

Cigarette Marketing at the Point-of-Sale and Youth Smoking

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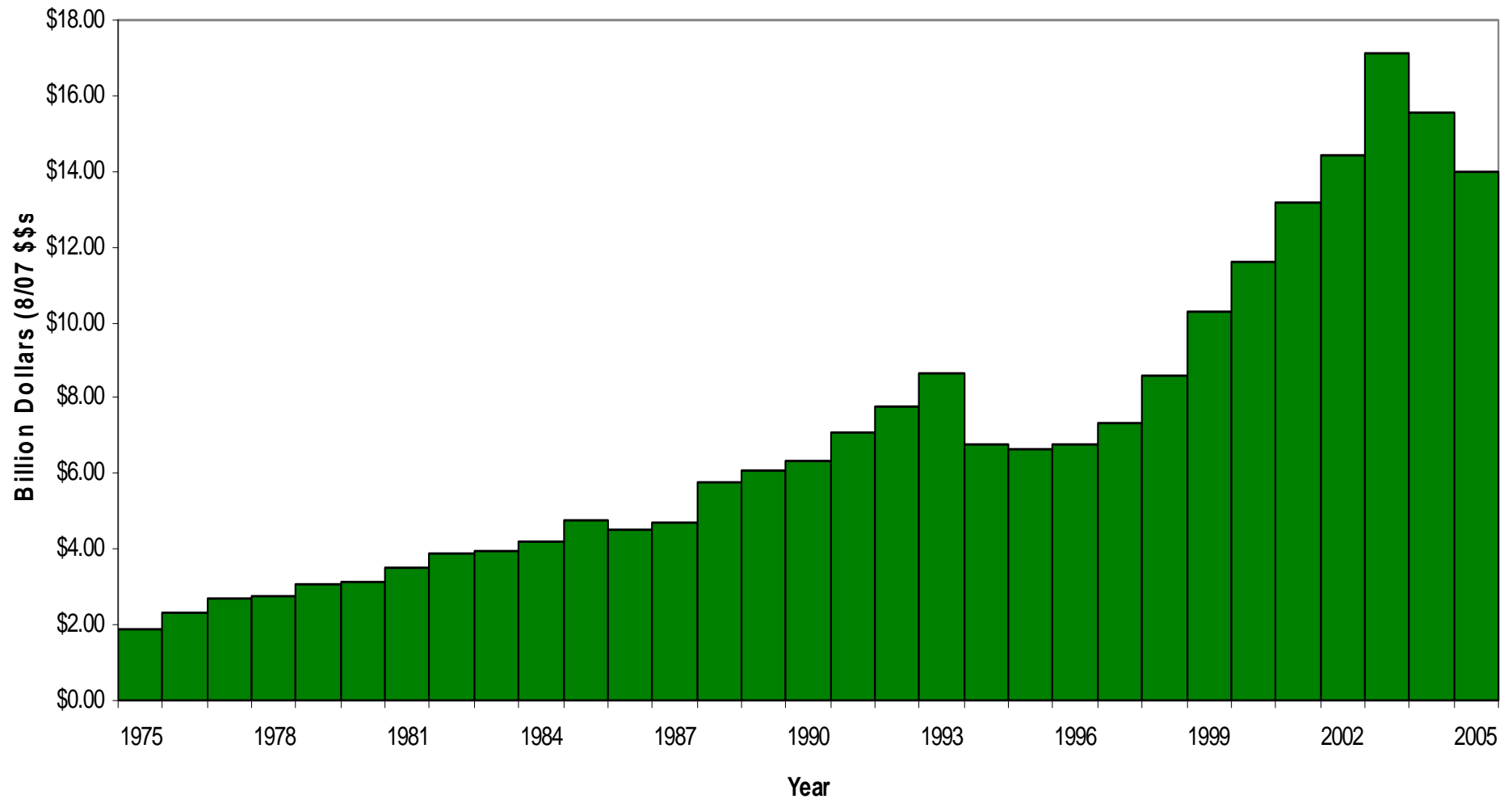
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Overview

- Brief review of recent trends in cigarette company marketing expenditures and impact on price
 - Changes over time
- Brief review of literature on impact of cigarette marketing on youth and adult cigarette smoking
- Effects of POS cigarette marketing on youth smoking uptake
 - Focus on recent *Archives of Pediatrics & Adolescent Medicine* paper by Slater et al. (2007)

Cigarette Marketing Expenditures Inflation Adjusted, 1975-2005

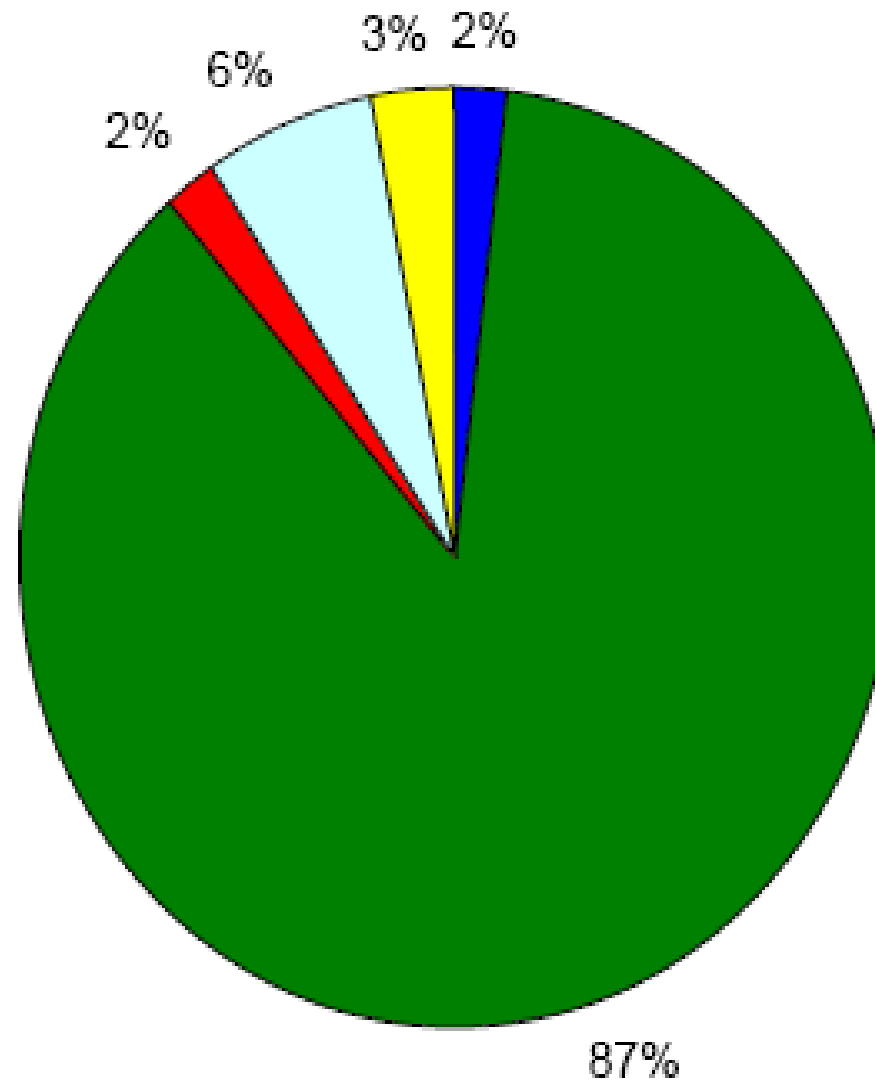


Marketing Activities

- Image oriented
 - Newspaper, magazine, outdoor, transit, and point-of-sale advertising; company websites and other Internet
- Price related
 - Price discounts, coupons, free samples, multi-pack deals
 - most at POS
- Promotional Allowances
 - Retail and wholesale level; other
- Merchandise
 - Specialty item distribution (branded and unbranded); retail value added (gifts with purchase)
 - Some at POS
- Other
 - Sponsorships, direct mail and telephone

