

Obesity, poverty and public policy

Rachel Griffith

David Terkla Seminar

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Obesity and malnutrition are increasing

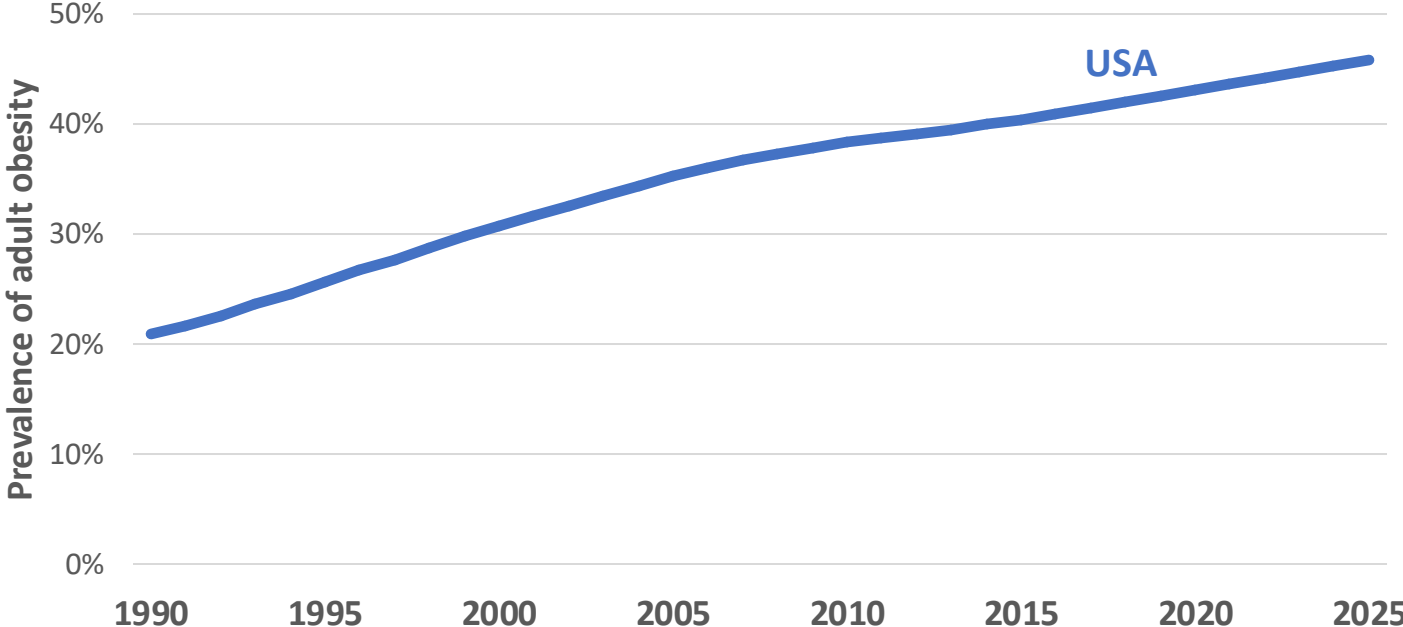
Obesity has risen dramatically in recent decades

- particularly for children growing up in poverty
- obesity is increasingly associated with malnutrition
- associated with adverse health, social and economic outcomes

Compelling reasons for policy makers to intervene

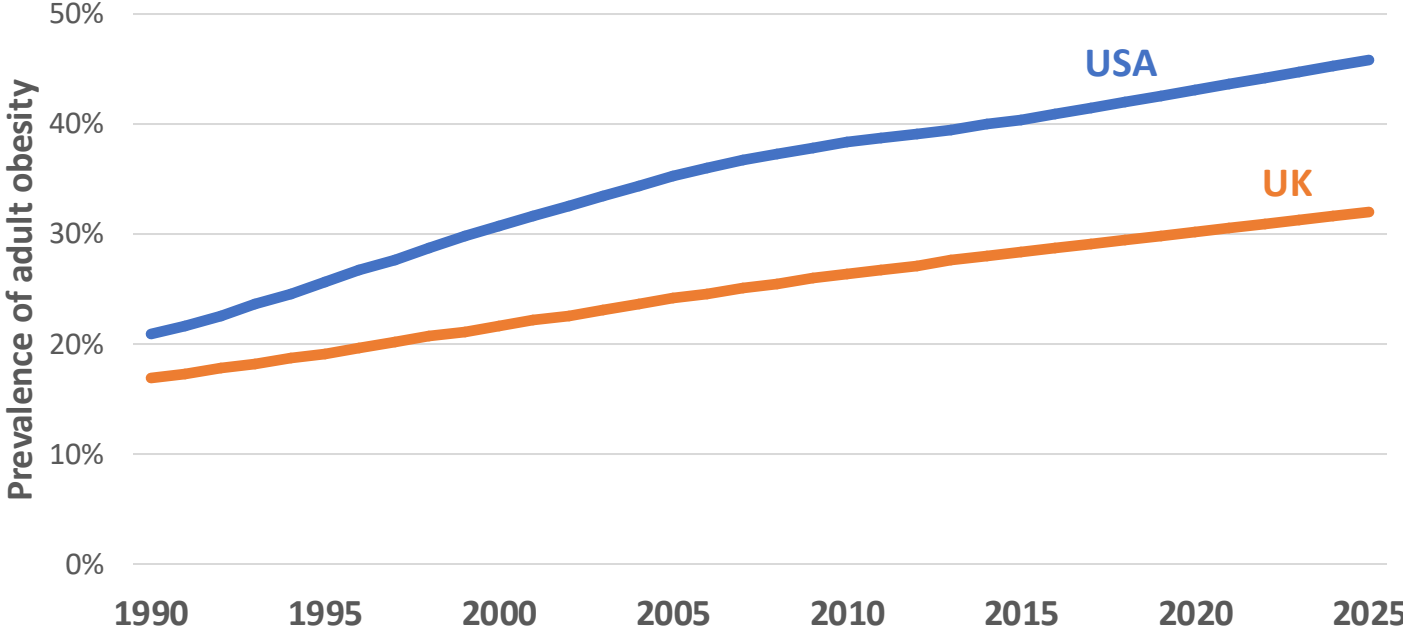
- however, policy can also do harm if it is poorly designed
- to design effective policy we need to know who we are targeting and why
- in this talk I will give an overview of some evidence on obesity, its drivers and consequences, and some recent policy initiatives
- and ask - what more can we do to improve outcomes?

