Trends in the Retail Tobacco Marketplace, 1999-2012

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Background

The retail tobacco marketplace, as one of the least regulated marketing channels in the U.S. after the 1998 Master Settlement Agreement, continues to evolve as new products are introduced, and federal and state regulatory efforts to protect the public's health remain vulnerable to constitutional challenges.

Aim

To describe differences in product availability, promotion, price and placement of various tobacco products in the point-of-sale environment across time.

Methods

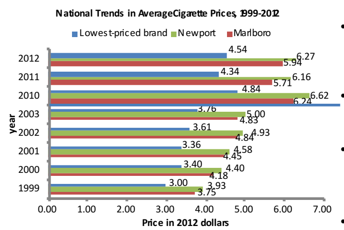
Cross-sectional tobacco product data were collected annually in a national sample of tobacco retail stores located in communities where students attending public middle and high schools in the continental U.S. lived from 1999-2003, and then again from 2010-2012 as part of the Robert Wood Johnson Foundation Bridging the Gap Study.

Year	# Sites	# Tobacco Retail Stores
1999	163	2,990
2000	173	3,002
2001	185	2,832
2002	176	2,879
2003	168	3,113
2010	151	2,288
2011	157	2,414
2012	160	2,296

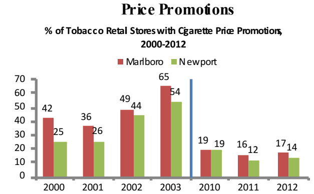
From 1999-2003, field staff observed up to 30 tobacco retail stores in each community; these stores were identified from a list of potential tobacco retailers identified from retailer-reported standard industry classification codes using yearly Dun & Bradstreet (D&B) business lists, and screened to verify tobacco sales. If more than 30 outlets sold tobacco, a random sample was selected; if fewer than 30 outlets were identified from the list, field staff were instructed to observe additional stores selling tobacco while in the field. From 2010-2012, field staff observed food retail stores selling tobacco (i.e., supermarkets, grocery stores, convenience stores and gas stations, pharmacies, and small discount stores) randomly selected from two commercial business lists, D&B and InfoUSA and then screened by telephone, as well as a sample of stores "discovered" while in the field, based on the expected number of stores in the site (using a half-interval sampling approach).

Results

Price

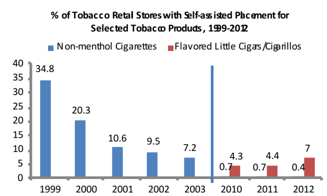


Price Promotions



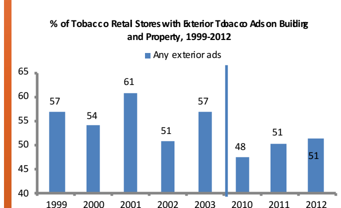
The data on price promotions of Marlboro and Newport are not collected in 1999.

Tobacco Product Placement



The data for flavored little cigars/cigarillos are only available from 2010-2012.

Exterior Tobacco Ads



Price:

- Data indicate an increase in average cigarette prices over time, likely reflecting overall increases in tobacco excise taxes.
- Marlboro, Newport, and the cheapest pack of cigarettes are more expensive in supermarket stores than convenience stores. During 2010-2012, the Marlboro in drug stores are less expensive than all other stores.
- Marlboro (MB), Newport (NP), and the cheapest pack of cigarettes are more expensive in urban areas, communities with higher incomes and higher cigarette excise tax.
- During 1999-2003, 1 standard deviation (SD) unit increase in percent (%) of black population in community (among all the sample communities) is related with $0.05 increase in Marlboro price.
- During 2010-2012, 1 SD unit increase in % of Hispanic in community is related with $0.08 increase in Marlboro price and $0.09 increase in Newport price.
- Note: due to survey design, during 1999-2003 we have either Marlboro price or Newport price in each record of store observations. Similar situation applies to price promotions for Marlboro and Newport.

Price Promotions:

- The % of tobacco retail stores offering price discounts for Marlboro and Newport cigarettes is highest in 2003 and lowest in 2011.
- Grocery stores are statistically more likely to offer any price promotions for Marlboro and Newport cigarettes than convenience stores. Drug stores are statistically more likely to offer any price promotions for Marlboro and Newport than all the other stores, except for Marlboro during 2000-2003.
- During 2000-2003, the % of tobacco retail stores offering price promotions for MB and NP is lower in communities with higher % of black and Hispanic, except of promotion for NP in communities with higher black.
- During 2010-2012, the % of tobacco retail stores offering price promotions for NP is higher in communities with higher % of black; and the % of stores offering any promotions for MB is higher in communities with higher % of Hispanic.
- During 2010-2012, the % of stores offering promotions for MB is lower in states with higher excise taxes.

