

And now, despite the worsening deficit in the labor force and mounting difficulties in the supply of raw materials, the earlier relationship to economic resources has changed but little.

The people involved in Soviet economic planning seek to extricate themselves from this situation by optimizing their investment policies. This issue has come to provoke serious disagreements among leading experts in the USSR. The key question is whether, under conditions of declining investments, one can avoid a further slowdown in economic growth.

There are two schools of thought on this issue. One of them essentially justifies the slower tempo in investment growth. The argument runs as follows: the USSR has created enormous fixed capital and productive capacities, and although the investment curve is falling, it still has significant reserves in the form of more efficient use of existing productive capacity.

The opposing school argues that the maximum utilization of existing productive capacities was reached in the mid-1970s. Evidence for that is found in the decline in the use of productive capacity in the later 1970s and early 1980s; one simply cannot squeeze any more juice from this lemon. Hence, unless the negative investment trend is overcome, there is no possibility of preventing a further decline in growth rates.

Thus, it seems justified to conclude that we are about to witness, for the first time since the 1920s, a confrontation among Soviet scholars over the fundamental economic issue—investment policy. In the 1986–90 five-year plan the new Soviet leadership has adopted the second school's point of view and significantly increased investment (mainly in heavy industry) at the expense of the consumer sector of the economy. What results it will bring remain to be seen.

However, these comments do not by any means change my opinion that David Dyker's book is a valuable contribution to the study of the Soviet economy and that his fundamental work will be of great help to scholars working in this field.

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## 600 Industrial Organization; Technological Change; Industry Studies

### 610 INDUSTRIAL ORGANIZATION AND PUBLIC POLICY

*Regulating the automobile.* By ROBERT W. CRANDALL ET AL. Studies in the Regulation of Economic Activity series. Washington, DC: Brookings Institution, 1986. Pp. xiii, 202. \$28.95, cloth; \$10.95, paper. ISBN 0-8157-1594-3. JEL 86-1172

What is good for General Motors is good for society was conventional wisdom some years ago. But questions arose about the environmental, safety and energy consequences of automobile travel at the same time that people perceived monopoly profits were being reaped. Mandatory standards for exhaust emissions, vehicle safety and fuel efficiency followed. Today we ask what these regulatory programs have accomplished and how well they have performed. Robert Crandall, Howard Gruenspecht, Theodore Keeler and Lester Lave, all associated with the Brookings Institution, offer some unsettling answers.

To begin, the authors describe the incredible transition in the U.S. automobile industry during the last twenty years. The market share of imports has tripled, car size decreased and the market for eight cylinder cars nearly disappeared. The "enormous upheaval in Detroit" (p. 12) is attributed to large increases in gasoline prices in 1974 and 1979 and to the lower prices and improving quality of imports. The auto industry, they point out, changed from a comfortable triopoly plus one to a manufacturing group protected by voluntary import quotas. Competitive pressure continues as foreign producers expand, e.g., a new Toyota plant here in Kentucky near Lexington.

"The Costs of Safety and Emission Regulation" are addressed in Chapter 3. One estimate is based on existing engineering data for equipment and additional maintenance and fuel costs. Adjustments for production learning and inflation are made. The largest cost increases occur in 1972–1974 for emissions control, bumpers and interlocks and in 1981 for closed-loop emission control and bumpers. The additional cost of owning and operating a 1981 car

is estimated to be approximately \$2,400 with one third of that due to safety regulations. A second estimate of \$1,300 per car is based on a translog function for operating costs. Econometric analysis of new car prices and industry profits shows that two thirds of the costs are passed on to consumers with a one year lag.

Chapter 4, "The Effects of Regulation on Automobile Safety," is the first of three chapters that analyze one specific regulatory program. The authors describe trends in the preregulatory period. Some readers will be surprised to learn that the fatal accident rate fell by fifty percent between 1921 and 1941 and fell steadily from 1947 to 1962. With an econometric model of traffic fatalities they separate the effects of regulation from nonregulatory effects. The safety variable, a direct measure of crashworthiness standards, is crucial. Passenger car occupants are found to be much safer and total fatalities lower because of regulation. Other travellers are found to face greater risks. The most vulnerable travellers appear to suffer. Based on my own work I find this evidence of risk compensation quite compatible with other evidence. The surprise is the "remarkable effects" (p. 64) on vehicle occupants compared to the presumably upper-bound estimates from engineering studies. This "puzzle" (p. 69) leads the authors to discuss nonregulatory alternatives and be cautious about passive restraints. They conclude the safety program has worked tolerably well to reduce total fatalities at a moderate cost. Use of known, not forced, technology is a reason.

Chapter 5 is "Automobile Emissions Control." The original technology forcing standards set by Congress required ninety percent reductions in emissions from pre-1968 levels by 1975. The authors acknowledge emissions for hydrocarbons and carbon monoxide were halved but show reductions are far short of goals. Standard road performance and more driving in older cars explain the difference. Growth of inspection and maintenance programs may reduce the disparity, but the authors are not optimistic. They conclude the emissions program has reduced emissions substantially, but much less than mandated. Without large aesthetic benefits (which are not estimated) the program is not worth the costs, especially with the expensive 1981 standards.

"Regulation of Fuel Economy" is discussed in Chapter 6. The corporate average fuel economy (CAFE) standard required a fleet average of 27.5 mpg by 1985. Between 1974 and 1984 fuel economy increased by over fifty percent. Manufacturer response to gas price increases, however, leaves little room for any regulatory effect on fuel economy, at least through 1981. Regression analysis of car model fuel economy shows manufacturers, especially General Motors, made technological improvements which precede the CAFE standards. Actual improvement in design fuel economy is what the authors expect given the higher price of gas. Of the total improvement, half is due to design changes and half to reductions in engine displacement and vehicle weight. They conclude that the fuel economy standards have been irrelevant until recently.

In the final two chapters the authors describe the conflicts among the three regulatory programs and make an assessment. They conclude the programs have not been coordinated for maximum overall impact at lowest cost because they are administered separately and conflicting goals are ignored. The tradeoffs between emissions control and fuel economy and between expensive new car standards and greater use of older cars are disregarded. They conclude that without Congressional action to redefine regulatory goals these conflicts are unavoidable.

Essentially this book evaluates regulation of the automobile in terms of a prescriptive, externality-based rationale for regulation. The authors conclude the market failure case is strongest for the emissions which unfortunately has the worst regulatory performance. Their analysis can be criticized for slighting nonpecuniary user costs, ignoring public and private costs of administering regulatory programs, and for keeping Durbin-Watson values a secret. It can be criticized for leaving unanswered questions about why apparent policy failures go uncorrected and why impacts on air quality, fatalities and fuel consumption go unmeasured. But Robert Crandall and his colleagues do not promise a perfect or a positive analysis. What they promise is thorough normative analysis of automobile regulation. They deliver.

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