Prevalence of obesity, adults



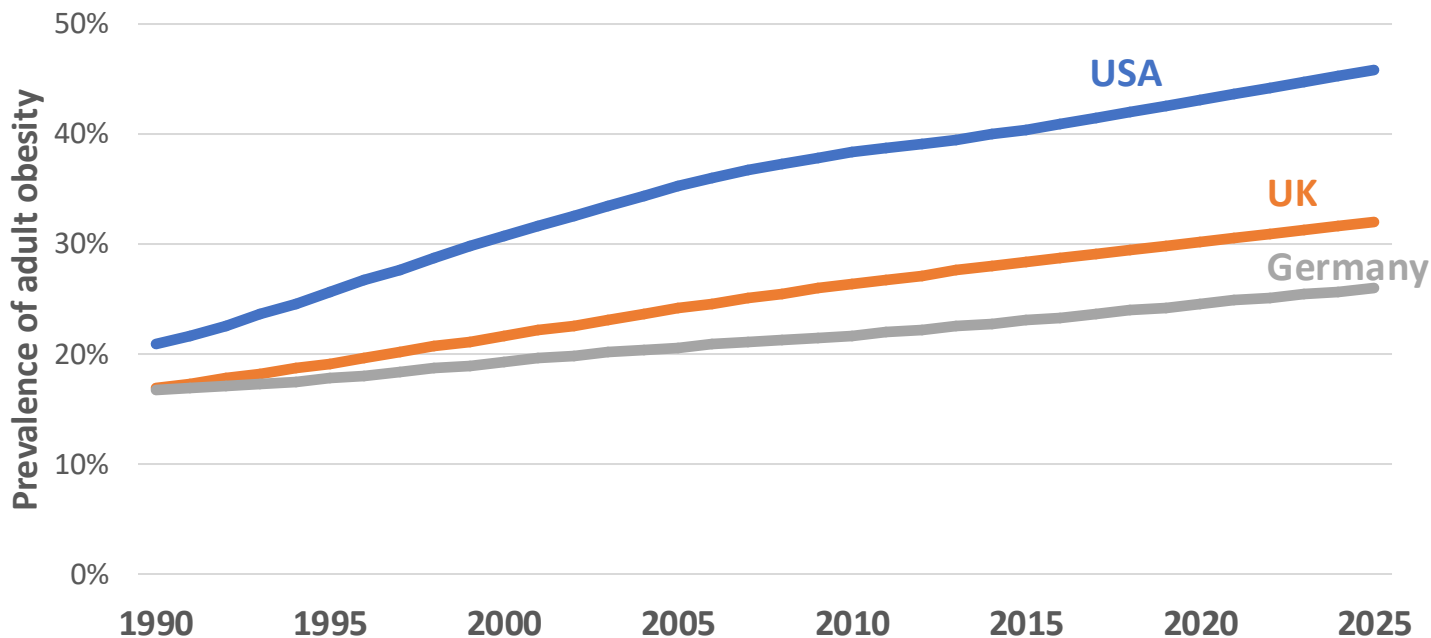
Source: Institute for Health Metrics and Evaluation, Global Burden of Disease Study 2021, <https://www.healthdata.org/research-analysis/gbd-Child-and-Adolescent-Overweight-and-Obesity-Estimates-and-Forecasts-1990-2050>. Age 24+.

Prevalence of obesity, adults



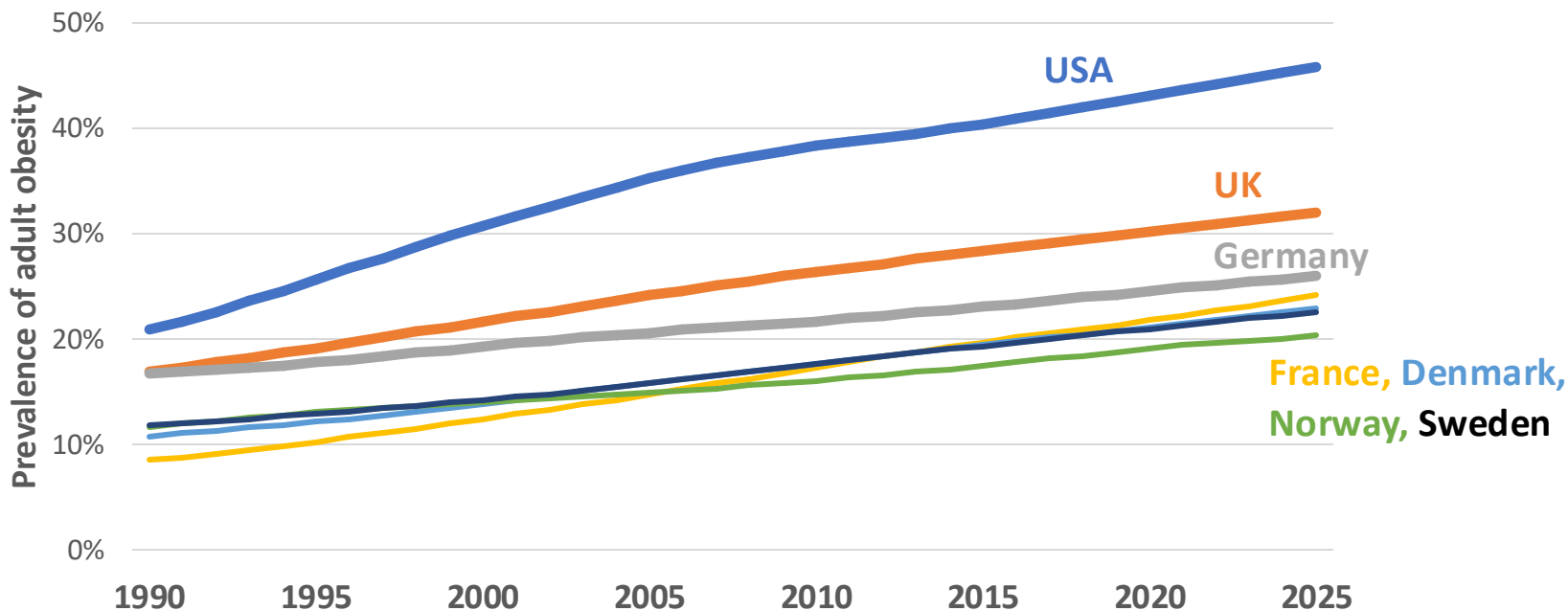
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Prevalence of obesity, adults