Source: Federal Trade Commission, 2005 and author's groupings

2005 Cigarette Marketing Expenditures by Category

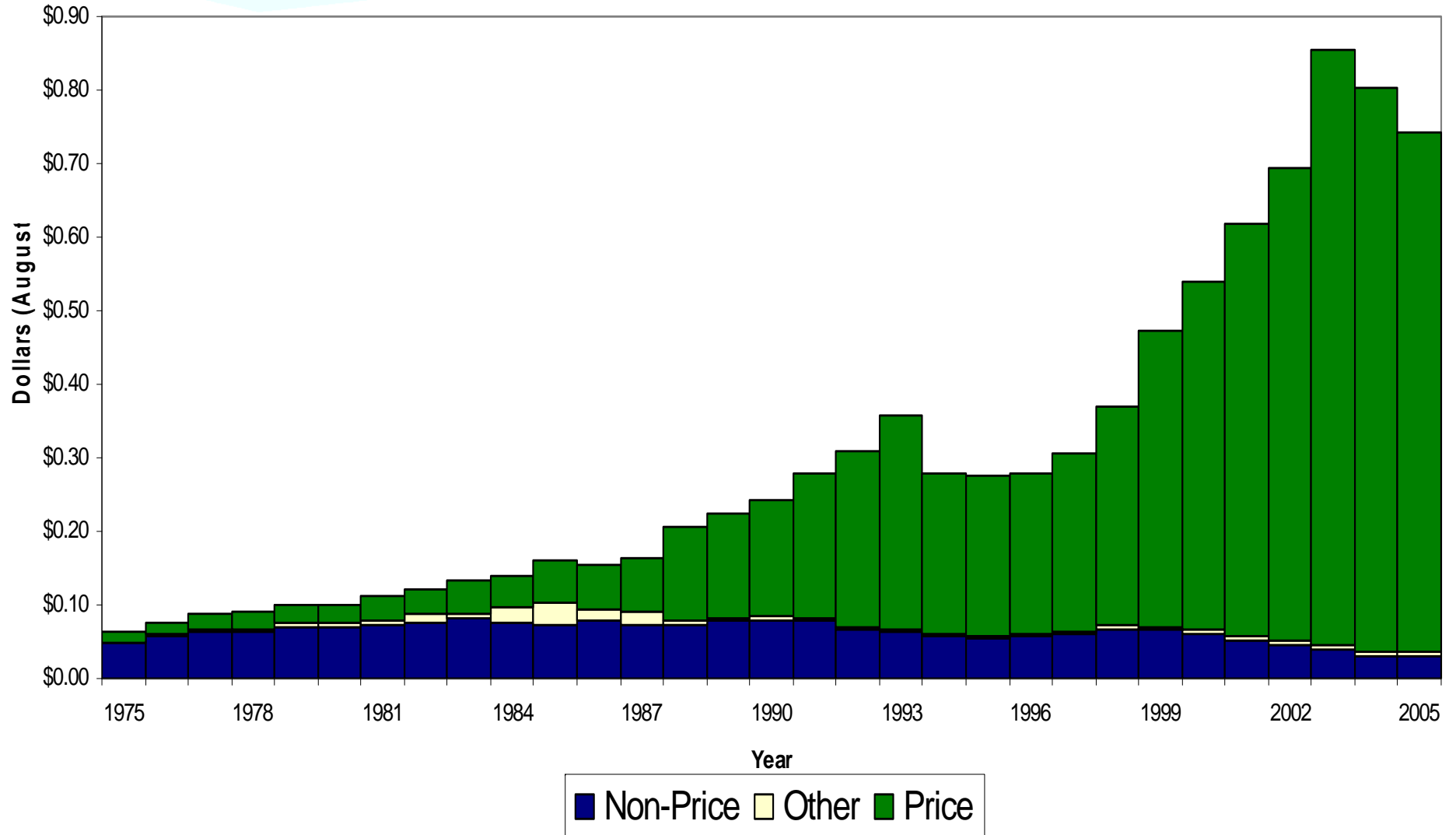


■ image ■ price ■ merchandise ■ promotional allowances ■ other

Shift in Marketing Activities

- Rise in marketing spending in unconstrained venues following the MSA
 - Significant increases in point-of-sale marketing following the implementation of the 1999 ban on billboard advertising (Wakefield, et al., 2002)
 - Consistent with empirical evidence on impact of marketing restrictions on smoking behavior (Saffer and Chaloupka, 2000)
- Shift over time to price-related marketing activities
 - Appears to follow release of the first economic studies on the impact of price on youth and adult smoking behavior in early 1980s (Chaloupka, 2005)
 - Accelerates following the MSA

