

Where and How Do Kids Get Their Cigarettes?

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Issues:

Most Adult Smokers Begin Smoking as Teenagers

Teen Smoking Rates Have Been Rising in 1990's

Synar Amendment (1992): Forces States to Enact and Enforce Youth Access Laws

Youth Access Laws:

Banning Retail Sales to Persons Under 18

Restricting or Banning Vending Machines

Restricting or Banning Advertising/Sale Near Schools

No Smoking on School Property

Other Related Activities

Enforcement Audits

Require Licensing for Tobacco Retailers.

Obvious Policy Goal:

Reduce Overall Population Smoking Rates by Reducing Teen Smoking Rates.

How Can Teens Obtain Cigarettes?

Buy Them From Non-Compliant Merchants

Buy Them Using a Fake ID

Get Others to Buy for Them

Gifts – Others give them Cigarettes (No Monetary Exchange)

Steal

A Possible Outcome: Formal Black Markets

No evidence that this exists presently

How Do Teens Obtain Cigarettes?

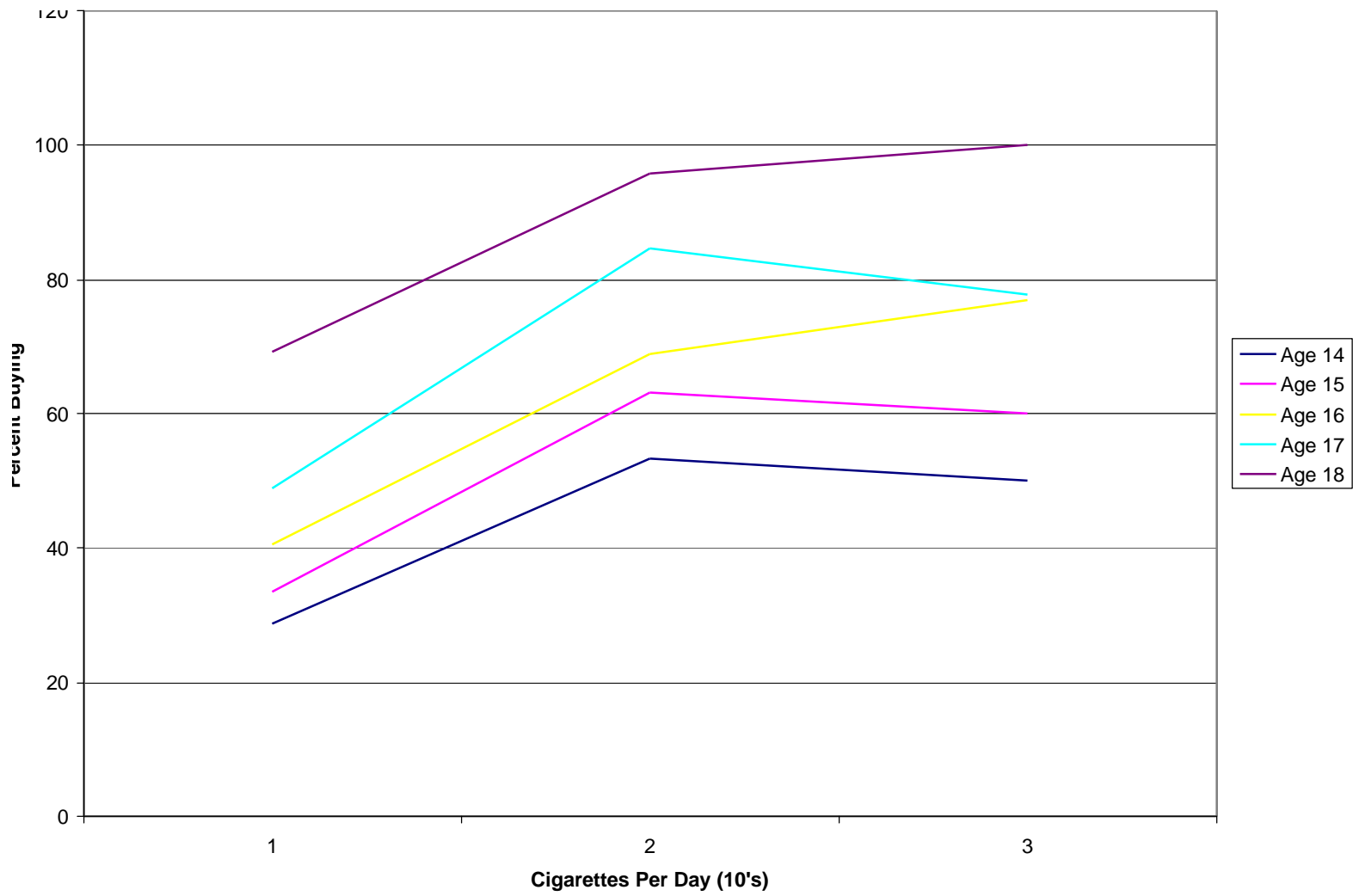
All of the above are used:

Buy from retail outlets is the modal way

Gifts and getting others to make purchases common

Theft is rare (from either Stores or Parents).