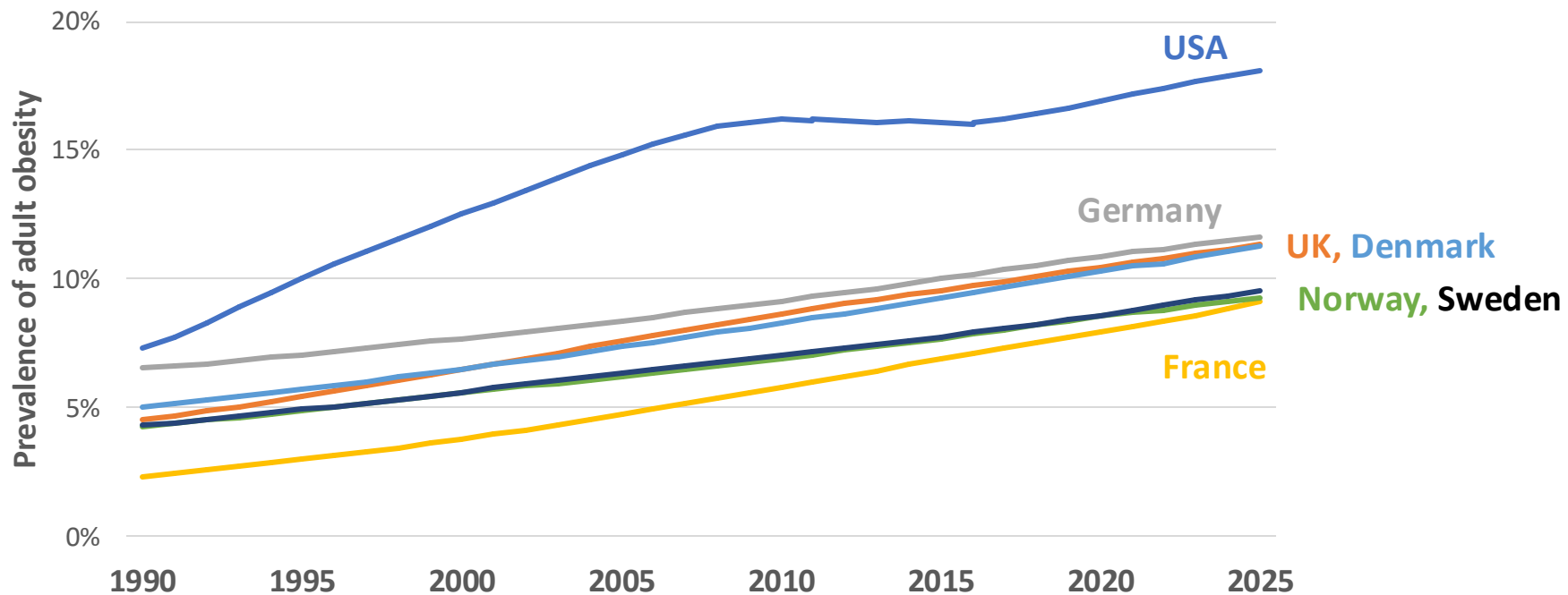
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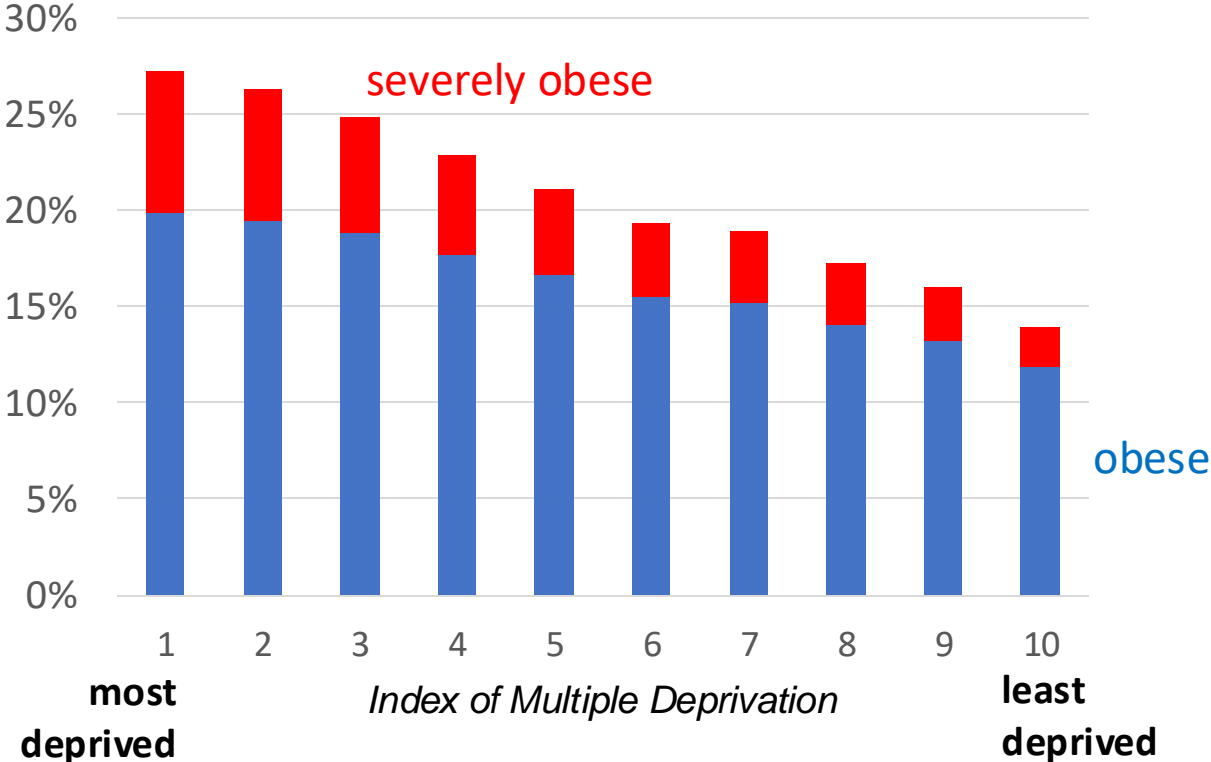
Prevalence of obesity, children



Source: Institute for Health Metrics and Evaluation, Global Burden of Disease Study 2021, <https://www.healthdata.org/research-analysis/gbd-Child-and-Adolescent-Overweight-and-Obesity-Estimates-and-Forecasts-1990-2050-Age-10-14>.