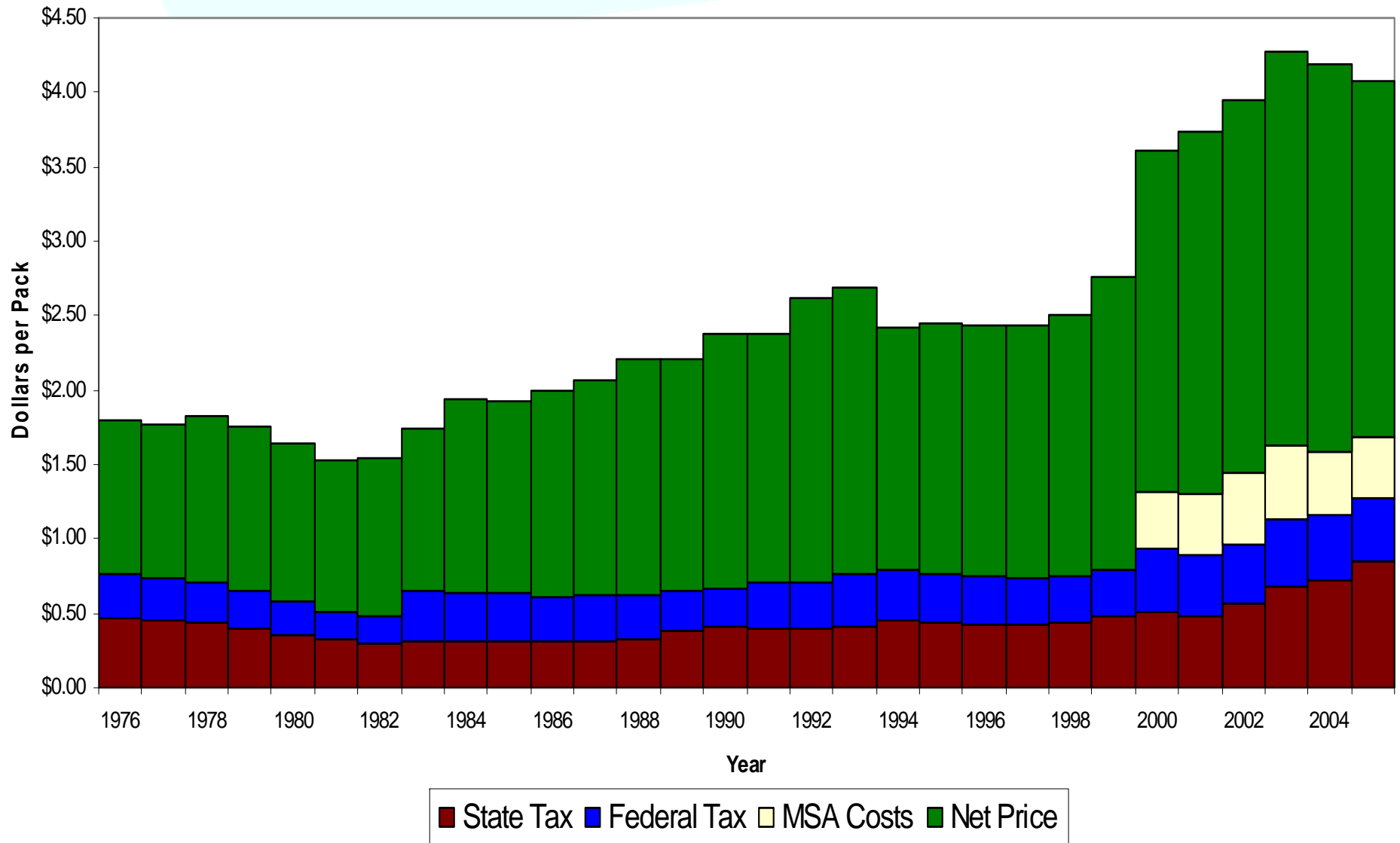
Cigarette Marketing Expenditures per Pack Inflation Adjusted, 1975-2005



Price-Related Cigarette Marketing and Tobacco Control

- Evidence from internal documents that price-related marketing used to soften impact of tax increases (Chaloupka et al., 2002; Chaloupka et al., 1998)
- Greater price-related marketing since the MSA (Ruel, et al., 2004; Loomis et al., 2006; FTC, 2007)
- More price-related marketing in states with greater spending on comprehensive tobacco control programs (Loomis, et al., 2006; Slater et al., 2001)
- More marketing in stores that are more frequented by youth than in other stores (Henriksen, et al., 2004)

