 8).

drivers; when combined with Interstate Commerce Commission duty-hours regulations, lower limits meant that a trip that would have been a day’s work prior to the NMSL now required a rest stop (if the driver wished to keep legal logs).

Truckers not surprisingly opposed the NMSL and protested vociferously. As a leading truckers’ journal put it, “Trucking has never been in favor of the lower speed limit. The American Trucking Associations opposed the original Nixon proposal on the basis that most highway tractors used today provide maximum fuel economy at between 60 and 65 mph” (“55: Lower Speed, Lower Costs” 1976, 23). In a report commissioned by the federal government, the Transportation Research Board was likewise blunt about the extra costs the NMSL imposed on truckers: “The additional travel time caused by the 55 mph speed limit is most frustrating to long distance truck drivers . . . and others who expend far more time driving on high speed highways than the national average” (1984, 4). The report went on to cite a study by the Independent Drivers Associations that claimed the NMSL could cost individual owner operators up to \$15,000 a year (116).

Although truckers—especially owner operators (Franklin 1977)—made some attempts at organized protest against the NMSL, those truckers who found themselves economically overly constrained by the 55-mph law soon found a more direct, more effective method of coping with it. Instead of changing the law, they would use CB radio to avoid getting caught breaking it.

Truckers and a handful of drivers presumably had been using CBs to call out Smokey before the 1974 change in the speed limit, but the speed limits were largely economical, so there was no major need to do so. Wide-open stretches of interstate in the Midwest and West, for example, had posted limits of 70 and even 75 mph before the NMSL (see table 1). When the speed limit was suddenly changed in 1974, tremendous impetus arose for use of the CB to thwart enforcement of the new “double nickel” speed limit. Truckers wasted no time in getting hold of CB units and using them accordingly: “And then the dam broke. The ‘energy crisis’ in 1973 elevated petrol prices, and slashed speed limits. Truck drivers began voraciously buying CBs to advise one another about the whereabouts of state police and low diesel prices” (Ramsey 1979, 340).

This application of the CB—to avoid the NMSL’s enforcement—was no secret at the time. Such use of CB was widely reported in popular news outlets such as *Time* (“Cannonball Dash” 1975), *U.S. News & World Report* (“Nuisance—or a Boon?” 1975), *The Economist* (“Citizens Band” 1975), *Newsweek* (Woodward, Greenburg, and Malsch 1976), and the *New York Times* (Dahlby 1976), to name only a few. The trade press corroborated these reports. A report in the November–December 1974 issue of *Owner Operator*, a major trade journal for independent truckers at the time, neatly summarized truckers’ attitudes toward and uses of the CB network: “The Citizens Band (CB) radio is the greatest boon to truckers since the invention of the wheel and black coffee, according to some of its devoted users. That unassuming transistorized box . . . tells [owner-operators]

where ‘Smoky’ [*sic*] is and what he’s up to. . . . [T]he CB is a vital link with the outside world that makes the hours of monotonous driving pass more quickly and cuts down the number of surprises truckers are likely to encounter down the road” (Phalon 1974, 37).

Reading through issues of *Owner Operator* for the 1970s, we found its pages filled with CB-related reader comments, feature articles, and ads, beginning in early 1974 and peaking in 1976–77. A separate content analysis of another trucking journal, *Overdrive*, by Dale Dannefer and Nicholas Poushinsky, reveals a similar pattern: there is no mention of CB at all until August 1973; letters and feature articles about CB, and CB ads began to appear in earnest in early 1974 (1979, 611). Even a small sampling of *Owner Operator*’s CB-related items provides an unequivocal portrayal of CB’s main benefit for truckers:

- “The police are upset with CB because truckers are using it to skirt the law—dodging speed traps and scales, for example” (“Speak Up” 1974, 8).
- “Truck drivers frequently have been accused of using the radios to skirt patrolling troopers” (“The Bullsheets” 1975, 97).
- “Citizens Band radio is unquestionably the best single item in the trucker’s arsenal. CB is known and loved by virtually every trucker—and a growing number of bears” (Moore 1975, 41).
- “The [*Chicago Tribune*] reports that Illinois State Police are issuing 75% more speeding tickets than before the 55-mph limit, but truckers are getting a progressively smaller share of the increase. This fact, the newspaper says, is attributed by state police to increased use of CB radios by truckers” (“55: Lower Speed, Lower Costs” 1976, 24).
- Citizen’s [*sic*] Band radios “enable trucks to roll at any speed they wish in non-patrolled areas,” the [economic impact study of the 55-mph speed limit on trucking] charges” (Cross 1976, 44).