Tobacco Product Placement:

- The % of tobacco retail stores with self-assisted placement of non-menthol cigarettes decreased from 34.8% in 1999 to 0.4% in 2012; while self-service access to little cigars/cigarillos increased from 4.3% in 2010 to 7% in 2012.
- During 1999-2003, the % of stores with self-assisted placement of non-menthol cigarettes is lower in drug stores, urban areas, communities with higher % of Black, higher % of Hispanic, higher incomes and higher state cigarette excise tax.
- During 2010-2012, the % of stores with self-assisted placement of non-menthol cigarettes is lower in states with higher cigarette excise tax; the % of stores with self-assisted placement of flavored little cigars/cigarillos is lower in supermarket stores, drug stores, urban areas, communities with higher % of Hispanic.

Exterior Tobacco Advertising:

- The presence of exterior advertising is highest (61%) in 2001 and lowest in 2010 (48%).
- The % of stores with exterior ads are significantly higher in convenience stores.
- The % of stores with exterior ads is significantly lower in communities with higher % of black.
- During 2010-2012, the % of stores with exterior ads is significantly lower in communities with higher % of Hispanic and higher state cigarette excise tax.

OLS Regressions for Cigarette prices

Variables	1999-2003 (1) Marlboro	1999-2003 (2) Newport	1999-2003 (3) Cheapest brand	2010-2012 (4) Marlboro	2010-2012 (5) Newport	2010-2012 (6) Cheapest brand
Store type: Converience store-reference						
grocery stores	0.178***	0.0382	0.0840*	0.190***	0.213***	0.385***
	(0.0329)	(0.0534)	(0.0478)	(0.0419)	(0.0434)	(0.0603)
supermarket stores	0.116***	0.168***	0.245***	0.207***	0.616***	0.392***
	(0.0417)	(0.0479)	(0.0367)	(0.0329)	(0.0403)	(0.0391)
drugs stores	0.109***	0.107***	0.234***	-0.211***	0.0750*	0.0269
	(0.0313)	(0.0306)	(0.0256)	(0.0316)	(0.0425)	(0.0420)
other stores	0.00558	-0.0430	0.0780**	0.138*	0.120	0.171*
	(0.0360)	(0.0457)	(0.0342)	(0.0734)	(0.0903)	(0.0910)
urban indicator	0.112***	0.0851**	0.114**	0.151**	0.184***	0.142**
	(0.0405)	(0.0410)	(0.0450)	(0.0604)	(0.0709)	(0.0684)
Z-score of % of black in community	0.0549***	0.0140	0.0126	0.0866	-0.0170	0.0430
	(0.0171)	(0.0143)	(0.0151)	(0.0543)	(0.0520)	(0.0550)
Z-score of % of Hispanic in community	-0.00257	-0.000425	-0.0159	0.0775***	0.0927***	0.0478
	(0.0150)	(0.0167)	(0.0222)	(0.0217)	(0.0270)	(0.0300)
Z-score of median household income in $2012	0.0566***	0.0466**	0.108***	0.0653***	0.0564***	0.117***
	(0.0152)	(0.0192)	(0.0158)	(0.0186)	(0.0189)	(0.0212)
federal and state cigarette tax in $2012	1.274***	1.304***	1.411***	1.345***	1.223***	1.306***
	(0.0372)	(0.0453)	(0.0414)	(0.0562)	(0.0583)	(0.0550)
Observations	8,564	5,234	14,104	6,091	5,164	5,937
R-squared	0.655	0.669	0.564	0.771	0.707	0.709

Coefficients with Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; year dummies omitted

