국외공무출장 결과보고서

- 제75차 국제재정학회(75th IIPF) 참석 -

2019. 9.

국회예산정책처
National Assembly Budget Office

목 차

I. 출장 개요

1 출장 목적

❑ 제75회 국제재정학회(75th Annual Congress of the International Institute of Public Finance; IIPF) 참석 및 발제

2 출장 지역

❑ 스코틀랜드 글래스고

3 출장자

❑ 심혜정(추계세제분석실 소득법인세과장)

4 출장 기간

❑ 기간 : 2019. 8. 20(화) ~ 8. 25(일) (4박 6일)

5 출장 일정

일 시		주 요 내 용
8.20. (화)	10:30	인천 출발
	17:45	글래스고 도착
8.21. (수)	09:00	학회 등록
	09:00~ 17:30	주제별 세션 참여
	17:30~ 18:30	총회(General Assembly Members Meeting) 참석
	19:00~ 20:00	Reception 참석
8.22. (목)	09:12:00	주제별 세션 참여
	13:30~ 3:00	세션 발제
8.23. (금)	09:00~ 17:30	주제별 세션 참여
8.24 (토)	08:55	글래스고 출발
8.25 (일)	07:35	인천 도착

II. 주요 활동

1 제 75차 국제재정학회(75th IIPF) 주요 세션 참가

❑ 일 시: 2019. 8. 21(수) ~ 8.23(금)

❑ 장 소: 글래스고 대학(스코틀랜드 소재)

❑ 제 75차 국제재정학회의 “조세와 이동성(Taxation and Mobility)”이라는 주요 아젠다를 중심으로 조세 및 재정, 공공정책 및 사회정책의 다양한 이슈에 대해 학술적이고 경험적인 연구와 사례를 논의를 함

- ○ 국제적으로 이동성(Mobility)이 높아지고 있음
  - – 직업적 이유 또는 이민 등으로 국가간 또는 국가내에서 지역적 이동성 증대
  - – 또한 소득 또는 부의 사회적 이동성 또는 세대간 이동성도 주요 이슈
- ○ 지역간 인구의 이동 및 소득의 세대간 이동성의 문제는 소득 재분배정책에 영향을 주는 중요한 이슈
- ○ 조세는 소비, 노동 및 저축 등 경제적 의사결정에 영향을 미치는 중요한 변수, 조세를 통해 지역간 이동성 및 소득의 세대간 또는 사회적 이동성을 위한 다양한 정책이 제안
- ○ 75차 국제재정학회는 ‘이동성’과 관련된 국제적 흐름과 조세·재정의 역할을 중점 주제로 선정하고 진행됨

❑ 제1주제: Sin tax의 소득재분배 및 교정 효과(Distributional and Corrective Implications of Sin Taxes)

- ○ 발제자: Rachel Griffith(University of Manchester and IFS)

○ 주세, 담배세 등 전통적인 Sin tax를 강화해야한다는 논의와 함께, 최는에는 설탕이나 음료에 대한 세금, 이른바 비만세에 대한 논의가 미국, 유럽 등 선진국을 중심으로 논의됨

○ 이러한 Sin tax는 흡연, 음주, 과당섭취 등으로 인해 유발되는 건강, 사회문제를 조세로 교정함으로써 사회적 비용(Social Costes)을 줄일 수 있다는 취지에서 긍적적

○ 그러나 Sin Tax는 사회적 비용을 줄일 수 있다는 긍정적 효과와 함께 저소득층에 세부담이 강화됨으로써 소득역진적일 수 있다는 점도 함께 고려될 필요

- 저소득층일수록 알코올, 흡연, 과당 섭취 정도가 높음

○ 뿐만 아니라 과세의 대상이 되는 담배, 알코올, 과당 등은 '중독성'을 가짐에 따라 일반적인 수요곡선을 따르지 않는다는 점도 고려될 필요

○ 소비자의 잘못된 선택(mistakes)을 교정하는 목적으로 조세의 역할이 부각되고 있으나, 교정세로서 기능하기 위해서는 (1)소득재분배적 기능 (2) 중독성을 포함한 수요곡선에 대한 이해 (3) 해당 재화의 공급기업의 반응까지 고려하여 설계할 필요

❑ 제2주제: 조세와 혁신(Taxation and Innovation)

○ 발제자: Stefanie Stanrcheva(Harvard University)

○ '조세와 혁신(Taxation and Innovation)'이라는 대 주제를 위해 저자는 이하 세 가지 세부주제를 분석

○ (1) 조세가 혁신(innovation)에 어떤 영향을 미쳤는가?"라는 질문에 답하기 위해 저자는 1920년 이후 최근까지 미국의 데이터(특허수 등)를 활용하여 분석함. 분석결과, 조세는 혁신에 부정적인 영향을 미친 것으로 나타났으나 저자는 해석의 여지가 여전히 남아있음을 전제

- (2) 소득세 최고세율이 고급인력의 이동(brain-drain)에 영향을 미쳤는가를 분석한 결과, 슈퍼 1%의 고급인력의 거주지는 소득세 최고세율에 유의하게 영향을 받는 것으로 결론
- 정부의 R&D 투자규모는 기업의 생산성과 연관이 있는가? 세액공제, 보조금, 재정지출 등 다양한 형태로 정부의 R&D 투자가 제공되고 있으나, 실제로 효과성에 대해서는 불확실성의 여지가 있는 것이 현실. 정부 투자가 효과성을 발휘하기 위해서는 투자가치가 있는 Value 기업을 정부가 선택(screening)하고 타겟팅해야 하는데 이는 쉽지 않은 과제. 저자는 기업을 선택할 때 기업의 age, size, 현재 투자 수준 등을 고려할 것을 제안

❑ 제3주제: 사회 이동성과 아동에 대한 투자(Social Mobility and Investments in Children)

- 발제자: Daniel Waldenstrom(Harvard University)
- 최근 소득과 부의 이동성이 소득분배의 중요한 이슈로 부각되고 있는 가운데, 저자는 세대간 이동성(generational mobility)이 지역적 이동성과 연관되어 있음을 주장. 미국은 세대간 이동성이 유럽이나 캐나다 등에 비해 높으며, 미국 내에서도 매우 인종 및 지역에 따라 양분되어 있음. 세대간 이동성이 높은 지역으로 이전한 아이가 그렇지 않은 아이에 비해, 또 이주시점이 어릴수록 성인이 되었을 때 소득이 높은 것으로 나타남.
- 부와 소득의 사회적 이동성을 높이기 위해서는 교육, 사회보장시스템 등 지역에 대한 투자의 불균형을 해소하는 것이 중요함을 시사

❑ 제4주제: 브렉시트와 영국 경제(Brexit and the UK Economy)

○ 발제자: Jonathan Portes(King's College London)

○ 브렉시트 국민 투표(2016년 상반기) 이후 영국 경제는 미국, 유로존에 비해 낮은 성장률을 기록. 브렉시트 결정으로 인한 실질 GDP 감소율은 2.3%

○ 브렉시트가 영국경제에 미치는 영향의 파급 경로는, 환율절하, 부동산가격 하락, 경제주체에 대한 신뢰하락, 이자율 상승, 실업률 증가 등으로 나타날 전망

○ 브렉시트 협상이 난맥을 거듭하고 있는 가운데, 브렉스트가 영국경제에 장기적으로 미칠 영향에 대해 다음과 같이 전망

Compared to today's arrangements (per cent change)		Modelled no deal	Modelled average FTA	Modelled EEA-type	Modelled White Paper	
					Modelled White Paper	*Modelled White Paper with 50 per cent NTB sensitivity*[11]
No change to migration arrangements	GDP	-7.7 (-9.0 to -6.3)	-4.9 (-6.4 to -3.4)	-1.4 (-2.4 to -0.9)	-0.6 (-1.3 to -0.1)	-2.1
	GDP per capita	-7.6 (-8.9 to -6.2)	-4.9 (-6.4 to -3.4)	-1.4 (-2.3 to -0.9)	-0.6 (-1.3 to -0.1)	-2.1
Zero net inflows of EEA workers	GDP	-9.3 (-10.7 to -8.0)	-6.7 (-8.1 to -5.1)	N/A[12]	-2.5 (-3.1 to -1.9)	-3.9
	GDP per capita	-8.1 (-9.5 to -6.8)	-5.4 (-6.9 to -3.9)	N/A	-1.2 (-1.9 to -0.7)	-2.7

