illustrate the profound effect that certain cigarette advertising campaigns can have on the youth market.

b. The effect of selected advertising campaigns, which were effective with children. Two American studies and one British study analyzed alleged youth-oriented campaigns to determine what effect they had on the underage market. One U.S. study examined the effect on the youth market of R.J. Reynolds' advertising campaign for Camel brand cigarettes. In the mid 1980's, R.J. Reynolds sought to revitalize its Camel brand cigarettes. It gave its symbol, the Camel, a new, more hip personality. It transformed the symbol into "Joe Camel," an anthropomorphic "spokescamel." The campaign featured Joe as a humorous figure in history, as an advisor to young adults with "smooth moves" and eventually as one of a gang of hip camels ("the hard pack" band and the gang at the watering hole bar). The study analyzed 1990 data from the California Tobacco Survey which consisted of a telephone survey of 24,296 adults and 5,040 children under the age of 18. The study found that teenagers were twice as likely as adults to identify Camel cigarettes as one of the two most advertised brands. 167

One study explored the power of the Joe Camel campaign to penetrate the youth market. The study found that children as young as 3 years old could identify Joe Camel as a symbol for smoking. This recognition ranged from 30 percent of 3 year olds, to 91 percent of 6 year olds. In fact, the recognition rates for Joe Camel surpassed the rates for certain children's products, cereals, computers, and network television symbols. 168 A similar study funded by R.J. Reynolds found that 72 percent of 6 year olds and 52 percent of children between the ages of 3 and 6 could identify Joe Camel. These rates exceeded the recognition rates for Ronald McDonald, which were 62 percent of the 6 year olds and 51 percent of children between the ages of 3 and 6.169 The higher recognition rates for Joe Camel are remarkable because, unlike Ronald McDonald who appears in television commercials during children's viewing hours, Federal law prohibits cigarette advertisements on television.

Data collected by researchers for the State of California found that in 1990, 23.1 percent of the under age 18 market in California purchased Camel as their brand. This represented a 230 percent increase over its pre-"Joe Camel" 1986 rate. The same growth rate did not occur for adults. <sup>170</sup> Nationally, Camel had less than 3 percent of the youth market before the brand was repositioned in

1988 and Joe Camel was introduced. 171 By 1989, Camel's share of the youth market had risen to 8.1 percent, 172 and by 1992, 13 to 16 percent. 173 During this same period, Camel's share of the adult market barely moved from its 4 percent level. 174

The other American study used data from the National Health Interview Survey to study trends in smoking initiation among 10- to 20-year-olds from 1944 through 1980. The study found that initiation rates for 18- to 20year-old women peaked in the early 1960's and steadily declined thereafter. Initiation rates for girls under 18, however, increased abruptly around 1967. This was the same period when brands specifically intended for women were introduced and heavily advertised. The initiation rate was particularly steep for women who did not attend college. The initiation rate for girls under the age of 18 peaked in 1973about the same time that sales for these brands (Virginia Slims, Silva Thins, and Eve) peaked. Between 1967 and 1973, smoking initiation rates increased around 110 percent for 12-year-old girls, 55 percent for 13-year-olds, 70 percent for 14-year-olds, 75 percent for 15-yearolds, 55 percent for 16-year- olds, and 35 percent for 17-year-olds. 175

In contrast, initiation rates for men declined from 1944 to 1949 and did not decline again until the middle to late 1960's. Initiation rates for boys under 16 showed little change during the entire study period. The study concluded that advertising for women's brands during this period was positively associated with increased smoking uptake in girls under 18 years of age. 176

The British study looked at a campaign featuring a flippant and humorous character named "Reg." The study found that 91 percent of 11- to 15year-olds recognized the ads, compared with 52 percent of 33- to 55-year-olds. Teenagers who liked the advertisements were more likely to smoke. In fact, it was one of the two brands that most children smoked. During the period in which Reg was advertised, smoking by 11- to 15-years-olds in northern England increased from 8 percent to 10 percent, but the rate for this same age group in southern England, where the advertisements did not appear, remained stable at 7 percent. 177 The government, pursuant to the industry's voluntary code, later requested that the company discontinue the advertising campaign because of its disproportionate appeal to children.

These studies provide compelling evidence that promotional campaigns can be extremely effective with young people.

c. Direct quantitative studies. There are many direct quantitative studies of the relationship between advertising and tobacco use and of the effects of advertising restrictions and bans on consumption. These studies provide insight into the effects of advertising on the general appeal of and demand for cigarettes and smokeless tobacco products. They also provide evidence confirming advertising's effects on consumption and the effectiveness of advertising restrictions on reducing youth smoking.

A large, multinational study commissioned by the New Zealand Government examined consumption trends in 33 countries between 1970 and  $1986.^{178}$  Controlling for income, price, and health education, the study found that the greater a government's degree of control over tobacco promotion, the greater the annual average fall in tobacco consumption and in the rate of decrease of smoking among young people. 179 One of the report's most relevant conclusions was that, among the 18 countries with data on youth smoking, there is evidence of a relationship between stringent government restrictions on tobacco promotion and reduced uptake of smoking among young people. The report concluded that there appeared to be a greater decrease in smoking uptake in those countries with the most stringent measures compared with those countries where advertising had not

been affected.180

Other studies that have looked at populations in general provide evidence that restrictions can have an important effect on total consumption and provide inferential evidence of similar positive effects on youth smoking. One such study conducted by the Chief Economic Advisor of the Department of Health of the Government of Great Britain found that advertising tends to increase consumption of tobacco products and that restrictions on advertising tend to decrease tobacco use beyond what would have occurred in the absence of regulation.181 After performing an indepth analysis of data from the four countries (Norway, Finland, Canada, and New Zealand) which had varying degrees of tobacco advertising restrictions and for which data exist, the study concluded that restrictions, including bans on some forms of advertising or on all advertising, resulted in an overall decrease in consumption. The study suggests that Norway's restrictions on all advertising, sponsorship, and indirect advertising produces a 9 to 16 percent reduction in consumption over the long run. 182 Finland's ban on advertising and