No direct evidence of fake ID in data set



	Age 14	Age 15	Age 16	Age 17	Age 18
1	28.8	33.5	40.6	49	69.3
2	53.3	63.2	68.9	84.6	95.8
3	50	60	76.9	77.8	100

Figure 1: Percent Buying, By Age and Intensity

Some Theoretical Observations

Why Do Stores Sell To Teens When Illegal?

Principal-Agent Problems: Clerks Don't Care and Are Costly to Monitor

Profit Maximizing Behavior: Expected Profit Margins Are Still Sufficiently High, Given Current Fines and Enforcement Levels

Fines and Enforcement Levels Lack Salience – Insufficient Bite

**Firms May Increase Prices to Take Into Account Penalties and Risk of Youth Sales
(Note: This Means that Prices Paid By Teens Are Endogenous)**

Economics of Fake ID's:

Fake ID's: Firms Are Typically Not Liable When Fake ID's Are Used.

**Compliance Checks Require Store Clerks to Demand to See an ID;
If An ID is Presented and a Sale Is Made, Store Is Not Liable.
If Clerk Refuses to Make Sale in the Absence of an ID, Store is Liable.**

**Costly To Obtain, but They Are A Fixed Cost: Marginal Price of Obtaining
Cigarettes Unaffected**

**The Above Observation Implies That Enforcement Will Affect Prevalence But Not
Intensity**

Effect of Youth Access Enforcement on Prices Paid by Teens

Prediction A: As enforcement efforts increases, prices paid by teens will rise.

This could be true if fake ID's are used (But Detected)

It will also be true if fake ID's are not used

Prediction B: If fake ID's use is widespread and undetected, then prices may not rise, prevalence rates may be affected but intensity is not affected.

Prediction C: If fake ID's are used, compliance will affect prevalence but not intensity of smoking for those who smoke

Prediction D: Enforcement of Youth Access Laws will reduce the amount of buying but raise the frequency of obtaining cigarettes by having others buy for teens

Data: Audit and Survey Data

Questionnaire Administered to about 17 Thousand High School Students, Ages Range From 14 to 19.

Date Administered is Spring of 1996

Huge Number of Questions About Smoking, As Well As Family Background

Location is Given (State and County) so Local and State Laws and Levels of Enforcement Can Be Linked to Individual Questionnaires.

Do Teens Pay More in High Compliance Jurisdictions?

Evidence: Yes

Table 1: Reported Price Per Pack of Marlboro: Low Compliance Jurisdiction versus High Compliance Jurisdiction

	Average	Standard Deviation	N
Low Compliance	1.97	0.33	28
High Compliance	2.27	0.39	79

Table 2: Reported Price Per Pack of Marlboro As A Function of Sales Tax and Non-Compliance (OLS)

Variable	Estimate	Standard Error	T -Value
Non-Compliance Rate	-0.1875	0.0920	-2.028
State Tax	0.0115	0.0009	12.823

N = 643, R² = .21

Do Compliance Rates Have an Affect on the Decision to Buy versus Not Buy?

Evidence: YES

Table 3: Buy or Not Buy (For Smokers) (Probit)

Variable	Estimate	Standard Error	Chi Square
Age	0.3972	0.0531	55.8947
State Tax	-0.0008	0.0029	0.06643
Non Compliance	1.0508	0.3564	8.6912

N = 1886, log likelihood = -1264.72

This is consistent with the notion that in communities with rigorously enforced Youth Access Laws, teens who smoke get others to obtain cigarettes for them

Given That a Person Smoked, Does Youth Access Enforcement Affect Intensity?

Evidence: NO

Table 4: Cigarettes Smoked (For Smokers)(OLS)

Variable	Estimate	Standard Error	T-Value
Age	0.6032	0.1392	-4.540
Price	-1.3252	0.2919	4.332
Non Compliance	0.6971	0.9671	0.721

N = 2,536, $R^2 = 0.0166$

Does Youth Access Enforcement Lower Teen Smoking (Prevalence)? YES

Table 5: Decision to Smoke (Smoke = 1, Not Smoke = 0) (Probit)

Variable	Estimate	Standard Error	Chi Square
Age	0.1416	0.0224	39.8358
Price	-0.1098	0.0215	26.0991
Non Compliance	0.9955	0.1614	38.0484

N = 12,718, log likelihood = -7039.84

This result is consistent with the notion that Fake ID's reduce prevalence but not intensity

Conclusions:

Some Evidence That Fake ID's Are Used But Are Not Completely Confounding Enforcement of Youth Access Laws

Evidence That Vigorously Enforced Youth Access Laws Reduce Prevalence.

Kids Clearly Find Alternative Ways to Obtain Cigarettes in Despite Youth Access Laws.

There is Some Evidence That Some Retail Outlets May “Specialize” in Underage Sales. This Is An Argument for Licensing of Tobacco Retailers.

Further Research:

Refine Econometrics

Design Questionnaires with Fake ID Questions