2 세션 발제

❑ 일 시: 2019. 8.22(목)

❑ 장 소: 글래스고 대학(스코틀랜드 소재)

❑ 세대간 임금격차의 한국 사례(발표논문 제목: The Generation Gap; Empirical Evidence From Age-earning Profiles in Korea)에 대해 발제

- 1980년에서 2017년간 한국의 연령-임금 프로파일을 추정한 결과, 외환위기 이후 노동시장에 진입한 70년대 중반 이후 출생 세대부터 진입임금(entry wages)의 정체 내지 감소가 관측
- 또한 이들 세대가 노동시장에 진입하게 되는 시점인 1999년 이후부터 연령 상승에 따른 임금증가율(연령 효과)이 그 이전기간에 진입한 세대에 비해 둔화
- 이는 70년대 중반 이후 출생세대와 이전 세대 간의 임금 차이가 확대되었음을 의미
- 이러한 임금패턴은 대졸 이상 그룹에서는 관찰되지 않은 반면, 고졸 및 중졸이하 등 교육수준이 낮은 그룹에서 보다 뚜렷하게 나타남
- 본고의 결과는 최근 급격하게 심화되고 있는 소득불균형의 원인으로 교육수준에 대한 보상 격차의 확대와 결합한 세대 간 격차가 작용하고 있음을 시사

III. 출장 성과

1 조세, 재정 등 공공 정책에 대한 각국의 이슈와 연구에 대한 정보 수집 및 공유

○ R&D 지원의 효과성을 높이기 위한 법인세 설계방안, Sin tax 도입 시 고려할 사항, 사회적 이동성(Social Mobility) 등 각국이 공통적으로 당면하고 있는 재정현안에 대하여 심도 있는 학술적 논의를 갖고, 각기 축적해 온 역량과 지식을 공유

2 국회예산정책처와 국제재정학회와의 교류 강화

○ 재정정책은 학술적 논의뿐만 아니라 정치 또는 정책현장에서 실제로 구현(working)될 때 발생할 수 있는 사항까지 고려되어야 함에 따라 학교·연구소 등 학술단체뿐만 아니라 정부, 국회 등 재정기관과의 국제적 네트워크 강화가 필요하다는 데 인식을 공유

○ 상생발전을 지속해 나가기 위해 학술단체뿐만 아니라 각국의 재정기관과도 지속적인 협력기반 조성

3 한국의 의회재정전문기관으로서 NABO의 대외적 위상을 제고

○ 세대간 임금격차에 대한 한국의 사례를 중심으로 의회재정기관의 역할과 과제를 각국 회원에 소개

Ⅳ. 별첨 자료

별첨 1 국제 재정학회(IIPF) 개관

❑ 설립 연혁

○ 1937년 파리에서 설립되었으며, 이후 경제 및 공공정책에 관한 연구를 위한 국제적 학술기관으로 성장

○ 2019년 현재 50개국 이상에서 약 750명의 회원으로 구성

❑ 구성

○ IIPF는 총회(The General Assembly) 승인을 받아 이사회(The Board of Management)가 관리

○ 이사회는 회원 중에 선출된 회장 1과 2명의 부회장으로 구성되며, 이사의 임기는 3년

❑ 주요 기능

○ 국제재정학회(IIPF; International Institute of Public Finance)는 공공재정과 관련된 경제학자들 중심으로 구성된 국제 학술단체

○ 매년 한 번씩 개최되는 국제재정학술대회는 공공재정정책에 대한 연구, 경험사례 등에 대한 각국의 지식을 공유하기 위한 가장 중요한 행사

❑ 위치

○ 사무국은 독일 뮌헨에 위치

별첨 2 사진

❑ 글래스고 대학 전경

The corrective and distributional implications of sin taxes

Rachel Griffith

joint work with Pierre Dubois, Martin O'Connell and Kate Smith

IIPF Glasgow

August 2019

Institute for Fiscal Studies

MANCHESTER 1824

Sin taxes

Taxes are a tool to improve social welfare when consumption imposes unaccounted for costs on others

- externalities
  - Pigou, 1920; Diamond, 1973, ...
  - e.g. alcohol taxes
  - alcohol related violent crime, domestic violence, road traffic deaths; costs likely not taken account of at time of consumption
  - raising price can internalise these externalities

Sin taxes

More recently taxes have been advocated as a tool to reduce consumption that imposes unaccounted for costs on your future self

- internalities
  - Gruber and Koszegi, 2004; O'Donoghue and Rabin, 2006; Haavio and Kotakorpi, 2011; Allcott, Mullainathan and Taubinsky, 2014, ...
  - e.g. taxes on sugar sweetened drinks
  - excess sugar consumption is bad for health, particularly in children has adverse long-term consequences; costs likely not taken account of at time of consumption
  - raising price can (potentially) improve welfare by getting people to account for these internalities

This talk

Taxes on alcohol and sugar sweetened drinks

- are they well targeted?
  - a well targeted policy reduces purchases most by those whose marginal consumption creates the largest social costs
    - social costs = internalities + externalities

when we consider (more) realistic market settings

- consumers are heterogeneous in their behaviour and preferences
- the commodity that generates social costs (ethanol or sugar) is purchased in products that have other characteristics, and sold in many differentiated products

What potential is there for welfare gains from proposed reforms?

Consumer heterogeneity is important

If homogeneous marginal externality and a homogeneous good

- tax can fully correct for the externality (Pigou, 1920)

If heterogeneous marginal externalities and a homogeneous good

- a linear tax can no longer achieve the first best (Diamond, 1973)
- optimal tax rate equal to weighted average marginal externality

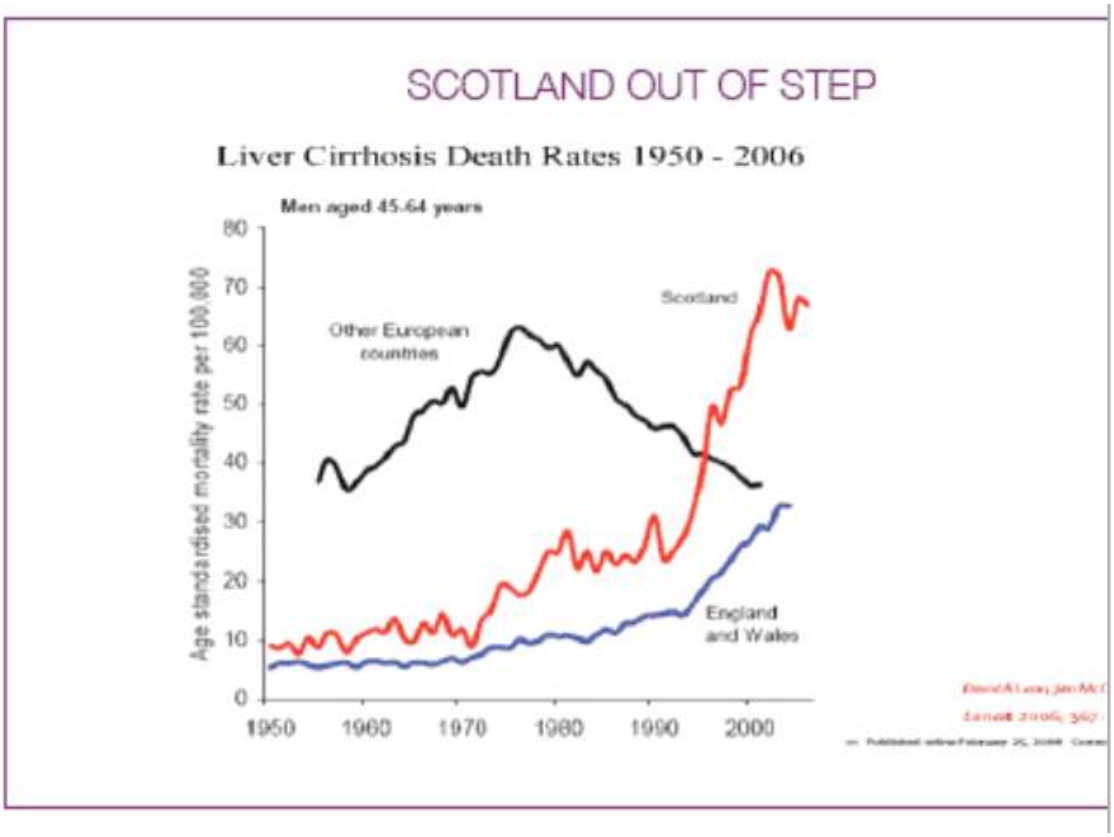
If heterogeneous marginal externalities and a heterogeneous good