The Economics of CB

As we have documented, truckers’ opposition to the 55-mph NMSL indicates the economic inefficiency of the lower limits. It is abundantly clear that truckers used the CB primarily to avoid law enforcement, successfully break the 55-mph speed limit, and avoid other costly regulations.

Thus, CB radio served as a potential cost saver for truckers. In addition to keeping track of Smokey so as to avoid speed traps, truckers could use the CB to learn about traffic and weather conditions, fuel prices and truck-stop locations, among other things. Using CB radios enabled truckers to enhance their economies and possibly their profits.

Yet a trucker’s adoption of CB had a few drawbacks. First, there was the fixed cost of acquiring a CB transceiver set—not exactly a cheap item in the mid-1970s.

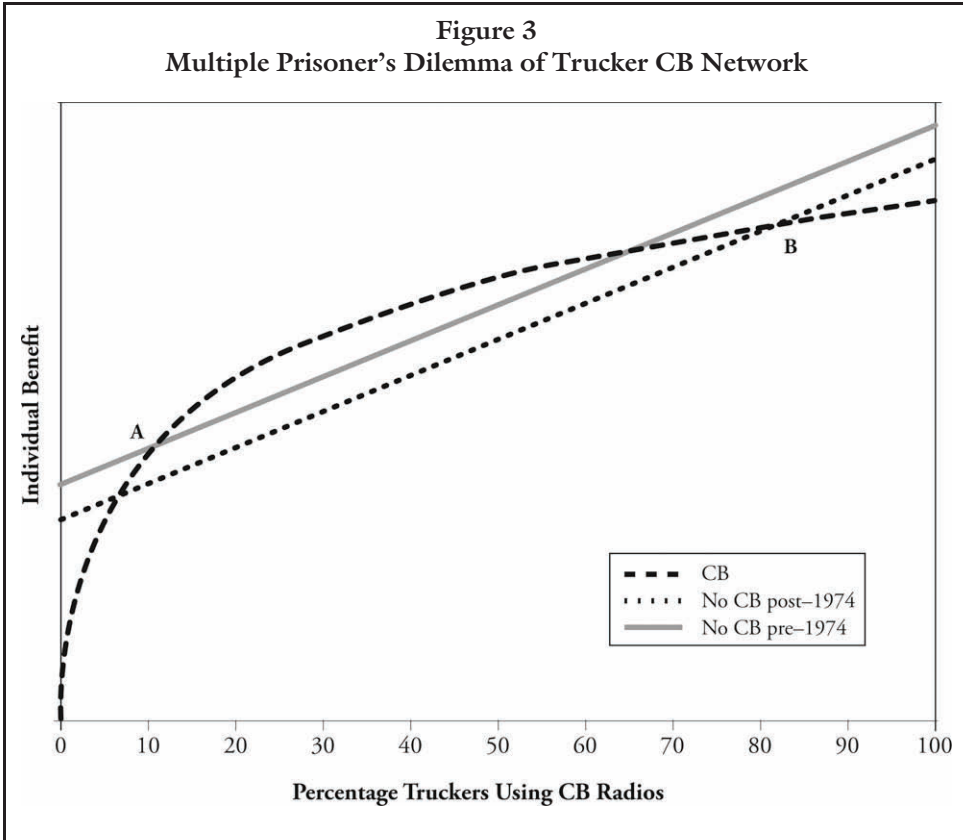
Although real prices declined dramatically throughout the 1960s owing to technological advances, prices in 1974 ranged from \$150 for a low-end unit up to \$700 for the most capable models; adding the price of an antenna meant that a basic setup would set the average trucker back at least \$180 dollars (Phalon 1974, 38).⁶ Second, the CB radio’s benefit depends on the number of users or the size of the network; CB radio is a classic case of a good with “network externality” qualities (Liebowitz and Margolis 1998). To demonstrate this aspect, let us examine a simple uniform multiperson prisoner’s dilemma (MPD).⁷