Children growing up in deprivation most likely to be obese

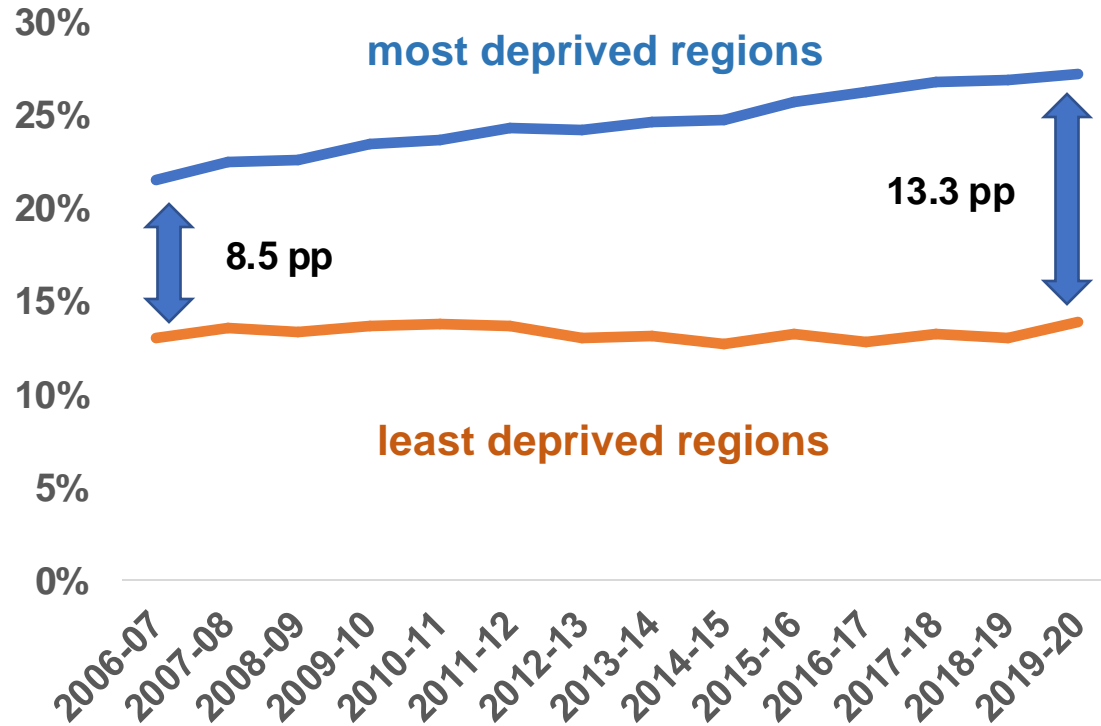
Prevalence of obesity, UK children



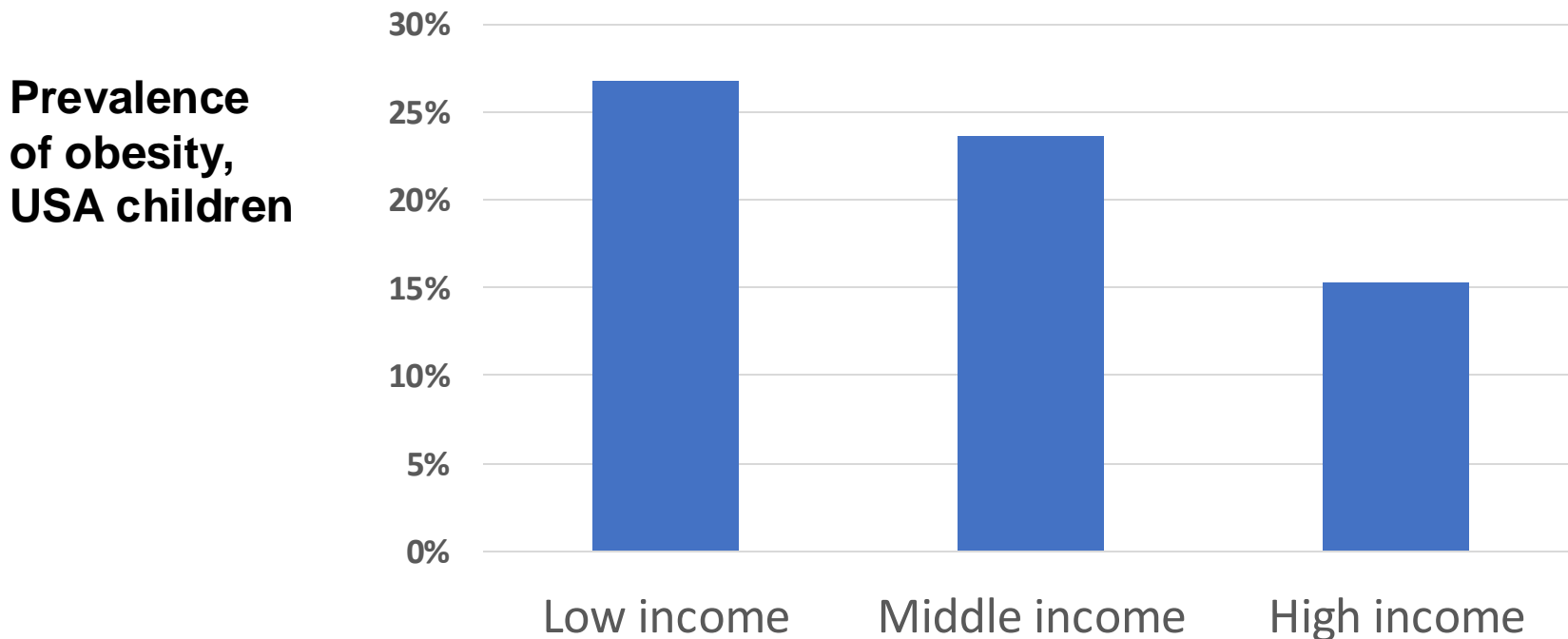
Source: Children aged 10-11, <https://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme>

Obesity increasing most for children in deprivation

Prevalence
of obesity,
UK children



Prevalence higher in children in low income households



Prevalence of obesity in children in Massachusetts

Study of students across Massachusetts school districts

- higher prevalence of overweight/obesity among districts with higher share of African American and Hispanic students
- the relationship disappeared when controlling for income

For every 1% increase in low-income, there was a 1.17% increase in overweight/obese status

- this pattern was observed across ethnicities/races studied

Low SES plays a more significant role in childhood obesity than race/ethnicity

It isn't just obesity, it is malnutrition

Global shift to high-calorie low-nutritional value foods

Traditionally there have been two distinct issues

- overnutrition: overweight or obese
- undernutrition: underweight or having nutrient deficiencies

Now both conditions seen in the same populations and individuals

- in both richer and poorer countries
- attributed to greater consumption of high-calorie low-nutrient foods

It isn't just obesity, it is malnutrition

Obesity can be a paradoxical state of malnutrition

- too much energy and not enough of individual micro nutrients

Deficiency of essential micro nutrients can

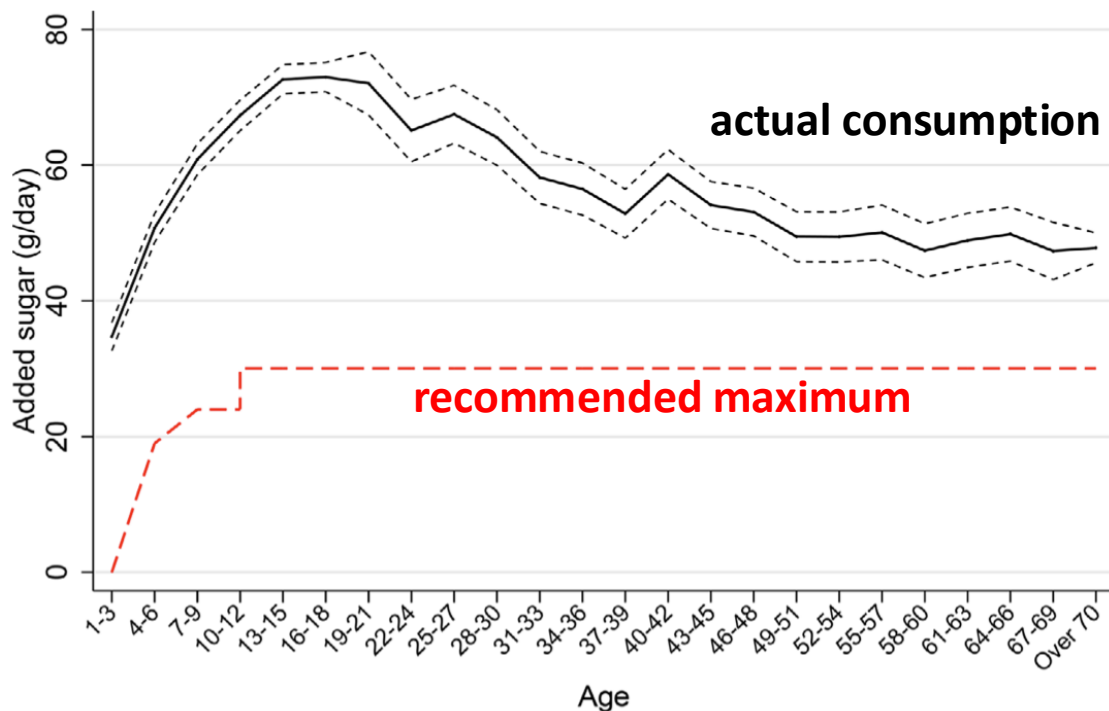
- affect daily performance, intellectual and emotional state as well as physical state
- change body's ability to absorb, distribute and excrete nutrients