- optimal tax is a function of correlation between externalities and demand shape (Griffith, O'Connell and Smith, 2019)
  - allows possibility of targeting products that high social cost consumers prefer (a form of tagging, Akerlof, 1978)

Alcohol taxes

Most countries have a combination of

- Excise taxes
  - typically on volume of liquid
  - sometimes on alcohol content
- Ad valorem taxes on price
- Price regulations
  - in the US markup regulations, effect similar to ad valorem tax
  - more recently minimum unit prices
    - set a price floor per unit of alcohol
    - introduced in Scotland in May 2018
    - passed into law in Ireland, being considered in England and Wales



Alcohol taxes

Are alcohol taxes well targeted at reducing social costs?

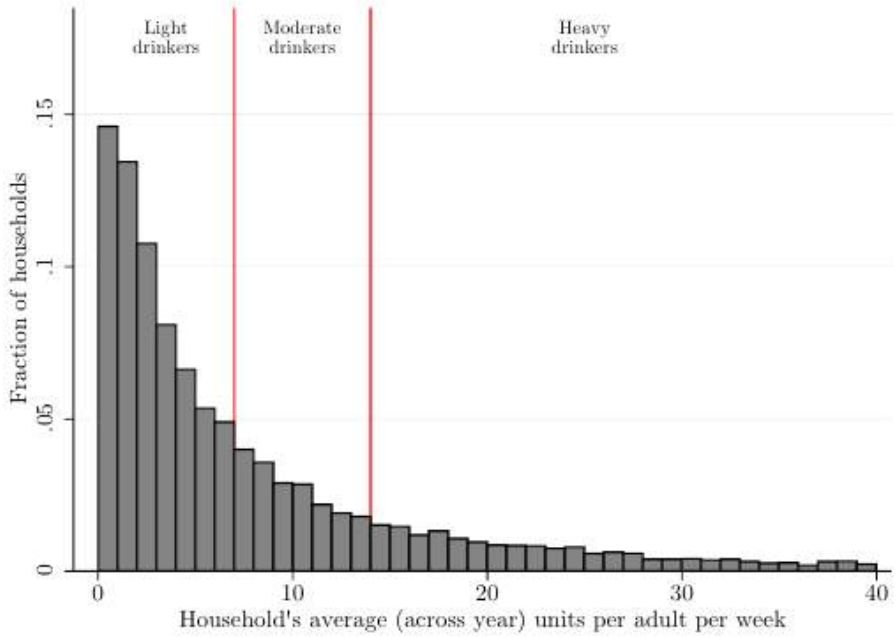
- externalities in the form of violence, accidents, anti-social behaviour, etc.
- internalities in the form of liver cirrhosis and other poor health, social and economic outcomes

In order to answer that question we need to know:

- the distribution of social costs across consumers
- the shape of demand, and how it correlates with social costs
- (firm responses)

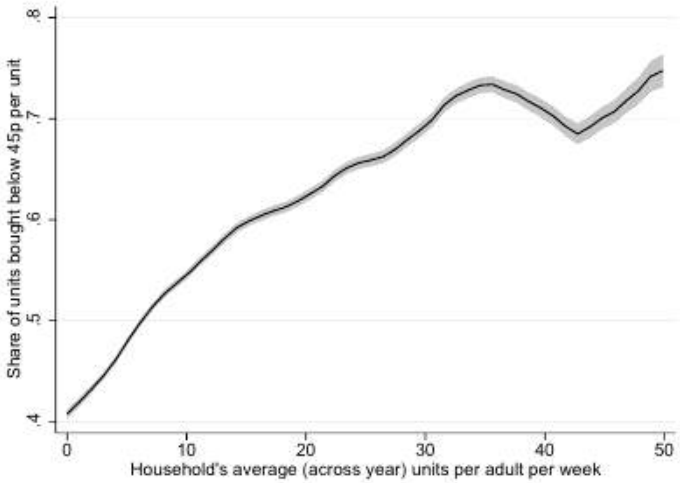
Distribution of alcohol purchases in the UK

We assume generation of social costs is higher amongst heavy drinkers



Heavy drinkers buy cheaper alcohol

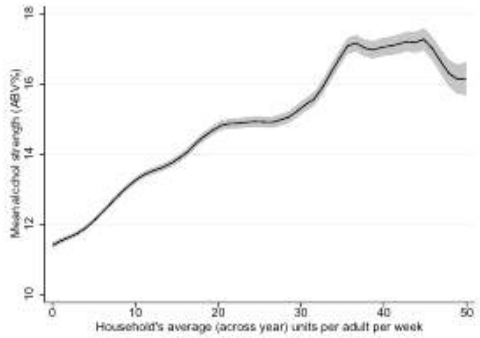
Share of units bought below 45p/unit



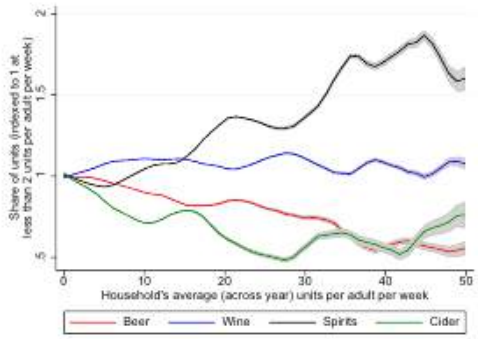
Advocates of the minimum unit price argue it is better targeted at reducing alcohol misuse and problem drinking, while limiting the impact on light and moderate drinkers, than taxes because it raises the price of cheap alcohol, which is disproportionately purchased by the heaviest drinkers.

Heavy drinkers buy stronger drinks

(a) strength of units purchased



(b) share of units purchased



Heavy drinkers also disproportionally purchase stronger alcohol. Taxes can raise the price of stronger alcohol by more than weaker alcohol.