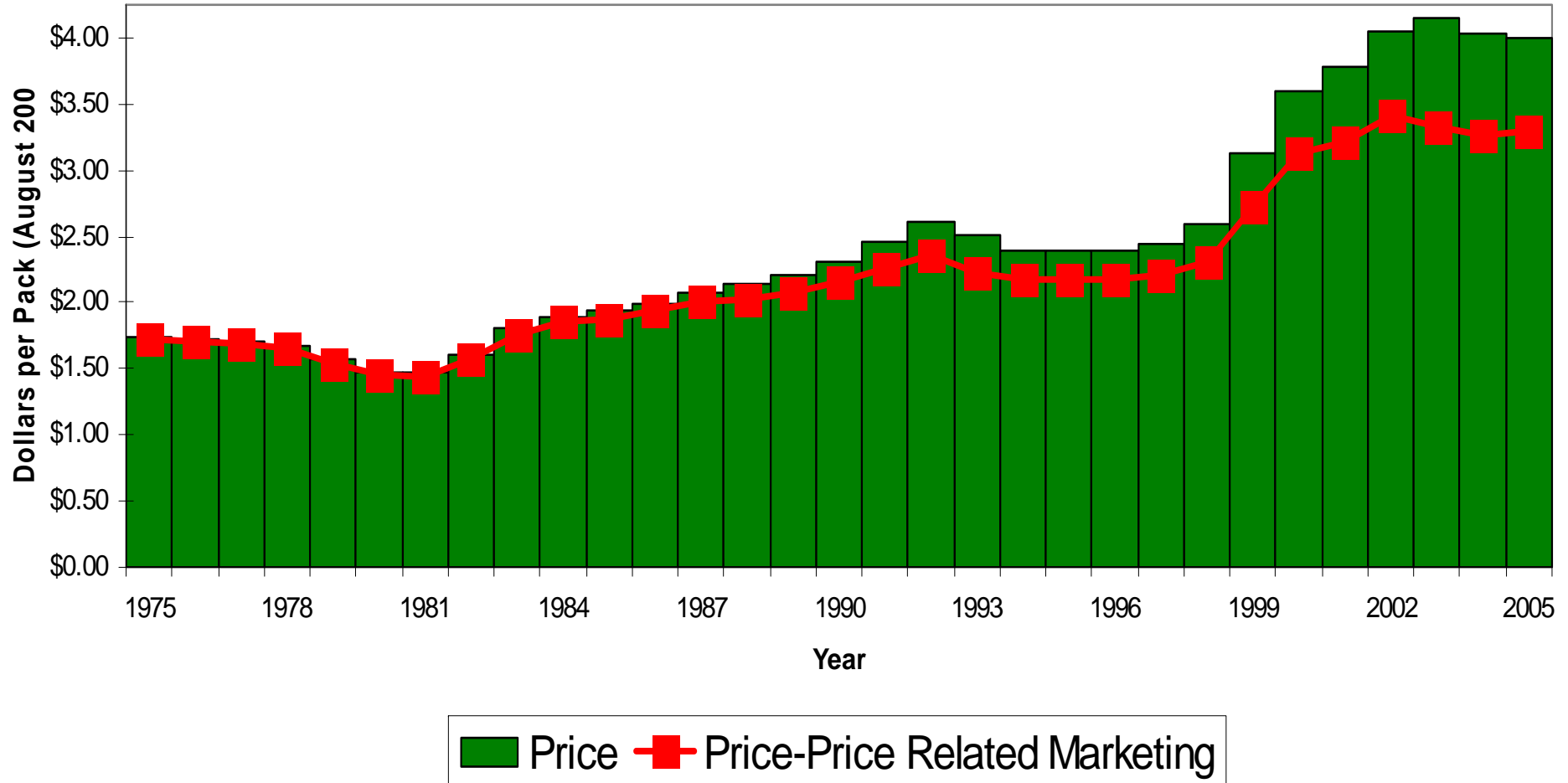
Cigarette Taxes and Prices, 1976-2005



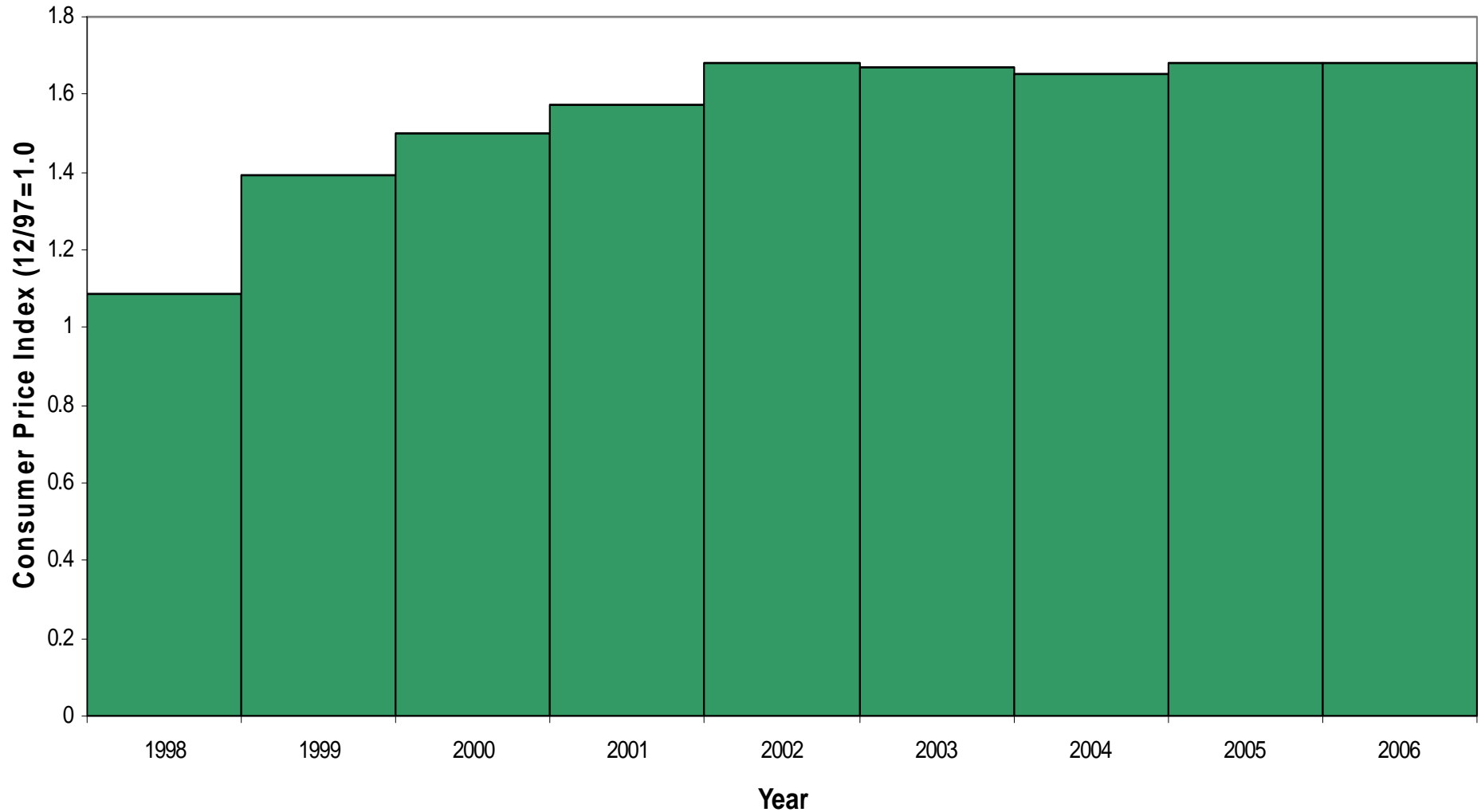
Sources: *Tax Burden on Tobacco*, 2007, FTC, 2007, and author's calculations

Average Cigarette Prices, 1975-2005

Inflation Adjusted



Consumer Price Index, Cigarettes 1997-2006



Cigarette Prices and Smoking

- Higher cigarette prices induce quitting, prevent relapse, reduce consumption and prevent initiation
 - marketing efforts that lower price will offset impact of taxes and other factors that raise cigarette prices
- 10 percent price rise reduces overall cigarette consumption by 4 percent
 - Half of impact on smoking prevalence
 - 10% price rise leads 10-12% to try and quit; about 2% successful
 - Half of impact on consumption among continuing smokers
 - Smoking in low-income populations more sensitive to price

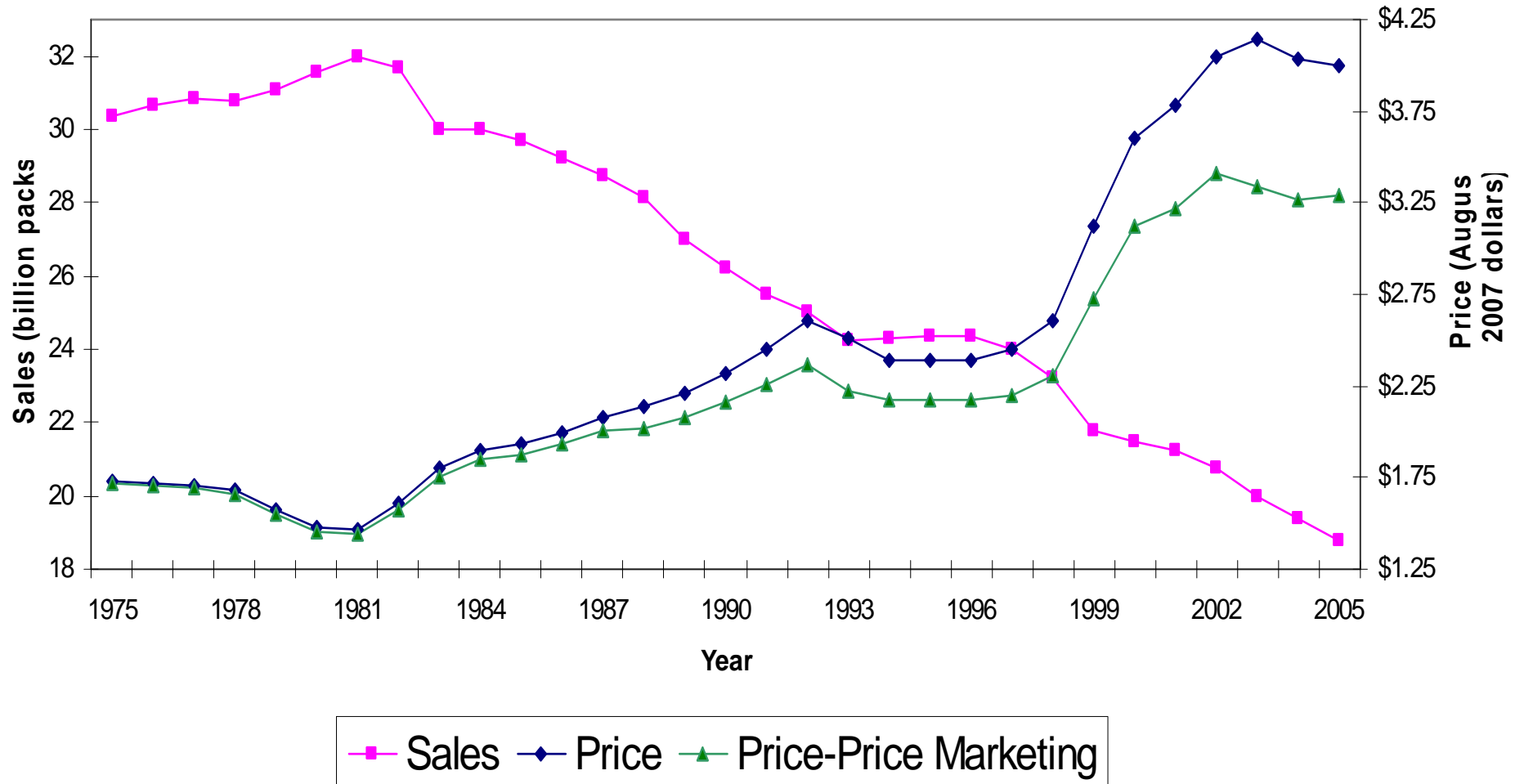
Source: Chaloupka *et al.*, 2000; Chaloupka, in press