In richer countries this type of obesity-malnutrition is more common in lower income households

- in poorer countries more common in higher income households

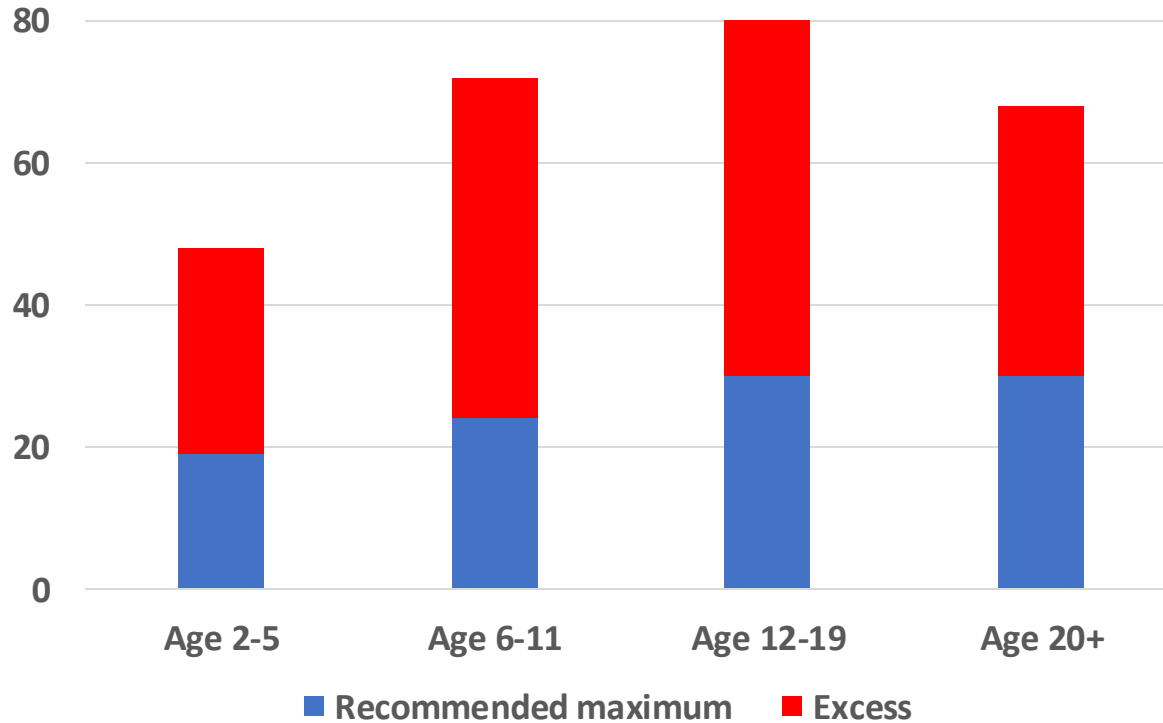
We eat way too much sugar

UK
Added sugar
consumed
(g per day)



We eat way too much sugar

USA
Added sugar
consumed
(g per day)



Source: <https://www.cdc.gov/nutrition/php/data-research/added-sugars.html>, 5 Jan 2024; non-Hispanic White series, uses UK recommendations

Consequences of obesity

Child nutrition has important impacts on later life outcomes

- obesity associated with adverse health, social and economic outcomes
- leads to a number of health problems
- can impact psychological health, especially for children in deprivation, leading to increased school absences and behavioural problems

Children don't account for this when deciding what to eat

- parents may also not adequately account for them

Economists have formalised these costs, and related effects that fall on the person themselves in the future, as "internalities"

Economic rationale for policy concern about obesity

Potential market failures

- people are making likely suboptimal choices, particularly on behalf of children growing up in deprivation
- obesity lead to unanticipated costs for the children themselves in the future (internalities), and for wider society (externalities)

Equity concerns

- if children from disadvantaged backgrounds are not able to access sufficient nourishment for healthy development, then there is a role for policy to provide greater equality of opportunity by ensuring access to a nutritious diet

Well designed policy

We want policies that

- help people make better choices that reduce externalities (costs imposed on wider society) and reduce internalities (costs imposed on the person themselves in the future)
- improve equality of opportunity