Consumer demand

Consumer indirect utility:

$$V_i(y_i, \mathbf{p}, \mathbf{x}) = \alpha_i y_i + v_i(\mathbf{p}, \mathbf{x})$$

- i consumers, j differentiated products
- y_i: income; α_i: marginal utility of income
- $\mathbf{p} = (p_1, \ldots, p_J)'$ post-tax prices
- $\mathbf{x}_j$ product characteristics
  - includes z_j - characteristic that generates social costs (ethanol)

Yields demand functions:

$$q_{ij} = f_{ij}(\mathbf{p}, \mathbf{x})$$

Consumption generates social costs

Consumption generates social costs (i.e. not considered by the individual when making consumption decision)

- Derived demand for Z_i (ethanol)

$$Z_i = \sum_j z_j q_{ij}$$

- The social cost associated with consumer i's ethanol consumption is $\phi_i(Z_i)$
- total social costs are

$$\Phi = \sum_i \phi_i(Z_i)$$

Policy maker's problem

The policy maker trades off benefits of minimising social costs against reduction in consumer surplus that arises due to the higher prices

- the policy maker sets rates, τ
- the social welfare function is:

$$W(\tau) = \underbrace{\sum_i \left[y_i + \frac{v_i(\tau)}{\alpha_i} \right]}_{\text{consumer surplus}} + \underbrace{R(\tau)}_{\text{tax revenue}} - \underbrace{\Phi(\tau)}_{\text{external costs}}$$

- if policy maker can set consumer specific taxes equal to consumer's marginal social cost we get first best

$$\tau_i^* = \phi_i'(Z_i(\tau_i^*))$$

Optimal tax policy

If the policy maker can only set one single tax rate, this is:

$$\tau^* = \bar{\phi}' + \frac{\text{cov}(\phi_i', |Z_i'|)}{|\bar{Z}'|}$$

$\bar{\phi}'$: average marginal social cost across consumers

$\bar{Z}'$: average own tax slope of demand for z (ethanol, sugar)

$\text{cov}(\phi_i', Z_i')$: covariance in the slope of demand for z and marginal social costs across consumers

Corresponds to Diamond (1973)

- the more strongly correlated are marginal social costs and the tax slope of demands for z, the more effective is the tax at correcting for the social costs of consumption and higher is the optimal rate

Optimal tax policy

If there is:

- heterogeneity in externalites: $\phi_i \neq \phi$
- heterogeneity in demands (e.g. some like beer, others wine, ...)
- and these forms of heterogeneity are correlated
  - $\text{Cov}(\phi_i', Z_{ik}') > 0$, k indexes sets of products (e.g. beer, wine, ...)
- Then if the policy maker can set several rates $\boldsymbol{\tau} = (\tau_1, ..., \tau_K)'$
  - the optimal tax rates are pinned down by first order conditions

$$\sum_i \sum_k (\tau_k - \phi_i') \frac{\partial Z_{ik}}{\partial \tau_l} = 0$$

  - and the optimal taxes will vary across k (a form of tagging)

Demand estimates

Key to understand affect of policy is shape of demand and how correlated with consumers' marginal externalities

- Griffith, O'Connell and Smith (2019) "Tax design in the Alcohol Market" *Journal of Public Economics* and recent extensions
  - we estimate a discrete choice model of alcohol demand with rich heterogeneity in the preferences and price responsiveness of different types of drinker
  - estimated preference parameters from the demand model yield a set of own and cross price elasticities that describe how households switch between alcohol products and towards no purchase
  - heterogeneity by light/medium/heavy drinkers allows us to (roughly) capture correlation between marginal social costs and demand shape

Data

- Longitudinal data on a panel of British households off-trade alcohol purchases (from the Kantar Worldpanel):
  - panel of 11,634 households that purchase alcohol
  - records transaction level prices, product information (incl. brand, ABV), pack size
  - we observe households for an average of 40 weeks a year
  - drawback: we do not observe on-trade alcohol purchases
- This data allows us to convincingly identify the impact of price on what products people choose:
  - we use only variation in actual barcode level prices
  - that is driven by "cost shifters" e.g. producer prices, tax rates

Switching across disaggregate products

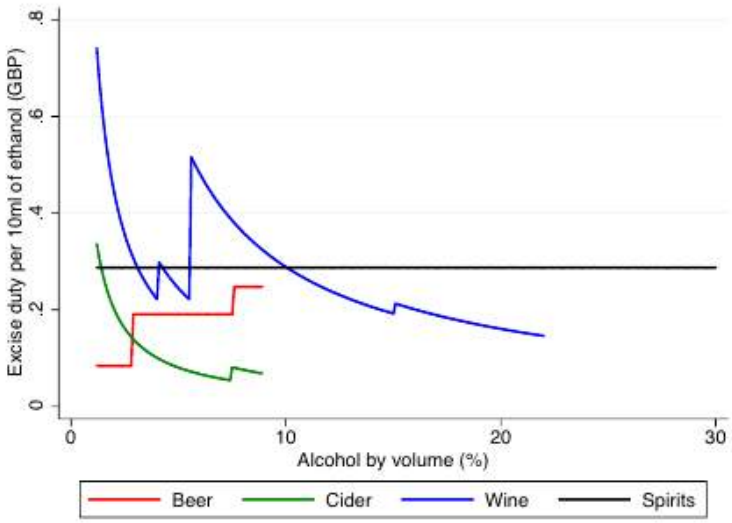
- It is common in the literature to aggregate products into a relatively small number of categories (e.g. beer, wine etc.)
  - but this masks the considerable variation in price and alcoholic strength within category
- Or to estimate disaggregate demand model for just one category (e.g. beer or spirits)
- We model the choice between 32 different products, available in a range of pack sizes:
  - aggregate together only similarly priced and strength barcodes
- These are important if taxes affect products differently within broad categories, if consumers have heterogeneous preferences, and if there is substitution across categories

Demand estimates

We use these estimates to simulate the effects of potential policy reforms

- product level own price elasticities
  - the heaviest drinkers are the most price sensitive
- cross price elasticities
  - heavier drinkers having higher cross-price elasticities
  - this heterogeneity across consumers is important
  - this mean the overall price elasticity of demand for ethanol (i.e. the % change in demand for alcohol overall that follows a 1% price increase in all alcohol) is lower for heavier drinkers, they are more likely to substitute to other alcohol products, and less likely to substitute to no purchase ▸ Detail

UK volumetric and specific taxes on alcohol



Note: General VAT rate also applies to alcoholic beverages

We can improve on existing alcohol taxes

We show that we can move a considerable way towards the optimal Pigouvian tax by setting product level tax rates (e.g. on beer, wine, spirits....)

- these exploit correlations in preferences (demand curvature) with the marginal externality (i.e. targeting products that high social cost consumers prefer, a form of tagging)

To implement this in practice requires that we know more about the marginal externality function (it's convexity and how it correlates with the shape of demand)

- allowing heterogeneity along light/medium/high drinkers approximates this but only roughly
- an important area of future work

What about Minimum Unit Price?

Consider Minimum Unit Price (MUP) of 45p per unit of alcohol

- Compare to two tax reforms that achieve the same aggregrate reduction in alcohol consumption
  - increase excise taxes by 4p,
  - increase ad valorem tax by 12 percentage points

Policy reforms

The MUP is better targeted at heavy drinkers

- share of reduction in alcohol consumption accounted for by:

	MUP	Excise	Ad valorem
Light drinker	27%	36%	39%
Moderate drinker	21%	20%	20%
Heavy drinker	52%	44%	41%
	100%	100%	100%

However, the MUP transfers revenue from the government to industry

	MUP	Excise	Ad valorem
Consumer surplus	-654.4	-1030.0	-1126.8
Tax revenue	-552.8	62.0	119.0
Industry revenue	204.6	-464.1	-543.1

(£million per year)

Sugary drinks taxes

Differ from alcohol taxes in a number of interesting ways:

- less scope for targeting/tagging, doesn't seem to be the same identifiable correlation between peferences (the shape of demand) and social costs
- motivated largely by internalities, particulary in children growing up in low socioeconomic households
  - raises particular equity concerns