Logistic Regressions for Price Promotion

Variables	2000-2003 (1) Marlboro	2000-2003 (2) Newport	2010-2012 (3) Marlboro	2010-2012 (4) Newport
Store type: Converience store-reference				
grocery stores	0.531***	0.559***	0.296***	0.344***
	(0.0711)	(0.121)	(0.0751)	(0.0979)
supermarket stores	0.742**	0.785	1.361***	0.444***
	(0.0930)	(0.199)	(0.156)	(0.0819)
drugs stores	1.149	1.384***	2.981***	2.747***
	(0.151)	(0.173)	(0.395)	(0.375)
other stores	0.633***	1.112	0.444***	0.816
	(0.0797)	(0.174)	(0.127)	(0.216)
urban indicator	0.981	0.758*	1.023	1.217
	(0.159)	(0.121)	(0.147)	(0.169)
Z-score of % of black in community	0.677***	0.894*	0.957	1.165***
	(0.0508)	(0.0603)	(0.0624)	(0.0547)
Z-score of % of Hispanic in community	0.743***	0.784***	1.139**	1.106*
	(0.0532)	(0.0594)	(0.0630)	(0.0598)
Z-score of median household income in $2012	0.949	0.907*	1.067	0.986
	(0.0546)	(0.0521)	(0.0532)	(0.0705)
federal and state cigarette tax in $2012	0.994	0.828	0.753***	1.002
	(0.145)	(0.126)	(0.0511)	(0.0804)
Observations	8,644	5,287	6,580	5,693

Odds ratio with standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; year dummies omitted

Logistic Regressions for Tobacco Product Placement

Variables	1999-2003 (1) Non-menthol cigarettes	2010-2012 (2) Non-menthol cigarettes	2010-2012 (3) Flavored little cigars/cigarillos
Store type: Converience store-reference			
grocery stores	0.946	0.720	0.897
	(0.132)	(0.529)	(0.274)
supermarket stores	0.862	0.413	0.162***
	(0.105)	(0.297)	(0.0705)
drugs stores	0.649***	(omitted)	0.111***
	(0.105)		(0.0632)
other stores	2.678***	1.852	2.188***
	(0.267)	(1.417)	(0.495)
urban indicator	0.567***	0.475*	0.444***
	(0.105)	(0.210)	(0.0916)
Z-score of % of black in community	0.702***	1.098	0.840*
	(0.0544)	(0.198)	(0.0865)
Z-score of % of Hispanic in community	0.771***	0.617*	0.556***
	(0.0563)	(0.163)	(0.0889)
Z-score of median household income in $2012	0.813***	0.773	0.900
	(0.0392)	(0.141)	(0.0708)
federal and state cigarette tax in $2012	0.486***	0.604**	0.864
	(0.0657)	(0.144)	(0.0874)
Observations	14,532	6,021	5,901

Odds ratios with Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; year dummies omitted

Logistic Regressions for Exterior Tobacco Ads

Variables	1999-2003 (1)	2010-2012 (2)
Store type: Converience store-reference		
grocery stores	0.494***	0.199***
	(0.0454)	(0.0331)
supermarket stores	0.0644***	0.0156***
	(0.0175)	(0.00342)
drugs stores	0.0450***	0.00663***
	(0.00677)	(0.00238)
other stores	0.580***	0.378***
	(0.0584)	(0.0563)
urban indicator	1.045	1.050
	(0.124)	(0.120)
Z-score of % of black in community	1.338***	1.160**
	(0.0797)	(0.0782)
Z-score of % of Hispanic in community	1.031	0.836***
	(0.0360)	(0.0452)
Z-score of median household income in $2012	0.945	0.932
	(0.0437)	(0.0448)
federal and state cigarette tax in $2012	1.032	0.887**
	(0.0871)	(0.0509)
Observations	14,316	6,861

Odds ratios with Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; year dummies omitted

Conclusions

Data indicate that when tobacco control policies (e.g., increases in excise taxes, elimination of cigarette self-service) are targeted at the retail environment, changes aimed at protecting the health of the public will be implemented. The tobacco industry continues to exploit opportunities to advertise its products where unregulated, as seen in the placement of little cigars/cigarillos, the rise in interior advertising, and the increase in emerging product availability (i.e., e-cigarettes, data not shown) across all outlets, as well as transferring its price discounting from in-store price promotions to easily accessible online coupons. Moreover, our analysis indicates tobacco industry marketing that targets different communities based on race/ethnicity and income.

Implications for State and Community Tobacco Control

- Ongoing surveillance of the tobacco retail marketplace is important to monitor because of the causal association between marketing and tobacco usage among both adolescents and adults.
- As alternative tobacco products become increasingly more prominent and existing product lines such as little cigars/cigarillos evolve, new point-of-sale tobacco control policies should be explored.

Acknowledgments

Funding provided by the National Cancer Institute under the State and Community Tobacco Control Initiative, grant number 5U01CA154248, University of Illinois (PI: Frank J. Chaloupka, PhD). Additional support for data collection and analysis was provided by "Bridging the Gap: Research Informing Practice and Policy for Healthy Youth Behavior," grant numbers 64702 and 70157, from the Robert Wood Johnson Foundation.

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