To design good policy we need to understand

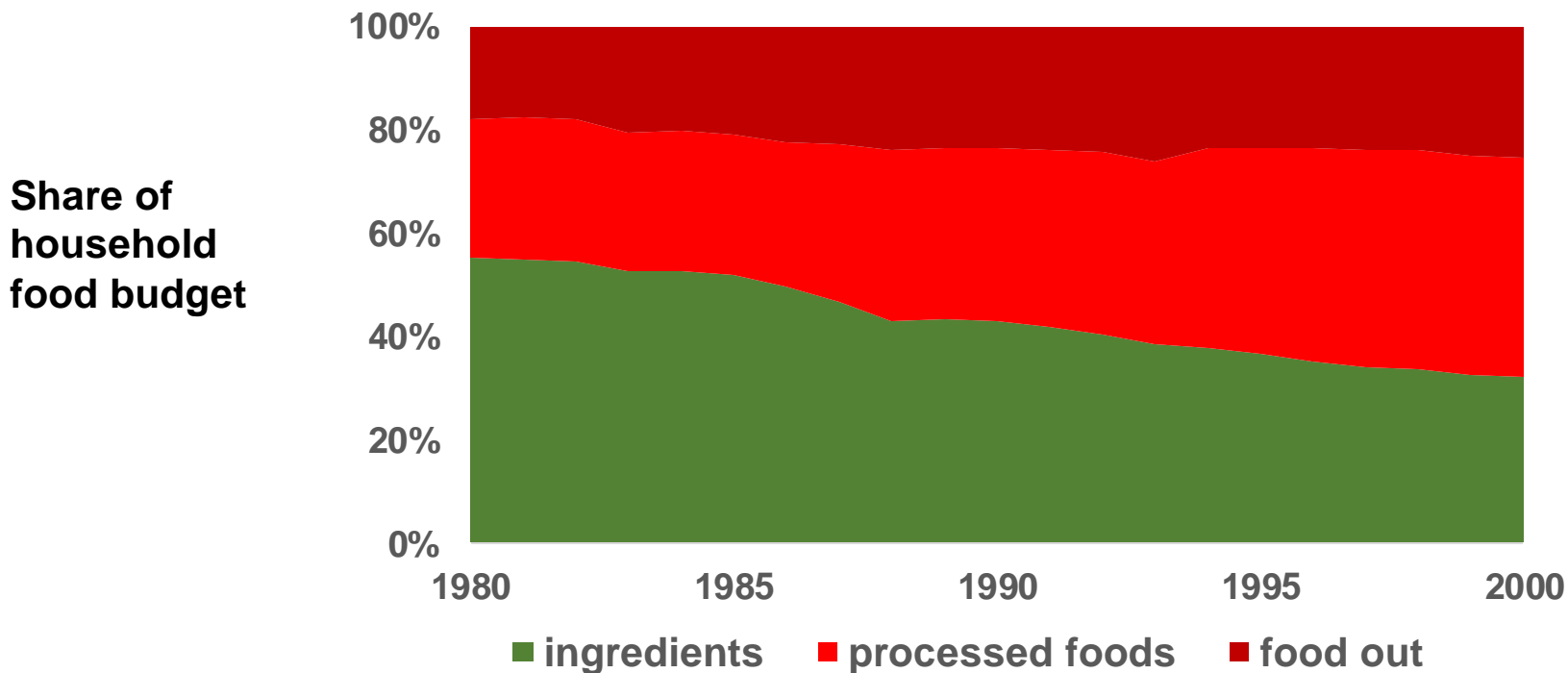
- **who** is making bad choices and **why**, so we can design policy to target them
- **how** policies affect different people – are the policies well targeted?
- **what** unintended consequences do policies have

Why do people make bad choices?

Possible reasons include:

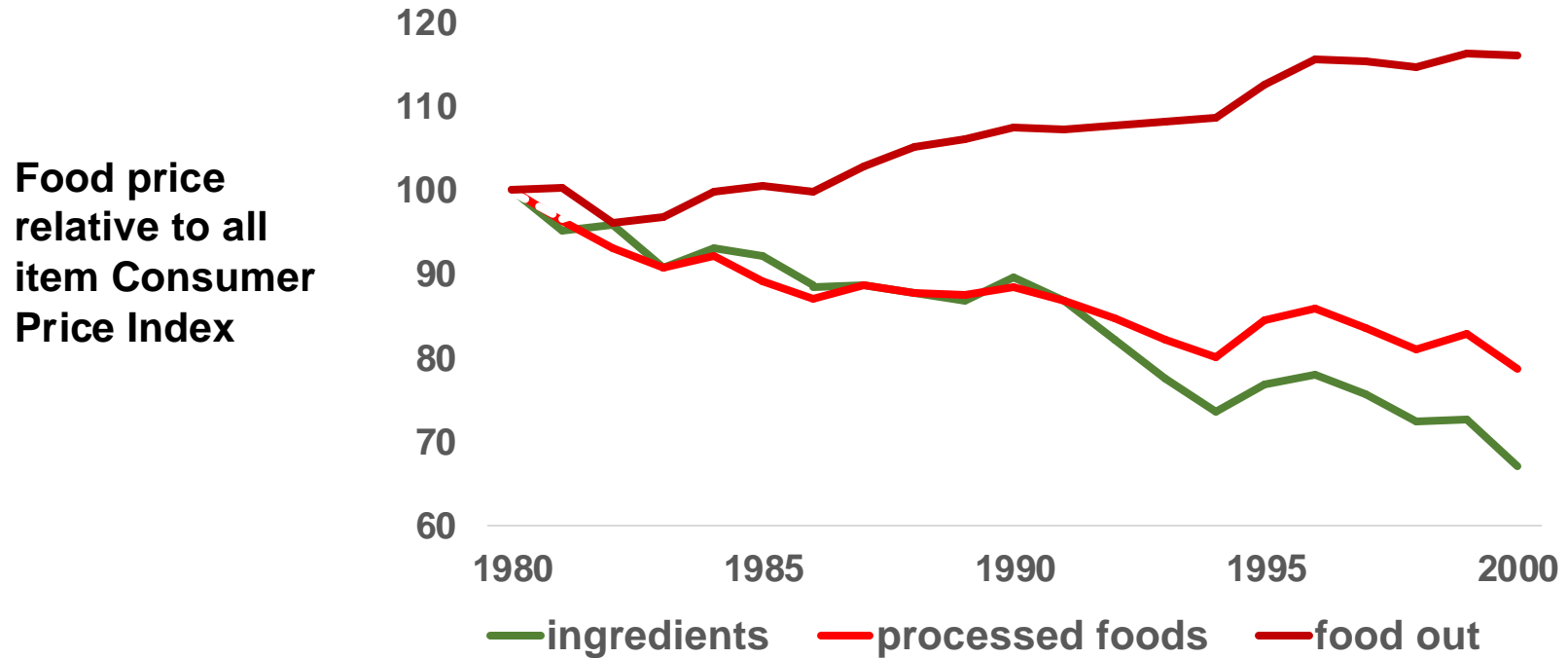
- the incentives they face, such as market prices
- limitations on time
- lack of self-control and temptation
- persuasive advertising and other aspects of choice environment
- poverty and cognitive overload leading to poor decision making
- food insecurity