Europe | USA | Americas | Africa and Asia

Sugary drinks taxes

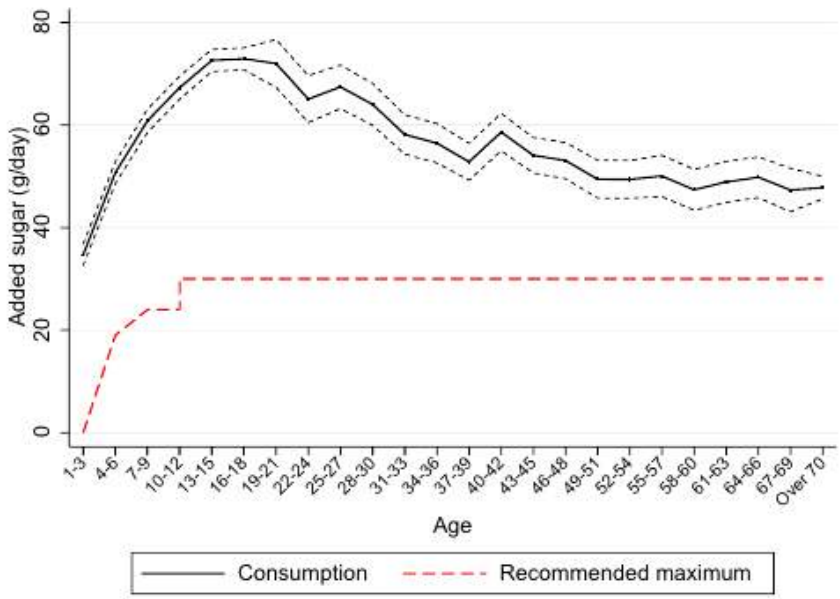
As of August 2019 sugary drinks taxes have been introduced in 50 jurisdictions

- How effective are they?
  - what is the extent of internalities and how are they distributed
  - what is the shape of demand and how does it correlate with internalities
  - what are the likely distributional consequences
  - (firm responses)

Sugar is (massively) over consumed

particularly by children

Average added sugar consumption (g/day) by age



What is the evidence on internalities?

Consumption above recommendation in itself doesn't imply internalities

- Excess sugar consumption:
  - leads to obesity, type 2 diabetes, heart disease, cancers, etc...
  - is associated with poor mental health and poor school performance
  - childhood nutrition is a determinant of later life health, social and economic outcomes and of persistent inequality
- Do consumers make optimisation errors, e.g. because they
  - suffer from temptation and a lack of self-control
    - Cherchye et al (2017) "A new year, a new you? Temptation and self-control in food purchases" CEPR WP Detail
  - lack the cognitive ability or will to evaluate information effectively
    - Dubois, Griffith and O'Connell (2018) "The effects of banning advertising in junk food markets" in *REStudies* Detail

Equity concerns

Internality taxes are rationalised as a way to help people who will later regret their consumption choices

- if effective the tax will lead to fewer regrets about poor choices, but they will also have less income
- if high internality individuals tend to be lower income
  - poverty, lack of self-control and low cognition are correlated (and possibly causally related)
- tax might serve a self-control function that benefits lower income groups more
  - but only when they are more price sensitive, so respond to the tax
  - if internalities driven by self-control problems or inattention demand responsiveness may be low
  - they may pay the tax while also subsequently bearing most of the costs of internalities

Demand estimates

Dubois, Griffith and O'Connell (2019) "How well targeted are soda taxes?" CEPR WP

- estimate demand for drinks for immediate consumption ("on-the-go")
- exploit longitudinal data to identify individual specific preference parameters for price, sugar and soda
  - allows flexible identification of marginal and joint distributions of preference parameters
  - we don't measure internality, we correlate shape of consumer specific demands with age, total sugar consumption (in grocery basket over a year), income

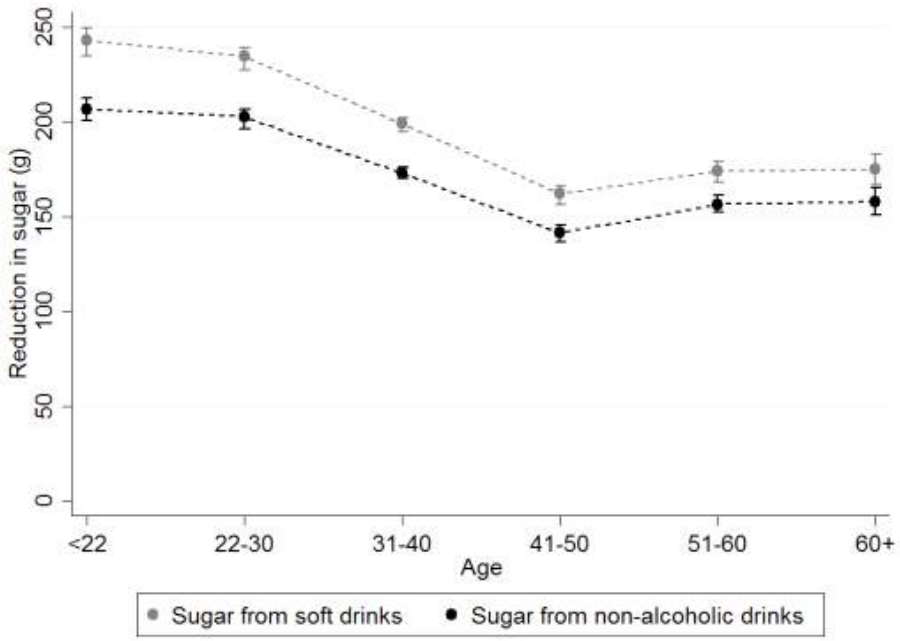
The shape of soda demand

- Prices
  - consumers dislike higher prices, considerable heterogeneity, not normally distributed, poorer households dislike price more
- Sugar
  - some consumers have strong preferences for sugary soda, others for diet, not normally distributed, high overall sugar consumers have stronger preferences for sugar in soda
- Soda
  - some consumers have strong preferences for soda, others don't
- Covariance matrix of preferences over price, soda and sugar is unrestricted (assumed stable over time)