Cigarette Marketing and Smoking

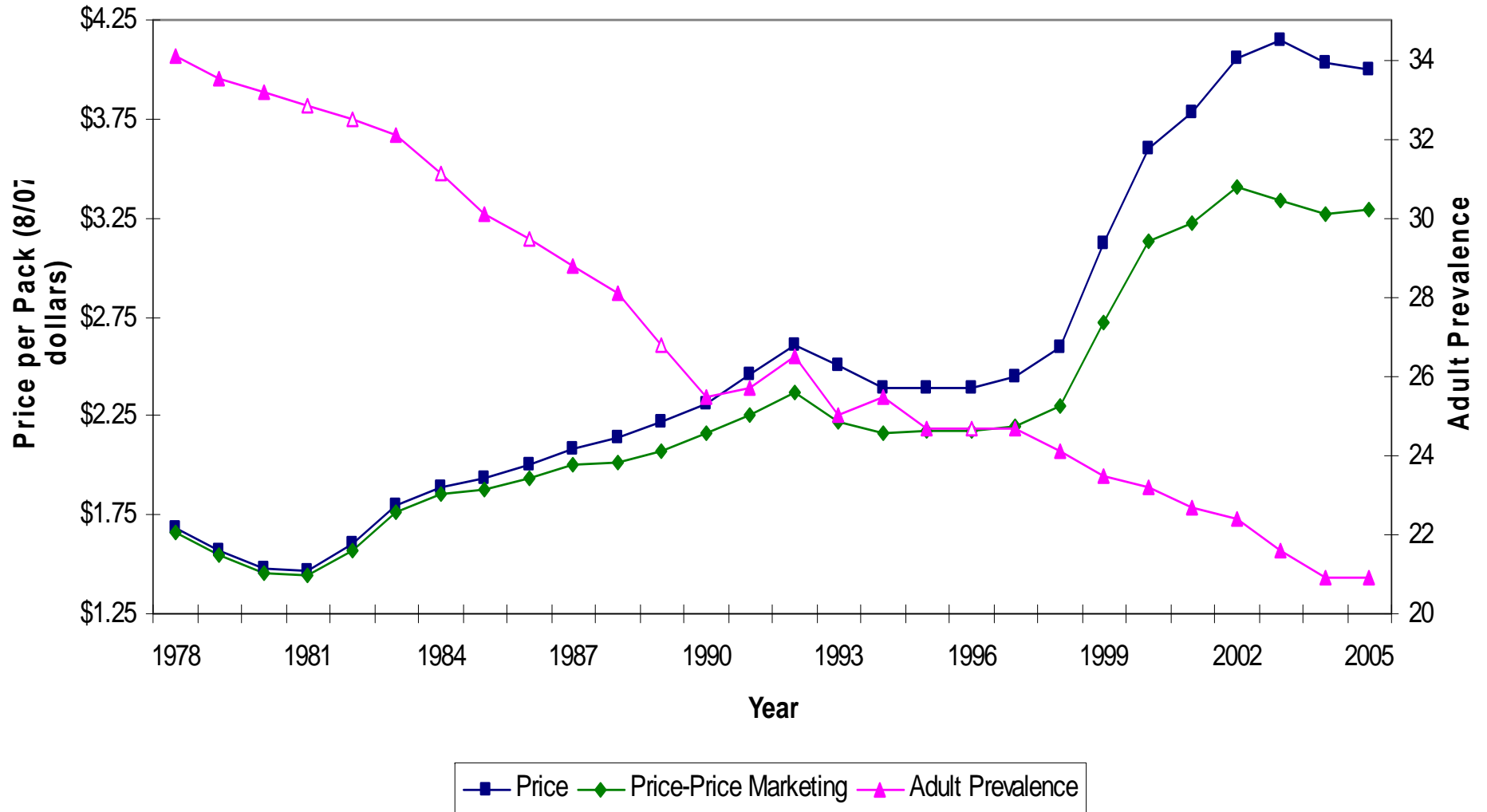
- Mixed evidence from many studies of cigarette marketing expenditures and cigarette sales
 - small positive impact or no effect
 - Econometric approach limited given data
 - Better evidence from studies of restrictions on cigarette marketing
 - Comprehensive bans can reduce smoking by 6-8% (Saffer and Chaloupka, 2000)
- One recent study looks at post-MSA period
 - Keeler, et al., *Applied Economics*, 2004
 - Post-MSA increases in advertising significantly increased cigarette sales
 - Offset impact of price increases by 33-57%

