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Consumer Preferences for E-Cigarette Attributes

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Selected Paper prepared for presentation at the 2017 Agricultural & Applied Economics Association Annual Meeting, Chicago, Illinois, July 30-August 1

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BACKGROUND

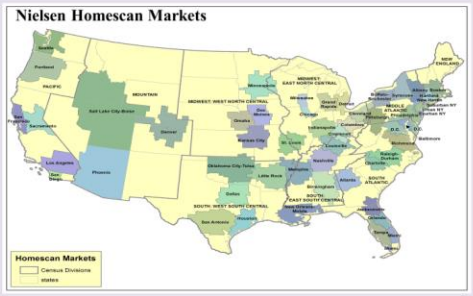
The Food and Drug Administration (FDA) has the authority to set standards for cigarette nicotine and tar levels, ban flavored cigarettes with the exception of menthol, and require cigarettes be sold in packs of at least twenty. Unlike cigarettes, e-cigarettes face fewer regulations. However, in August 2016, the FDA assumed jurisdiction over e-cigarettes and, therefore, has the ability to regulate e-cigarette attributes. There is a critical need from both research and regulatory perspectives to understand how consumers perceive various e-cigarette attributes to acquire insight into the outcomes of potential regulations targeting e-cigarettes attribute(s).

OBJECTIVES

- To examines the impacts of key e-cigarette attributes that affect the choice of e-cigarettes.
- To Perform Counterfactual Policy Simulations

DATA

We use the Nielsen Company's household-based scanner data as our primary data source, which include samples of more than 40,000 nationally representative households (e.g., in terms of gender) in 52 U.S. markets and the nine remaining U.S. areas..



	Attributes Observed in the Nielsen Homescan Data					
	Brand	Flavor	Pack size	Strength	Format	Price
	Blu e-cig	Blueberry	1 – 7	0	Disposable	$0.85
	Clean	Cherry	10	1.4 mg/ml	Refillable	...
	EZ Cig	Cool ice	13	1.6 mg/ml	Rebuildable	$59.97
	Mistic	Menthol	14	6 mg/ml	Starter kits	
	Njoy	Original		15 mg/ml	e-Liquids	
	Zoom	Regular		...		
	...	...		45 mg/ml		
Total	45	57	10	27	5	Various

Notes: Given the 2014 Nielsen Homescan data, we summarize the various e-cigarette attributes to be analyzed.

MODEL

We use a multinomial logit model of discrete choice.

*Consumer choice of e-cigarette product = F(**Flavor, Pack size, Strength, Format,** Price, Advertising $ by media, Promotion, Consumer characteristics, Loyalty).*

Also, we analyze counterfactual simulations for five policies that are of potential interest to the FDA, including (1) a ban on all flavored e-cigarettes, (2) a ban on all flavored e-cigarettes with the exception of menthol, (3) a minimum amount of nicotine in milligrams in the e-liquid, (4) a maximum amount of nicotine in milligrams in the e-liquid, and (5) a ban on electronic media advertising (i.e., TV, Radio, and internet).

EXPECTED RESULTS

Applying the choice model to the Homescan data, we will be able to identify the impact of each attribute on the probability e-cigarettes are purchased. We will test **several hypotheses** based on previous research using surveys and experiments. These include:

- Consumers prefer sweet, menthol, and fruit flavors.[2,3,5]
- There is no difference between current smokers and ex-smokers in flavor preferences.[2]
- Menthol and coffee flavors have greater quit efficacy[1]
- None-smokers prefer no nicotine or low nicotine e-cigarettes, while smokers preferred medium and high nicotine e-cigarettes.[4]
- African Americans prefer flavored e-cigarettes.[6]
- Regulation on e-cigarette attribute(s) and/or advertising might affect the e-cigarette market.

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