▸ Details

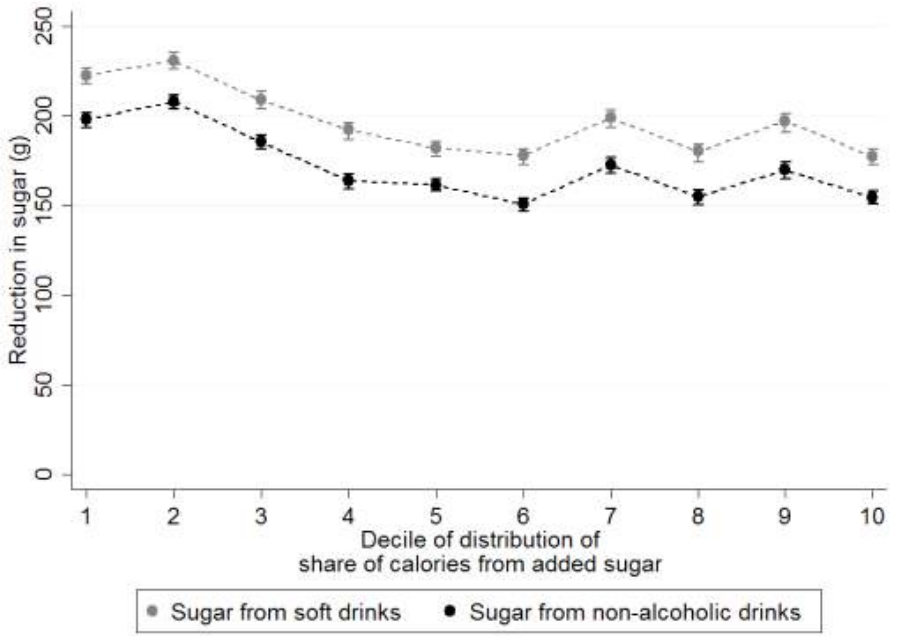
Impact of sugary drinks tax

reductions in sugar by age



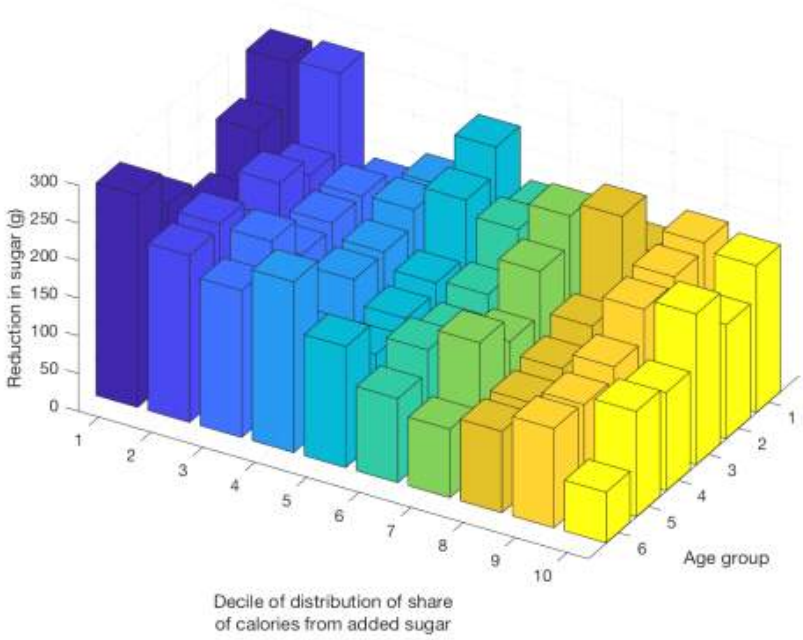
Impact of sugary drinks tax

reductions in sugar by total dietary sugar



Impact of sugary drinks tax

reductions in sugar by age and total dietary sugar



Evaluating the impact of sugary drinks tax

Compensating variation is largest among the young, those with high levels of dietary sugar, and those from relatively poor households

- if no internalities then these groups would be made worse off by the tax
- if internalities then compensating variation captures only part of the total consumer welfare effect of the tax
- considering individuals aged 13-21, our estimates imply:
  - average compensating variation is £6.47
  - average reduction in sugar is 207g
  - if the internality associated with drinking a can of Coca Cola is above £1.10, then the soft drinks tax will be welfare improving
  - if tax revenue is redistributed lump-sum to soda purchasers then this threshold would be £0.50 per can of Coca Cola

Firm responses

So far I haven't talked about firms, and how they might respond.

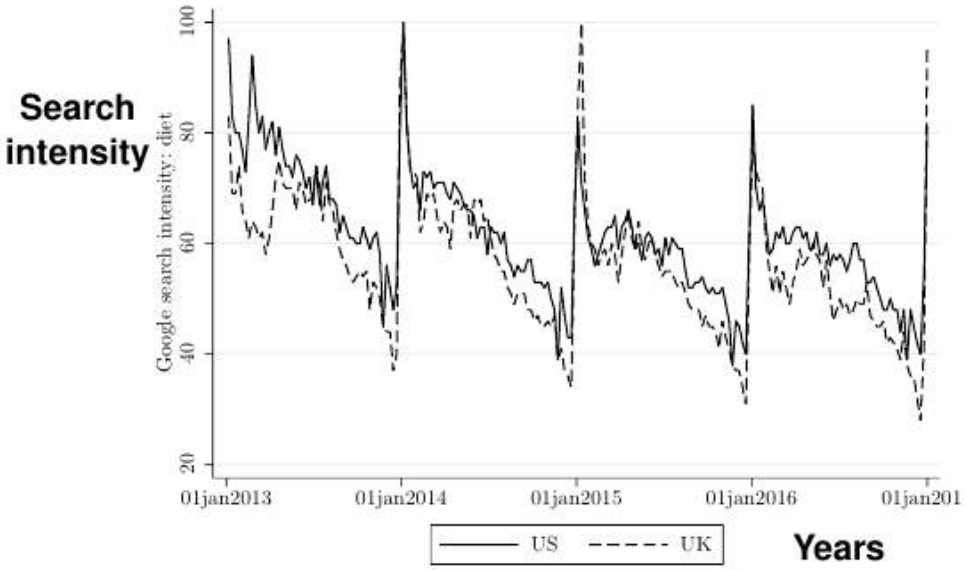
- we need to consider how firms decide prices and the pass-through of taxes
- recent interest in policies that encourage firms to reformulate products to reduce sugar, salt, calories, etc. ▸ Soft Drinks Example
- advertising is one way that firms might distort/exploit consumers' decision making biases, regulated in many countries; how do firms advertising choices interact with pricing decisions, etc.
- other strategic responses

Final comments

- Increased public policy interest in using taxes to address paternalistic concerns about consumers who appear to make "mistakes"
  - standard economics tools (combined with rich data) mean that we have a lot to add to the discussion about the design of these taxes, and other policies
    - they can have important redistributive effects
    - we need to know more about the shape of demand and the nature of internalities in order to apply the insights from optimal tax literature
    - there are very interesting questions about how firms respond to different policies and so what new equilibria will arise
- These are all promising avenues for future research

Self-control problems?

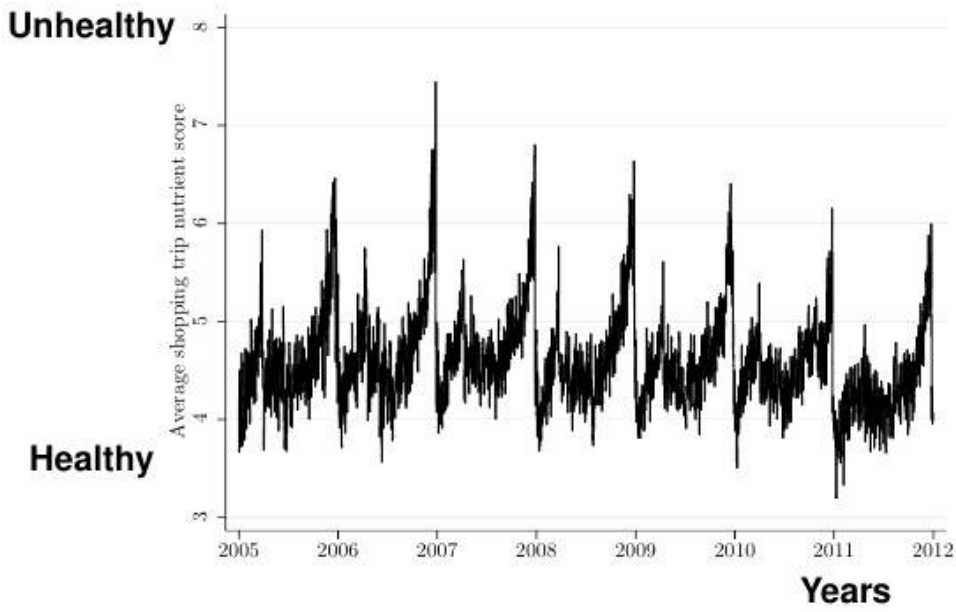
Google search intensity for "healthy food" Back



Cherchye, De Rock, Griffith, O'Connell, Smith and Vermeulen (2017)

Self-control problems?

Nutritional quality improves in January and then declines over the year Back



Cherchye, De Rock, Griffith, O'Connell, Smith and Vermeulen (2017)

Self-control problems?