Cigarette Sales and Cigarette Prices

United States, 1975-2005



Cigarette Prices and Adult Smoking Prevalence United States, 1978-2005



Source: NHIS; *TBOT*, 2007, FTC 2007; and author's calculations

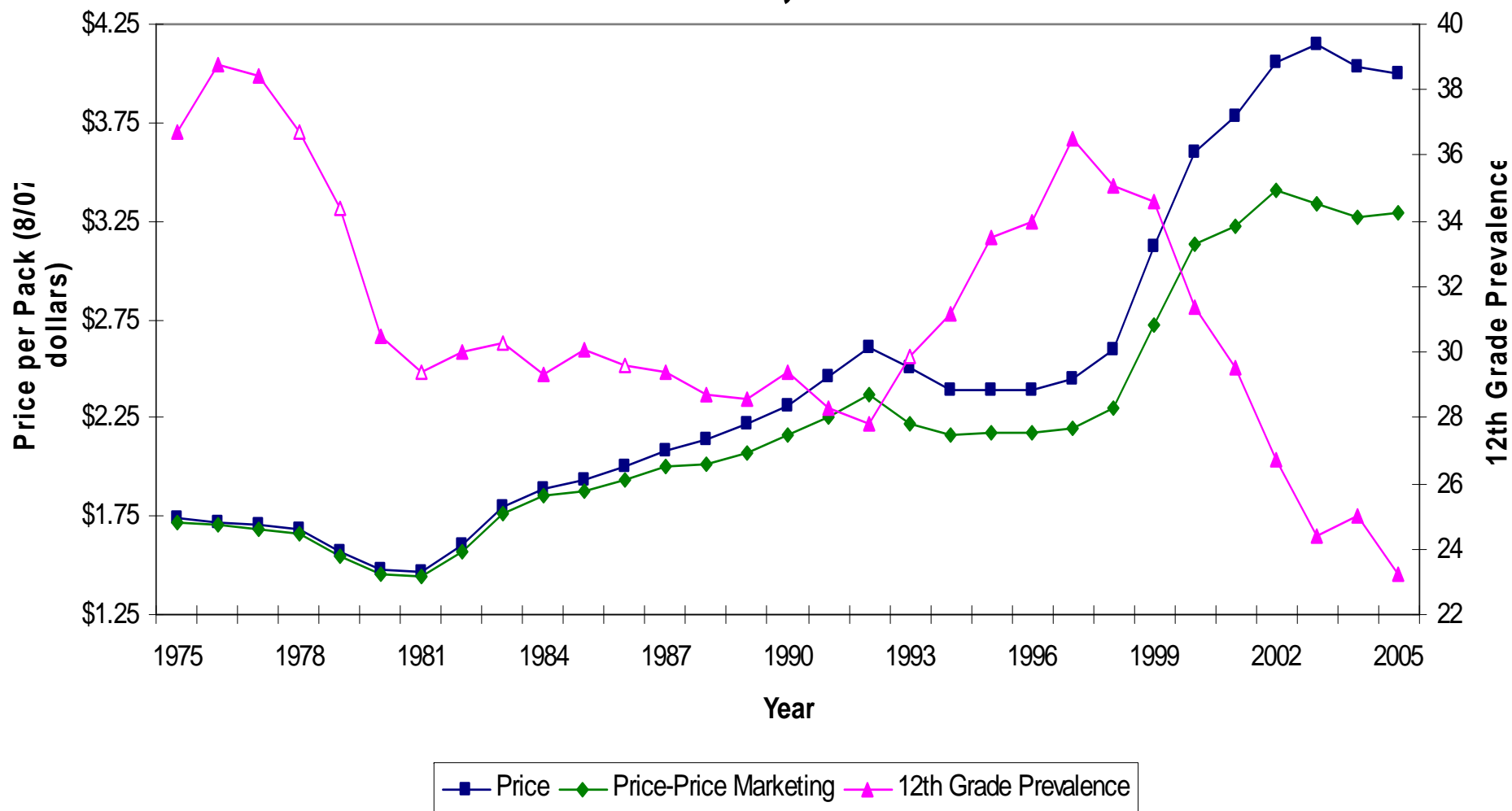
Cigarette Prices And Youth Smoking

- Estimates indicate youth smoking two to three times more responsive to price than adult smoking
 - Largely reduced initiation
- Recent focus on where in the uptake process price has its greatest impact
 - Relatively limited impact on experimentation
 - Greatest impact of transitions to regular smoking – e.g. daily or heavy daily smoking

Sources: Chaloupka, *in press*; Tauras, *et al.*, 2001; Ross, *et al.*, 2001

Cigarette Prices and Youth Smoking Prevalence

United States, 1975-2005



Source: MTF; *TBOT*, 2007; FTC 2007, and author's calculations

POS Cigarette Marketing and Youth Smoking Uptake

- Many previous studies use self-reported measures of exposure to or interest in cigarette marketing to look at impact of marketing on youth smoking-related outcomes
 - Unclear whether marketing causes smoking or interests in smoking result in greater awareness of cigarette marketing
 - Difficult to obtain exogenous measures of marketing exposure
- Recent experimental studies link exposure to tobacco marketing with changes in smoking-related attitudes, perceived availability, and smoking intentions
 - e.g. Wakefield et al., 2006

POS Cigarette Marketing and Youth Smoking Uptake

- Bridging the Gap
 - Funded by Robert Wood Johnson Foundation since late-1997
 - Focus on adolescent tobacco, alcohol, and illicit drug use; more recently on physical activity, diet, and obesity
- ImpacTeen project (UIC)
 - collected observational data on community level cigarette marketing at the point-of-sale from 1999 through 2003
 - detailed state tobacco control policy data
 - Much more
- Youth, Education and Society Project (U. of MI, ISR)
 - Builds upon Monitoring the Future study funded by the National Institute on Drug Abuse and conducted by Lloyd Johnston and colleagues
 - Focuses on school policies, programs, and other influences on youth tobacco use

POS Cigarette Marketing and Youth Smoking Uptake

- Design

- observational data collection at the point-of-sale in communities around schools participating in the Monitoring the Future survey
- approximately 200 schools per year
 - about equally divided between 8th, 10th, and 12th grade schools
- census of retail outlets selling tobacco in most communities
 - random sample of 30 in larger communities
 - identified from business lists, verification calls, and on-site
 - average of 18.1 stores per community
 - 17,476 stores observed 1999-2003

POS Cigarette Marketing and Youth Smoking Uptake

- Collected data on variety of cigarette marketing at the point-of-sale
 - in-store, exterior, and parking lot measures of advertising
 - low-height advertising and functional objects
 - Promotions: cents-off specials, on-pack coupons, multi-pack discounts, gifts with purchase (Marlboro and Newport)
 - Cigarette prices (Marlboro, Newport, and lowest price)
 - Placement (self-service vs. clerk assisted only)
- Measures used in analyses reflect the proportion of stores in a given community with different types of marketing
 - price is average price of premium brands