Figure 3 presents a simple MPD that describes the communications network for CB radios. The figure demonstrates the payoff to an individual trucker of having a CB radio as a function of the percentage of other truckers using a CB. As the figure is drawn, if fewer than approximately 10 percent of truckers choose to use a CB radio in the pre-1974 period, the network collapses as each trucker comes to realize that the costs of use exceed the benefits. A stable equilibrium exists at approximately 10 percent (point A); if a larger fraction of truckers chooses to operate with CB radios, the benefit from additional truckers using radios increases. More and more truckers use CB radios until another stable equilibrium occurs (point B). If more than approximately 65 percent of truckers use CBs, some discover that they are better off not using them, and the network decreases in size until settling at the higher equilibrium.

Figure 3 provides a framework for thinking about the development of a trucker-based CB network. Suppose that before 1974 some truckers begin using CBs to find fuel, communicate about road conditions, and spot law enforcement; they develop a small network around point A. New truckers trained by these drivers use CBs; truckers trained by non-CB users do not, and the equilibrium persists. Then in the course of three months speed limits across the country fall by at least 15 percent across the board (to 55 mph). Whether this shock to the value of the communications network is portrayed as a decrease in the benefits of not using a CB radio (because without a CB an individual trucker is more likely to be caught speeding) or an increase in the benefits to joining the network, the effect is the same. The size of the pre-1974 equilibrium is such that it is beneficial for other truckers to join it; more and more truckers acquire CB radios, and the network grows. Truckers who acquire CB radios beyond the usage rate at point B discover that they were better off without them; the cost of usage exceeds the benefit of

6. According to the Bureau of Labor Statistics inflation calculator, this expenditure translates to more than \$790 in 2010 dollars (see http://www.bls.gov/data/inflation_calculator.htm).

7. Thomas Schelling offers a thorough description of MPDs, and he refers explicitly to communication networks and CB radios: “If hardly anyone has citizen’s-band radio, there is nobody to talk to; the externality benefits more the people who have sets than those who do not, though the latter get some benefits from the communication system; if enough people have sets, others are induced to procure them as a nearly universal means of communication; finally, if everybody else has a set, you can save yourself the expense by dropping in on a friend and using his equipment or handing an emergency message to any passerby, who will transmit it for you” (2006, 240).



free riding on the information carried in other truckers' behavior and willingness to transmit on your behalf (for example, in the case of a vehicle malfunction). The exogenous shock to the value of CB use in the form of the new, potentially binding constraint of the lower speed limit serves as the necessary impetus to push the CB network past the "critical mass" point and ensure widespread adoption of the network.

CB sales data provide evidence for this pattern of network development.⁸ As figure 2 shows, imports of CB radios and other transceivers grew from 1969 through 1973, but nothing happened like the dramatic spike in imports from 1975 through 1977.

It is unlikely that the spike of CB radio imports in the late 1970s is attributable solely to purchases by truckers; private individuals also owned CB radios. It is worth considering why a network of automobile drivers did not develop. For auto drivers,

8. Here imports are used as a proxy for CB radio purchases because according to CB radio manufacturers (Cobra, personal communication, October 7, 2008) and regulators (FCC, personal communication, September 29, 2008), private analysts of the CB market use and have historically used these figures to estimate the magnitude of the CB radio market. Prior to 1978, the U.S. Census Bureau reported imports of CB radios and other radio transceivers as a single product under the heading "Radio Transceivers."

the potential benefits of CB radio use are strictly less than for truck drivers. Car drivers tend to travel more in familiar places, not too far from home, and thus face much less uncertainty about pertinent information, such as traffic conditions and fuel prices (Hu and Young 1999; U.S. Census Bureau 2002). Moreover, car drivers engage in much less rural highway travel than do truckers, which means that they would not have been affected by the binding constraint of the NMSL with nearly the same frequency. Their primary uncertainties at that time were the availability of fuel (that is, which service station had fuel to sell) and the changing enforcement of speed limits, which represented a relative price change to drivers. Auto drivers were aware of the truckers’ use of CB through pop-culture accounts and began to adopt it themselves. However, because drivers can learn the relevant information for their daily commutes simply by repeated observations, no sustainable equilibrium develops. Truck drivers, in contrast, are constantly going to new places; they live in a relatively more uncertain world, and thus they have comparatively more to gain from having a CB radio.