Sugar consumption declines in January and then increases over the year

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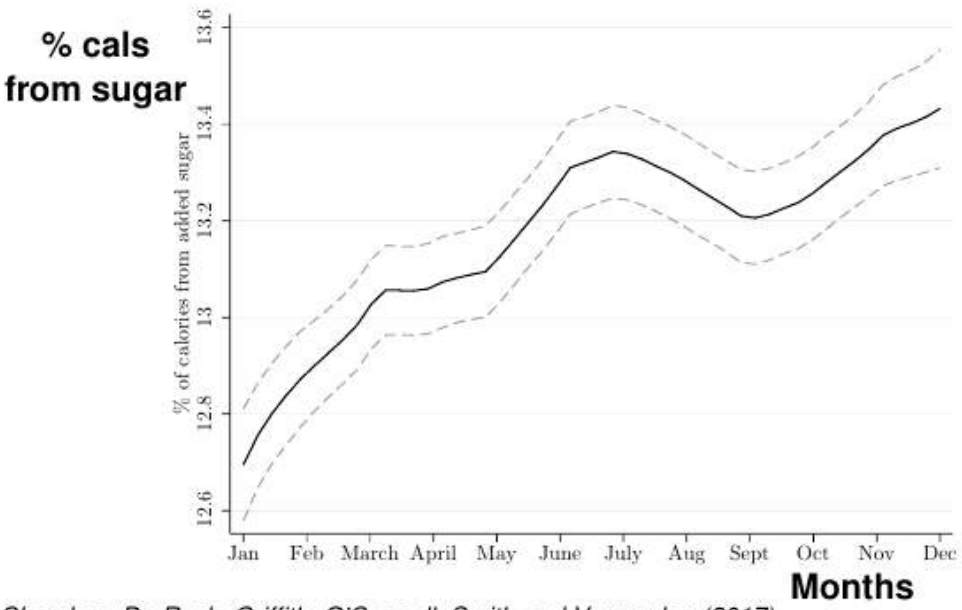

Cherchye, De Rock, Griffith, O'Connell, Smith and Vermeulen (2017)

Inattention and advertising

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- we estimate demand for potato chips, and show that advertising shifts consumers' willingness to pay for the healthier varieties of potato chips

	Advertising level		
	None	Medium	High
willingness to pay for healthier product, % of mean price	1.6 [1.2, 2.0]	-0.2 [-0.4, 0.2]	-1.5 [-1.8, -1.1]

numbers in [] are confidence intervals

Dubois, Griffith and O'Connell (2017)

Elasticities across types of drinkers and income levels

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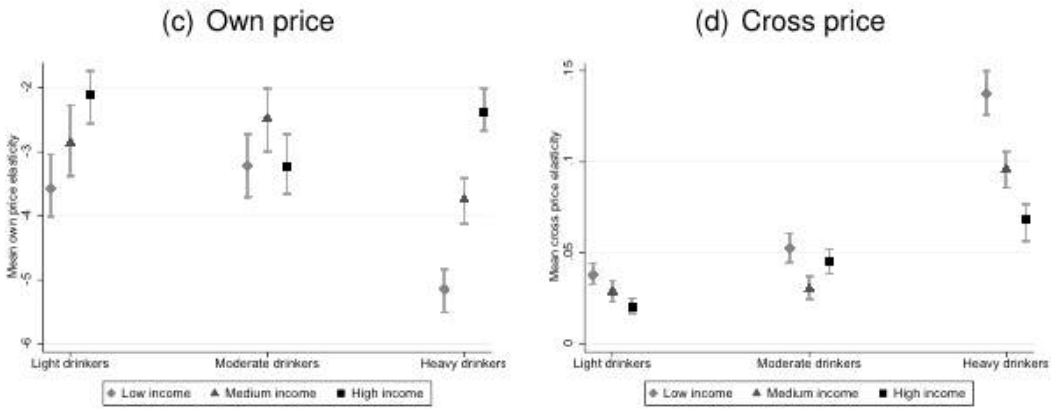

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Sugary drink taxes in the United States
ALASKA
HAWAII
SEATTLE, WA
1.75 cent per ounce distribution tax on sugary drinks; exempts diet sodas, milk-based drinks, & 100% fruit juice
Implemented January 2018
PHILADELPHIA, PA
1.5 cents per ounce excise on sugar- and artificially-sweetened drinks, including diet soda; exempts milk-based drinks and 100% juice
Implemented January 2017
ALBANY, CA
1 cent per ounce distribution tax on drinks with added caloric sweetener; exempts milk-based drinks, 100% fruit juice; beverages distributed from retailers with revenue <$US 100,000 per annum exempt
Implemented April 2017
BOULDER, CO
2 cents per ounce excise tax on beverages with ≥ 5 g added caloric sweeteners/12 oz.; exempts milk-based drinks and 100% juice
Implemented July 2017
BERKELEY, CA
1 cent per ounce on sweetened drinks; exempts meal-replacement and dairy drinks, diet sodas, fruit juice, and alcohol
Implemented March 2015
COOK CO., IL
1 cent per ounce on sugar- and artificially-sweetened drinks
Implemented August 2017
Repealed October 2017
OAKLAND, CA
1 cent per ounce distribution tax on drinks with added caloric sweeteners; exempts milk-based drinks, 100% juice; beverages distributed from retailers with revenue <$US 100,000 per annum exempt
Implemented July 2017
NAVAJO NATION
2% junk food tax on "minimal-to-no nutritional value food items," including sugar-sweetened beverages
Implemented April 2015
SAN FRANCISCO, CA
1 cent per ounce on drinks with added sugar and >25 kcal per 12 oz; applies to syrup and powder concentrates; exempts 100% juice, artificially sweetened beverages, infant formula, milk products, medical drinks, and alcoholic beverages
Implemented January 2018
Updated May 2, 2019
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IMPLEMENTED

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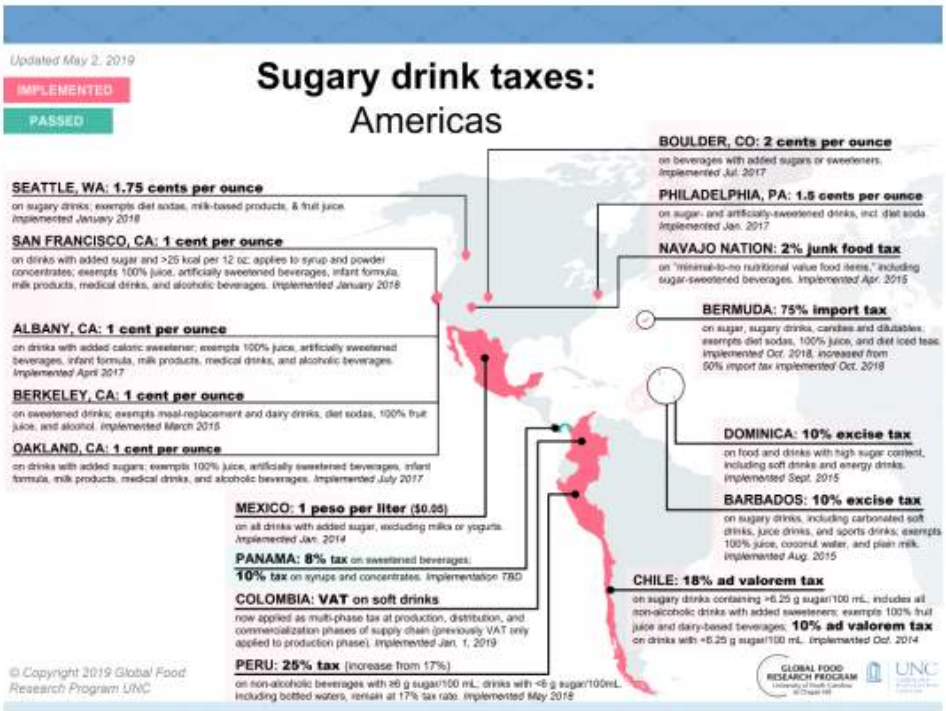
Updated May 2, 2019
IMPLEMENTED
PASSED
Sugary drink taxes:
Americas
SEATTLE, WA: 1.75 cents per ounce
on sugary drinks; exempts diet sodas, milk-based products, & fruit juice.
Implemented January 2018
SAN FRANCISCO, CA: 1 cent per ounce
on drinks with added sugar and >25 kcal per 12 oz; applies to syrup and powder concentrates; exempts 100% juice, artificially sweetened beverages, infant formula, milk products, medical drinks, and alcoholic beverages. Implemented January 2018
ALBANY, CA: 1 cent per ounce
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Implemented April 2017
BERKELEY, CA: 1 cent per ounce
on sweetened drinks; exempts meal-replacement and dairy drinks, diet sodas, 100% fruit juice, and alcohol. Implemented March 2015
OAKLAND, CA: 1 cent per ounce
on drinks with added sugars; exempts 100% juice, artificially sweetened beverages, infant formula, milk products, medical drinks, and alcoholic beverages. Implemented July 2017
BOULDER, CO: 2 cents per ounce
on beverages with added sugars or sweeteners.
Implemented Jul. 2017
PHILADELPHIA, PA: 1.5 cents per ounce
on sugar- and artificially-sweetened drinks, incl. diet soda.
Implemented Jan. 2017
NAVAJO NATION: 2% junk food tax
on "minimal-to-no nutritional value food items," including sugar-sweetened beverages. Implemented Apr. 2015
BERMUDA: 75% import tax
on sugar, sugary drinks, candies and dilutables; exempts diet sodas, 100% juice, and diet iced teas.
Implemented Oct. 2018; increased from 50% import tax implemented Oct. 2018
DOMINICA: 10% excise tax
on food and drinks with high sugar content, including soft drinks and energy drinks.
Implemented Sept. 2015
BARBADOS: 10% excise tax
on sugary drinks, including carbonated soft drinks, juice drinks, and sports drinks; exempts 100% juice, coconut water, and plain milk.
Implemented Aug. 2015
MEXICO: 1 peso per liter ($0.05)
on all drinks with added sugar, excluding milks or yogurts.
Implemented Jan. 2014
PANAMA: 8% tax on sweetened beverages;
10% tax on syrups and concentrates. Implementation TBD
COLOMBIA: VAT on soft drinks
now applied as multi-phase tax at production, distribution, and commercialization phases of supply chain (previously VAT only applied to production phase). Implemented Jan. 1, 2019
PERU: 25% tax (increase from 17%)
on non-alcoholic beverages with ≥6 g sugar/100 mL; drinks with <6 g sugar/100mL, including bottled waters, remain at 17% tax rate. Implemented May 2018
CHILE: 18% ad valorem tax
on sugary drinks containing >6.25 g sugar/100 mL; includes all non-alcoholic drinks with added sweeteners; exempts 100% fruit juice and dairy-based beverages; 10% ad valorem tax on drinks with <6.25 g sugar/100 mL. Implemented Oct. 2014
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Univariate distributions of consumer specific preference parameters