Exterior



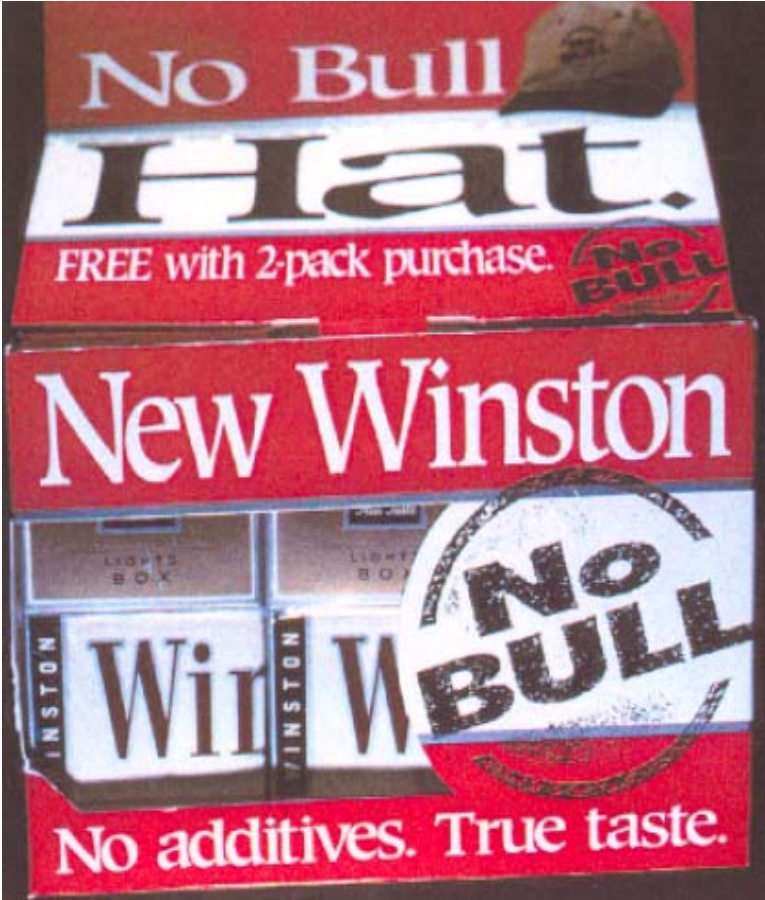
Special Price Offers



Multi-Pack Deals



Gifts
With
purchase



POS Marketing and Youth Uptake

- Marketing Measures:

Advertising Scale (0-5)	2.56
No self-service placement	83%
Any vs. no promotions	48%
Premium price	\$3.62

POS Marketing and Youth Uptake

- Outcome:
 - Youth smoking uptake – 6 levels based on past and current smoking behavior and future intentions to smoke
 - Validated with longitudinal MTF data
 - 26,301 students

Stage	% of youth
Never smoker	53.7%
Puffer	20.7%
Nonrecent Experimenter	4.1%
Former Established Smoker	3.1%
Recent Experimenter	6.9%
Current Established Smoker	11.5%

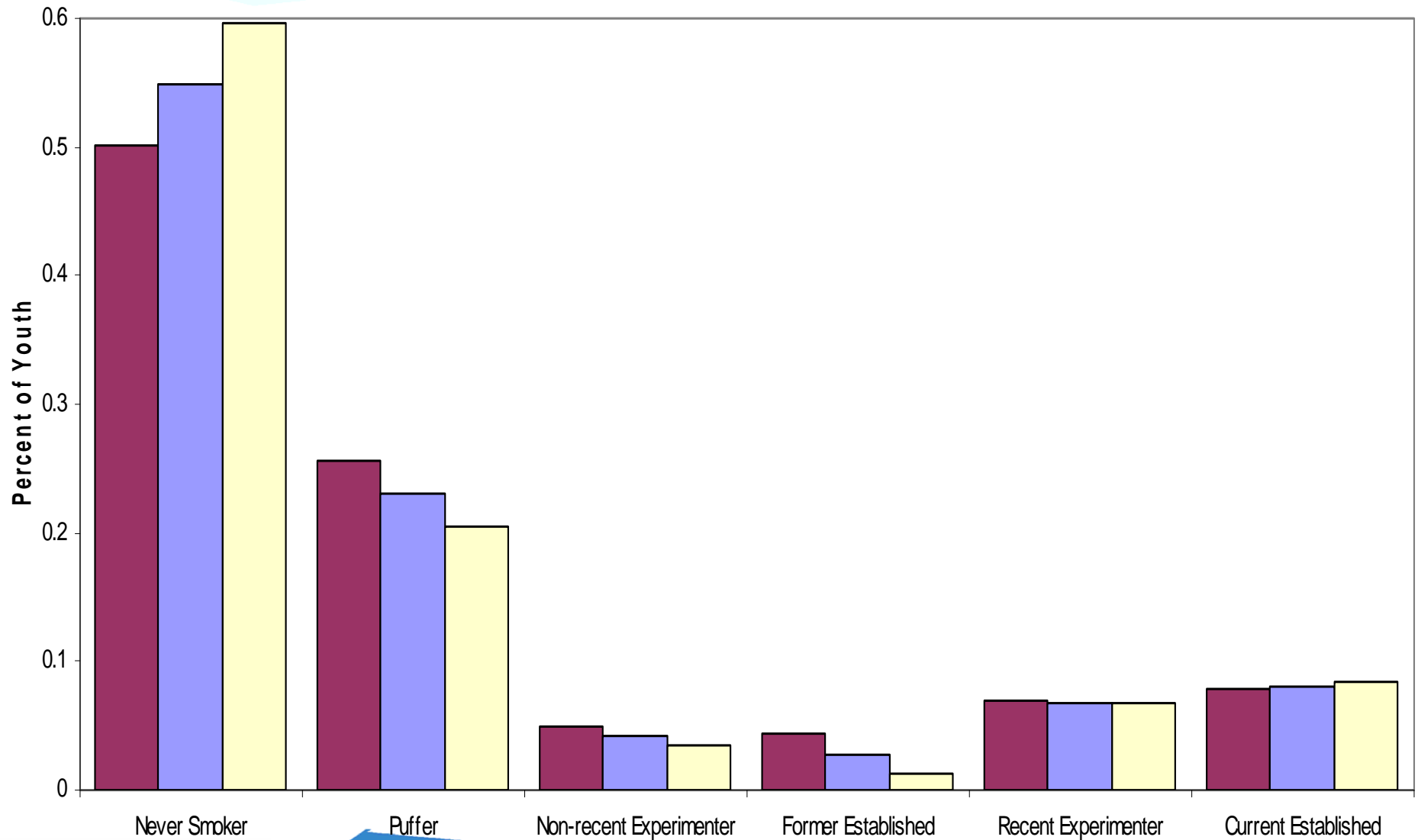
POS Marketing and Youth Uptake

- Methods:
 - Generalized ordered logit model
 - Allows impact of explanatory variables to have different impact on movement between levels of smoking uptake
 - Account for complex survey design
 - sampling weights; clustering (school-level) adjustment
 - Variety of individual-level control variables
 - gender, race/ethnicity, grade, student's income, parents' education, live with both parents
 - State tobacco control policies
 - smoke-free air index
 - youth access index
 - purchase-use-possession index
 - Other variables
 - year, urban/suburban/rural

POS Marketing and Youth Uptake

- Findings:
 - Significant impact of advertising on early stages of uptake (from non-smoker to puffer)
 - effect declines as move to later stages of uptake
 - statistical significance declines as move to later stages
 - Simulations look at impact of different levels of advertising on stages of uptake
 - If all stores had no advertising, estimate that prevalence of never smoking would rise by nearly 9%