Implications of the CB Phenomenon for Political Economy

We have argued that the 55-mph limit was essential in the growth and maturation of the highway CB radio network in America. Although CB continues to have many uses for truckers, using it to dodge the 55-mph limit was its main source of economic value and instrumental for its coming into widespread use. CB radio essentially nullified the NMSL for those who were most economically damaged by it—America’s truckers. The CB radio phenomenon stands as a classic example of a regulation’s unintended consequence; when the NMSL’s proponents sought to impose a tighter economy of fuel consumption, truckers’ response in the form of CB radio use effectively reasserted their own private economies, based not only on fuel costs, but on the all-important aspect of time costs.

It might be argued that the hyperdevelopment of the CB network from 1974 on represents to some extent a deadweight loss arising from the NMSL. After all, without the NMSL, CB radio would not have had nearly as much value; many truckers would gladly have forgone the costly equipment investment needed to join the network, and CB manufacturers would have been free to turn their efforts toward other products. Yet the CB network persists among truckers, despite the 1995 repeal of the NMSL and the fading of the CB craze among the motoring public. Truckers still use the CB network to broadcast Smokey’s whereabouts, share pertinent road information, and exchange chitchat. The NMSL, as an exogenous shock to the CB network, ironically increased its long-term value to truckers. Thus, CB radio persists as a robust and effective communication network that truckers still use to economize their operations.

A lesson we may draw from the CB phenomenon is that if a law is uneconomic, entrepreneurs will seek ways to avoid complying with it. An understanding of CB’s rapid adoption as an economic response to the NMSL reveals that the entrepreneurial quest for economy, combined with a ripening technology, can effectively nullify or at

least mitigate a bad law's costs. Lawmakers should note that the Boy Scout assumption does not hold; when a law interferes with individuals' economic interests, they will seek every means of avoiding compliance with it. Politicians' attempts to construct a particular economic outcome by force of law are subject to entrepreneurial reaction.

References

- 55: Lower Speed—Lower Costs. 1976. *Owner Operator* (March–April): 23–26.
- Agar, Michael. 1986. *Independents Declared: The Dilemmas of Independent Trucking*. Washington, D.C.: Smithsonian Institution Press.
- Bell, Frederick W. 1968. The Pope and the Price of Fish. *American Economic Review* 58, no. 5: 1346–350.
- Boyer, Kenneth. 1997. American Trucking, NAFTA, and the Cost of Distance. *Annals of the American Academy of Political and Social Science: Transport at the Millennium* 553: 55–65.
- Bullsheets. 1975. *Owner Operator* (January–February): 97.
- Cannonball Dash. 1975. *Time*, May 5.
- Castle, Gilbert H. 1976. The 55 MPH Speed Limit: A Cost/Benefit Analysis. *Traffic Engineering* 45: 11–14.
- Citizens Band: A New Wave of Life. 1975. *The Economist*, November 22.
- Corsi, Thomas M., and Curtis M. Grimm. 1987. Changes in Owner-Operator Use, 1977–1985: Implications for Management Strategy. *Transportation Journal* 26, no. 3: 4–16.
- Cross, Rich. 1976. Speed Limit 55: Is It Helping or Hurting? *Owner Operator* (September–October): 43–47.
- Dahlby, Tracy. 1976. Sayonara to the C.B. Boom? *New York Times*, December 26.
- Dannefer, W. Dale, and Nicholas Poushinsky. 1979. The C.B. Phenomenon: A Sociological Appraisal. *Journal of Popular Culture* 12, no. 4: 611–19.
- Forester, Thomas H., Robert F. McNown, and Larry D. Singell. 1984. A Cost-Benefit Analysis of the 55 MPH Speed Limit. *Southern Economic Journal* 50, no. 3: 631–41.
- Franklin, Ben A. 1977. Truckers Plan National Slowdown to Protest 55-M.P.H. Speed Limit. *New York Times*, January 22.
- Hu, Patricia S., and Jennifer R. Young. 1999. *Summary of Travel Trends 1995: Nationwide Personal Transportation Survey*. Washington, D.C.: U.S. Department of Transportation. Available at: http://nhts.ornl.gov/1995/Doc/trends_report.pdf.
- Jensen, Michael C., and William H. Meckling. 1994. *The Nature of Man*. Foundations of Organizational Strategy. Cambridge, Mass.: Harvard University Press. Available at: <http://ssrn.com/abstract=5471>.
- Jondrow, James, Marianne Bowes, and Robert Levy. 1983. The Optimal Speed Limit. *Economic Inquiry* 21, no. 3: 325–36.
- Lave, C. 1979. Energy Policy as Public Policy. In *Changing Energy Use Futures*, edited by Rocco A. Fazzolare and Craig B. Smith, 2046–53. New York: Pergamon Press.