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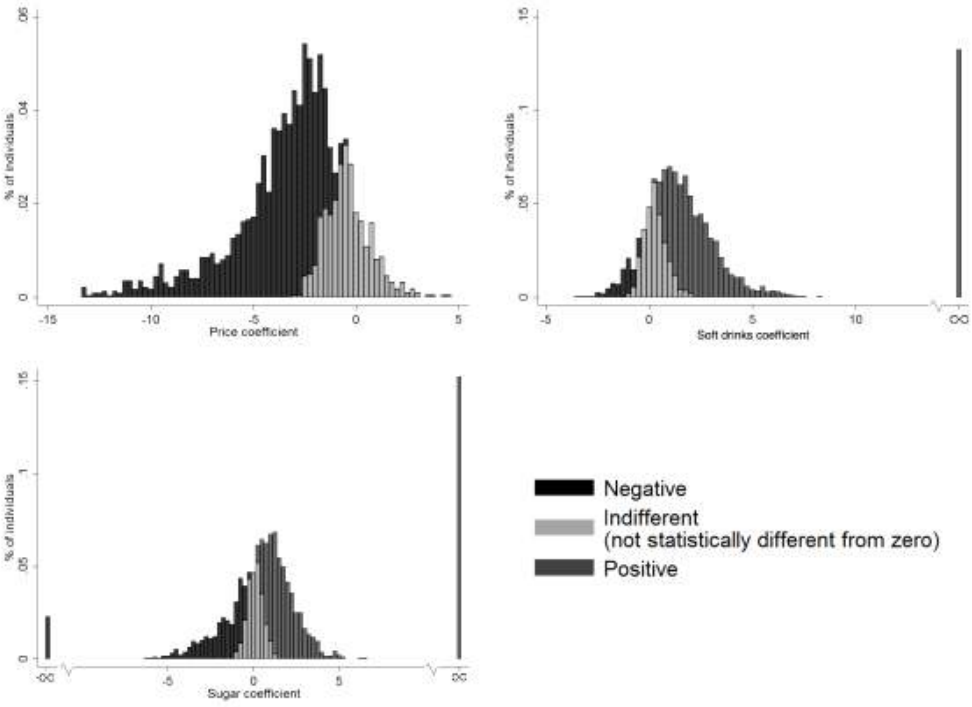

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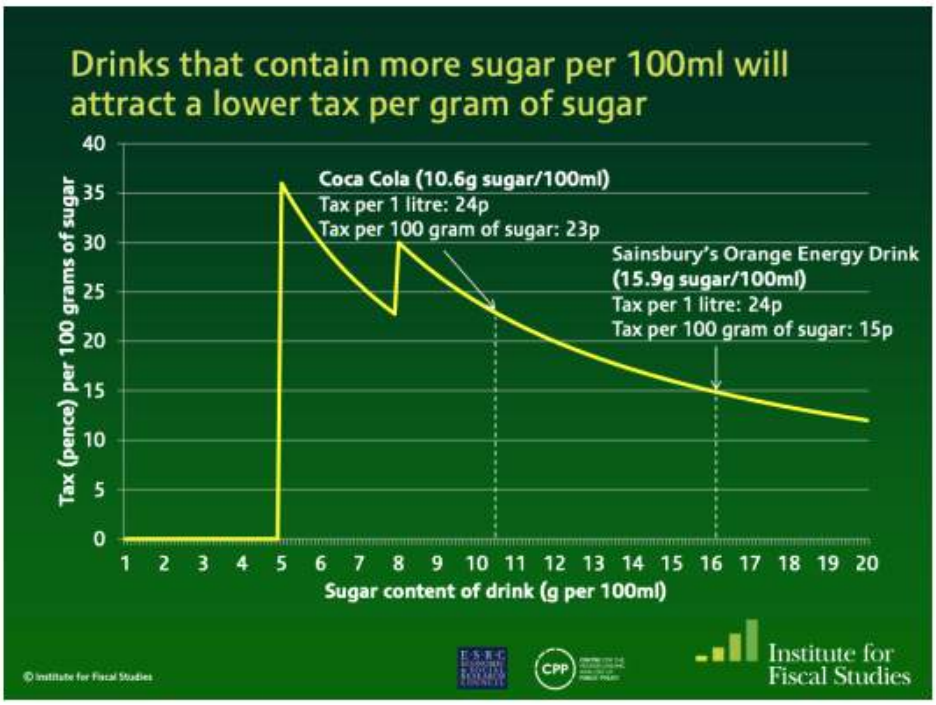

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Irn Bru panic as fans stockpile before recipe change

4 January 2018 Share

The Generation Gap: Empirical Evidence from Age-Earnings Profiles in Korea

By Hyejeong Sim,
Director of Income Tax Analysis Division, National Assembly Budget Office in Korea

Abstract

This paper describes the evolution over time of earnings of male workers using data from Korea Employment Statistics, which allows the tracking of information on workers entering the labor market. The analysis shows that the age-earnings curves of the generations who entered the labor market before the late 1990s describe a distinct improvement in wage conditions in comparison to each previous generation. On the other hand, those of the generations who entered the labor market after the 2000s show a stable or slight downward trend. The study also indicates that a large part of the changes in the age-earnings curves across cohorts can be summarized as a decline of growth in entry-level wages which persist subsequently. This fact can be interpreted as cohort effects. In addition, the wage growth rate as a result of age (the age effect) has slowed since 1999, when the cohorts born after the mid-1970s entered the labor market. The results of this paper show that the wage gap between the young and the old generation has expanded since the 2000s, and that this tendency is even more apparent in the low education group. This paper argues that it was very likely the result of structural changes in the labor market in Korea after the 2000s that created a gap between the earnings of older incumbent workers and those of the younger generation.

Key Words: Generation gap, Cohort analysis, age-earnings profile
JEL Code: H0, D3, J31