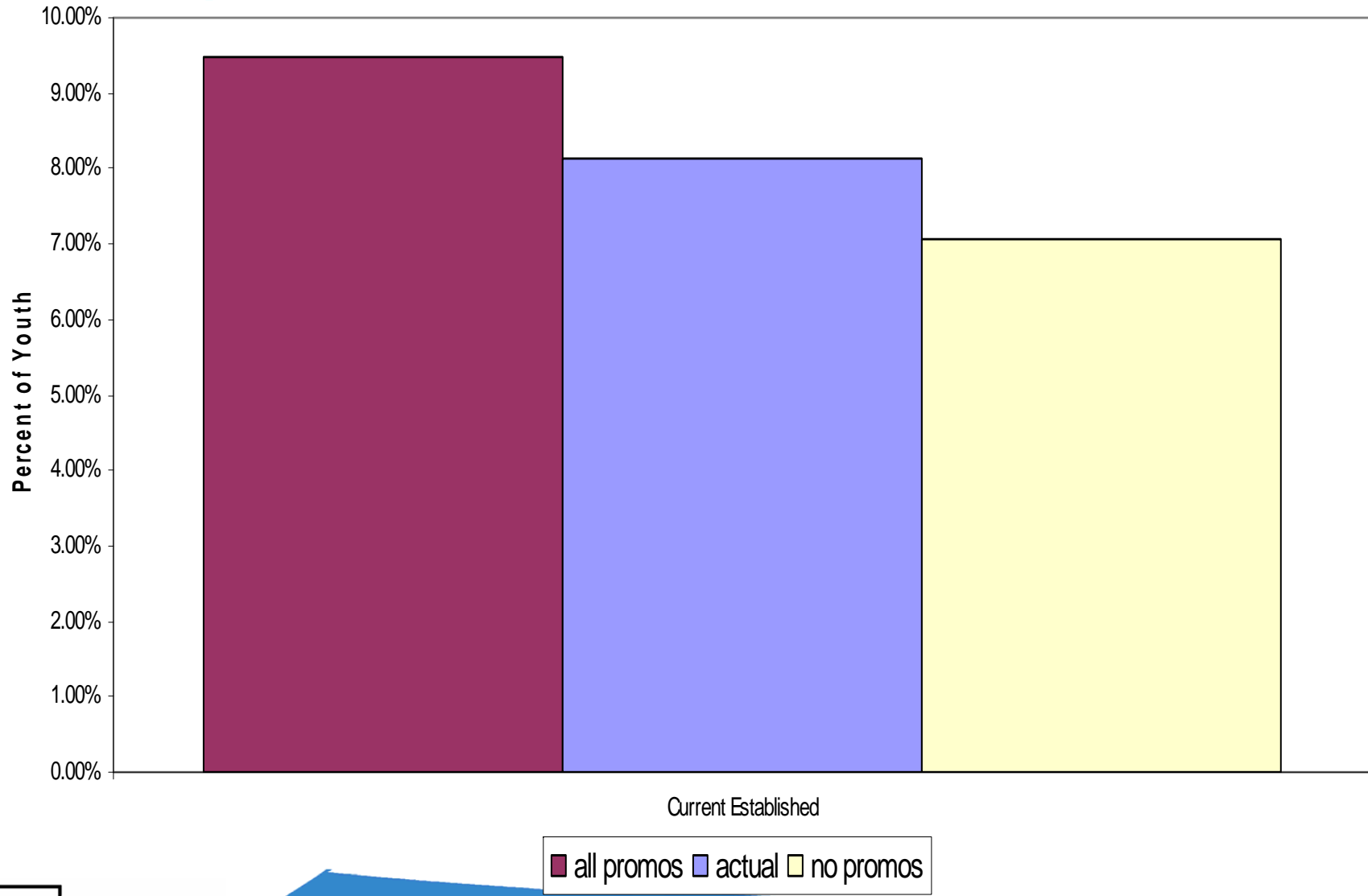
Advertising and Youth Smoking Uptake Simulations



POS Marketing and Youth Uptake

- Findings:
 - Significant impact of promotions on later stages of uptake
 - effect rises as move to later stages of uptake
 - statistical significance increases as move to later stages
 - Simulations look at impact of different levels of advertising on stages of uptake
 - If all stores had no promotions, estimate that prevalence of current established smoking would fall by over 13%

Promotions and Youth Smoking Uptake Simulations



POS Marketing and Youth Uptake

- Findings:
 - Youth smoking uptake negatively associated with higher cigarette prices
 - small, statistically insignificant impact on transition from never smoking to puffing
 - large, statistically significant and consistent impact on transitions between other stages of uptake
 - \$1.00 increase in price would reduce the odds of moving from one stage to next by 24%
 - Consistent with other recent evidence on price and youth smoking uptake
 - Weak association between self-service only placement and youth smoking uptake
 - not statistically significant; somewhat stronger for later stages of uptake

POS Marketing and Youth Uptake

- Limitations:
 - Cross-sectional data limits ability to assess causal impact of POS marketing on youth smoking uptake
 - Relatively crude measures of cigarette marketing
 - Inability to match store-specific data to youth based on stores they frequent most

POS Marketing and Youth Smoking

- Recent analysis by Feighery and her colleagues (2006)
 - data on POS marketing collected observationally from 53 stores located near 3 California middle schools
 - branded signs
 - functional objects
 - shelving units & product displays
 - shelf-space for specific brands
 - Based on observation data and youth self-reports of shopping behavior, four measures of advertising exposure constructed:
 - shopping frequency in stores with more cigarette advertising
 - shopping frequency in stores that sell cigarettes
 - exposure to brand impressions in stores where students shop
 - self-reported exposure to cigarette advertising

POS Marketing and Youth Smoking

- Recent analysis by Feighery and her colleagues (2006)
 - youth smoking behavior:
 - ever smoking
 - susceptibility to smoking
 - Key findings:
 - ever smoking and susceptibility to smoking positively and significantly associated with alternative measures of advertising exposure in all but one of the models estimated
 - estimate that youth who are highly exposed to marketing are 2-3 times more likely to have ever smoked than youth with low exposure to cigarette marketing
- Similar limitations

POS Marketing and Youth Smoking

- Recent meta-analysis by Wellman and his colleagues (2006) (does not include previous two studies)
 - 51 studies of relationships between youth tobacco use and tobacco marketing or tobacco use in film
 - two categories of exposure:
 - low-engagement (e.g. point-of-sale marketing)
 - high-engagement (e.g. receptivity to advertising)
 - two outcome categories
 - cognitive (e.g. smoking related attitudes and intentions)
 - behavioral (e.g. smoking initiation, uptake, and prevalence)
- Key findings:
 - behavioral outcomes affected by both low and high-engagement exposure
 - cognitive outcomes more affected by high-engagement exposure

Summary

- Cigarette marketing expenditures have increased sharply since the MSA
 - some recent declines, but per-pack amount more than double spending prior to the MSA
- Cigarette marketing increasingly dominated by spending on price-reducing promotions
- Higher cigarette prices encourage smokers to quit smoking, prevent former smokers and youth from starting, and reduce consumption among continuing smokers
 - increases in price-lowering promotions offsets the impact of higher cigarette taxes on youth and adult smoking
- Youth smoking uptake associated with point-of-sale cigarette marketing
 - advertising has greatest impact on early stages
 - price and price-promotions have greater impact on later stages



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