- Lee, Dwight R. 1985. Policing Cost, Evasion Cost, and the Optimal Speed Limit. *Southern Economic Journal* 52, no. 1: 34–45.
- Liebowitz, S. J., and Stephen E. Margolis. 1998. Network Effects and Externalities. In *The New Palgrave’s Dictionary of Economics and the Law*, 671–75. London: MacMillan.
- Marvin, Carolyn, and Quentin J. Schultze. 1977. CB in Perspective/The First Thirty Years. *Journal of Communication* 27, no. 3: 104–17.
- Mayer, Caroline E. 1982. FCC Ready to Set Aside CB License Requirement. *Washington Post*, September 10.
- Moore, Larry. 1975. Radar: What It Is, Where It Is. *Owner Operator* (May–June): 37–42.
- Nickerson, Jack A., and Brian S. Silverman. 2003. Why Aren’t All Truck Drivers Owner-Operators? Asset Ownership and the Employment Relation in Interstate For-Hire Trucking. *Journal of Economics and Management Strategy* 12, no. 1: 91–118.
- Nixon, Richard M. 1974. Statement on Signing the Emergency Highway Energy Conservation Act. In *The American Presidency Project*, archives compiled by John T. Woolley and Gerhard Peters. University of California, Santa Barbara. Available at: <http://www.presidency.ucsb.edu/ws/?pid=4332>.
- Nuisance—or a Boon? The Spread of Citizens’ Radios. 1975. *U.S. News & World Report*, September 29.
- Owen, Bruce M. 1999. *The Internet Challenge to Television*. Cambridge, Mass.: Harvard University Press.
- Phalon, Rich. 1974. Truckers Ride the Airwaves. *Owner Operator* (November–December): 37–41.
- Ramsey, Richard David. 1979. The People versus Smokey Bear: Metaphor, Argot, and CB Radio. *Journal of Popular Culture* 13, no. 2: 338–44.
- Safe at Any Speed: With Higher Speed Limits, Our Highways Have Been Getting Safer. 2006. *Wall Street Journal*, July 7.
- Schelling, Thomas C. 2006. *Micromotives and Macrobehavior*. New York: W. W. Norton.
- Smith, Adam. [1776] 1998. *An Inquiry into the Nature and Causes of the Wealth of Nations*. Oxford, U.K.: Oxford University Press.
- Speak Up. 1974. *Owner Operator* (March–April): 8.
- Transportation Research Board. 1984. *55: A Decade of Experience*. Washington, D.C.: National Academy Press.
- U.S. Census Bureau. 2002. Average Travel Time to Work of Workers 16 Years and Over Who Did Not Work at Home (Minutes). Available at: <http://www.census.gov/acs/www/Products/Ranking/2002/R04T160.htm>.
- Wee, Eric L. 1996. Comin’ Atcha, Again, on CB Radio; a Low-Tech ’70’s Rage Makes a Big Comeback in the High-Tech Age. *Washington Post*, June 25.
- Woodward, Kenneth L., Peter S. Greenberg, and Susan Malsch. 1976. The Trucker Mystique. *Newsweek*, January 26.