We cook less and eat more processed foods

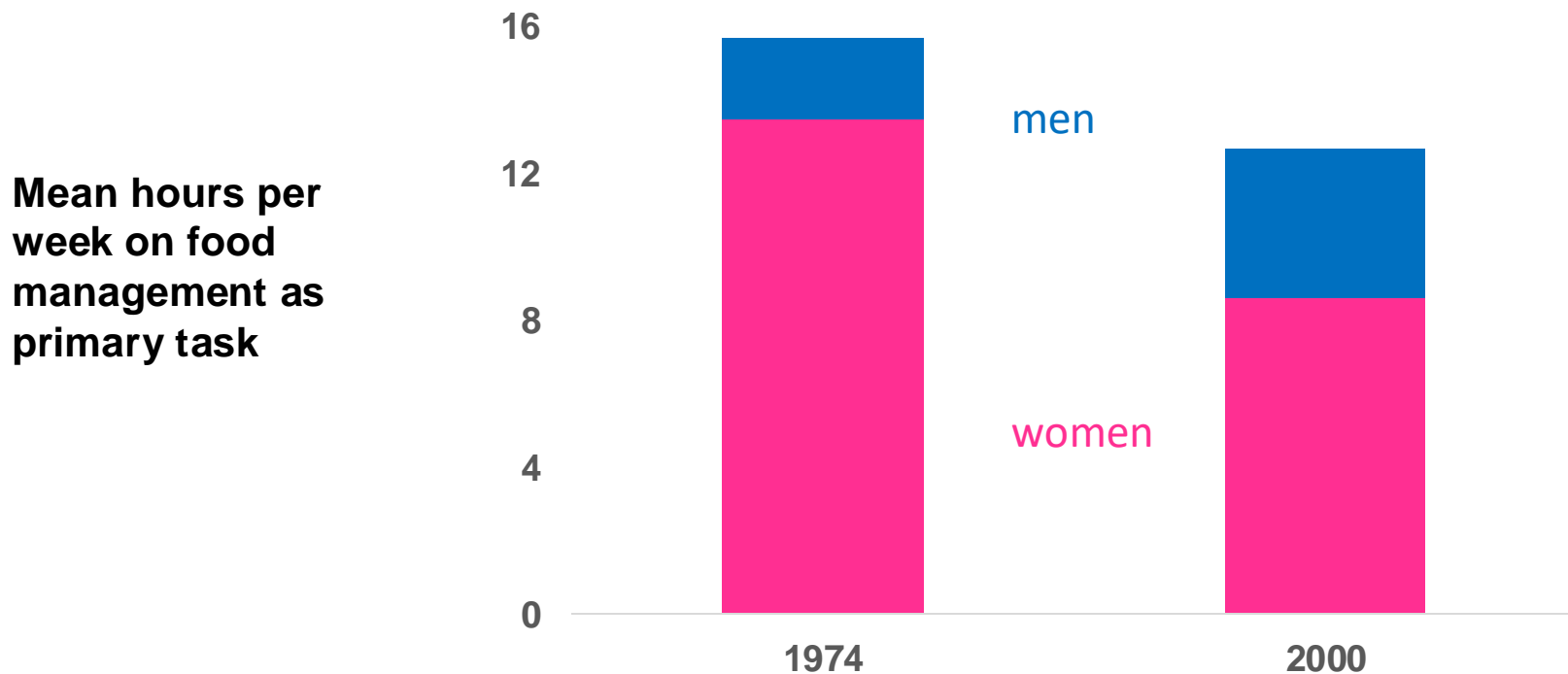


Source: Griffith, Jin and Lechene (2022); see <https://www.rachelgriffith.org/publications>

Even though the relative market price of ingredients fell

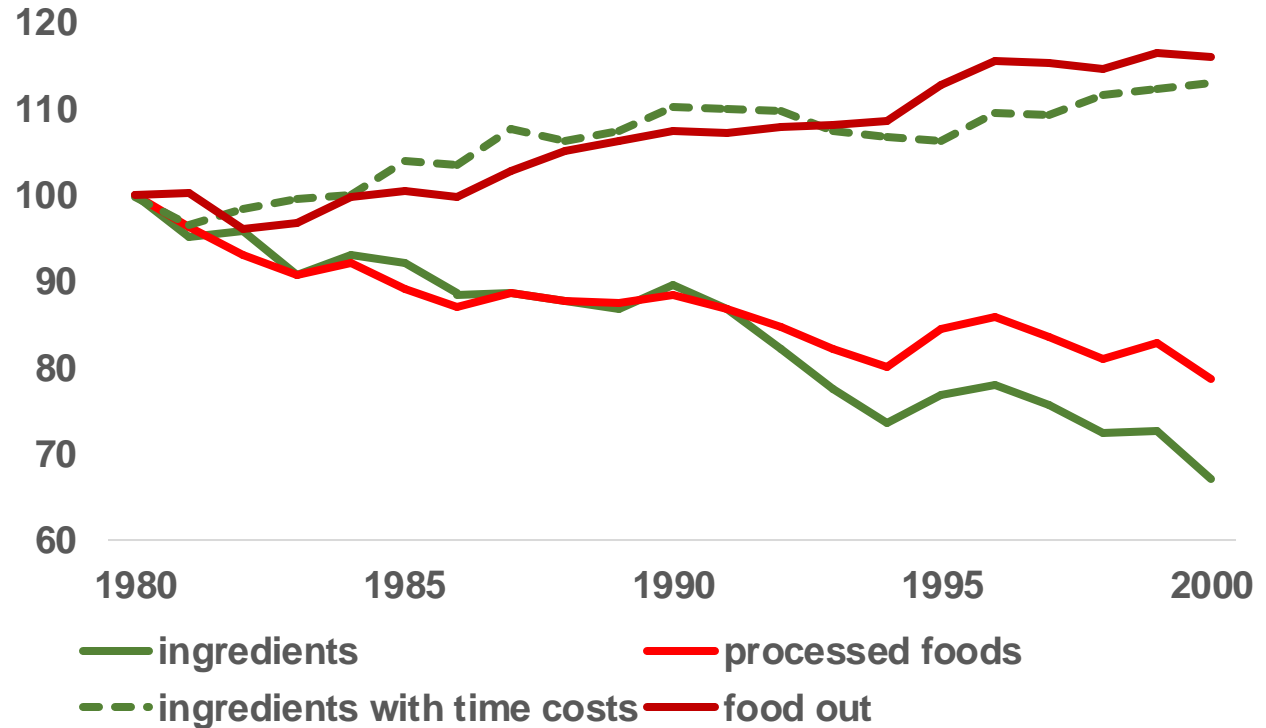


We spend less time on food preparation

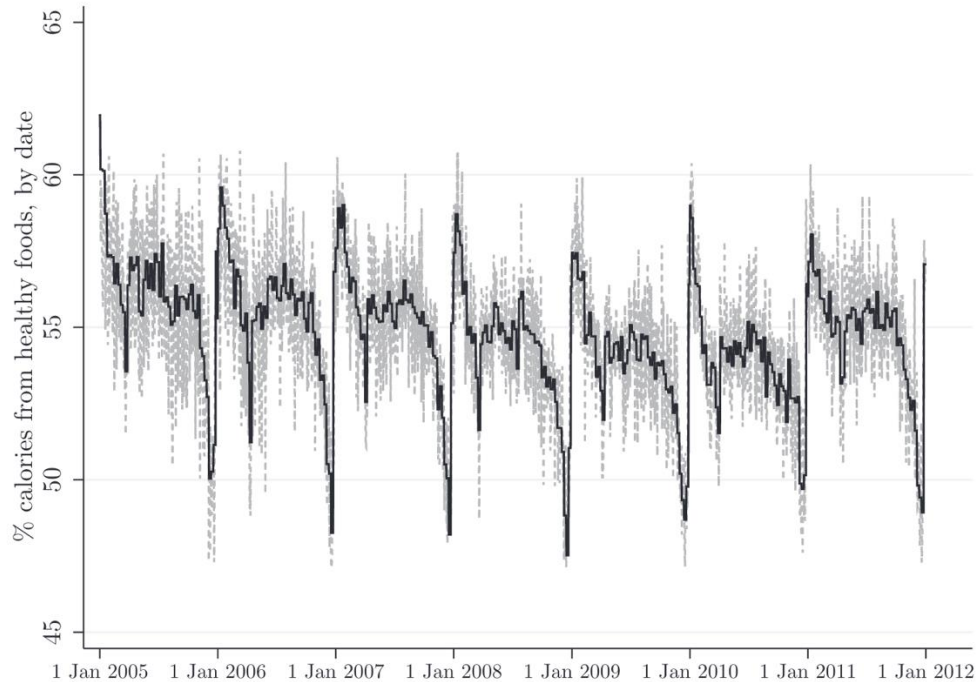


The full (time+market price) of home cooked food has increased

Food price relative to all item Consumer Price Index

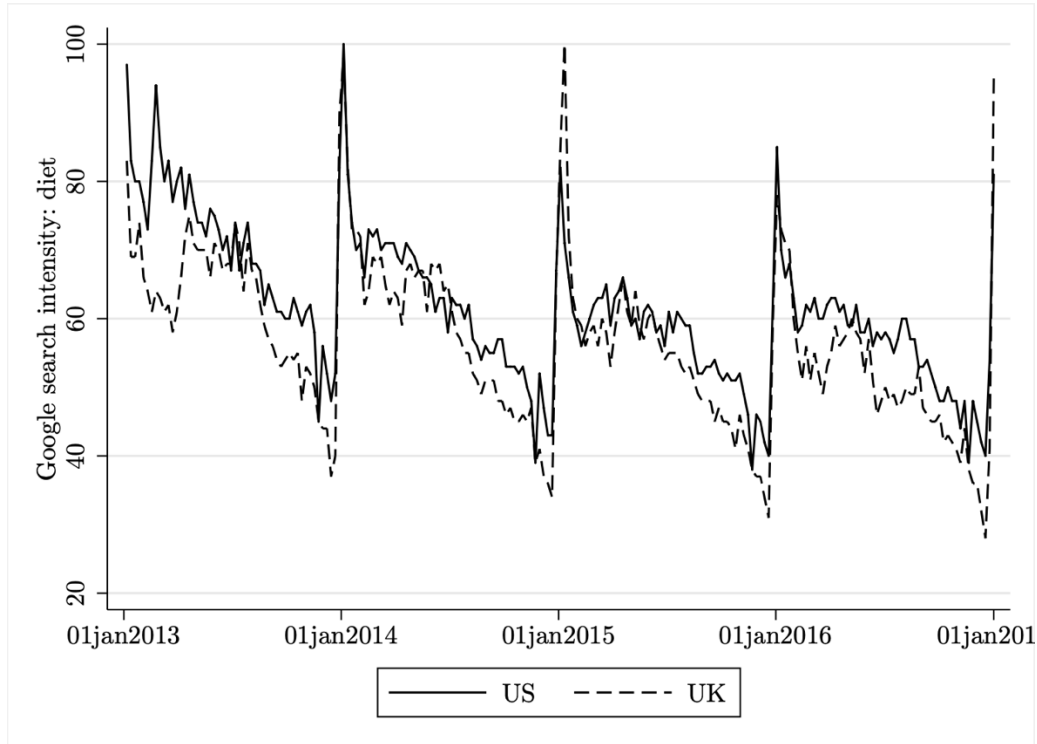


Lack of self-control and temptation



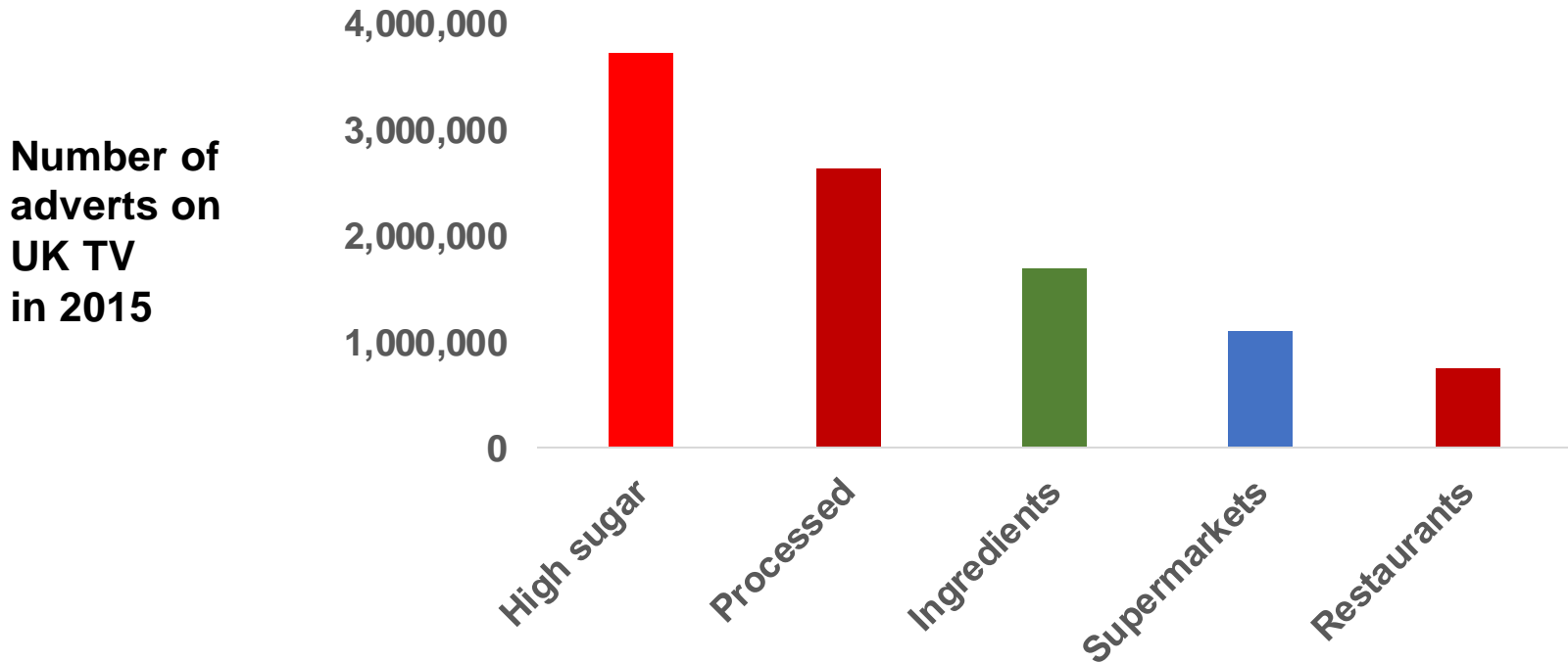
within person variation
in diet quality is as large
as between person variation

Lack of self-control and temptation



google searchers for
"diet" or "healthy food"
in the US and UK

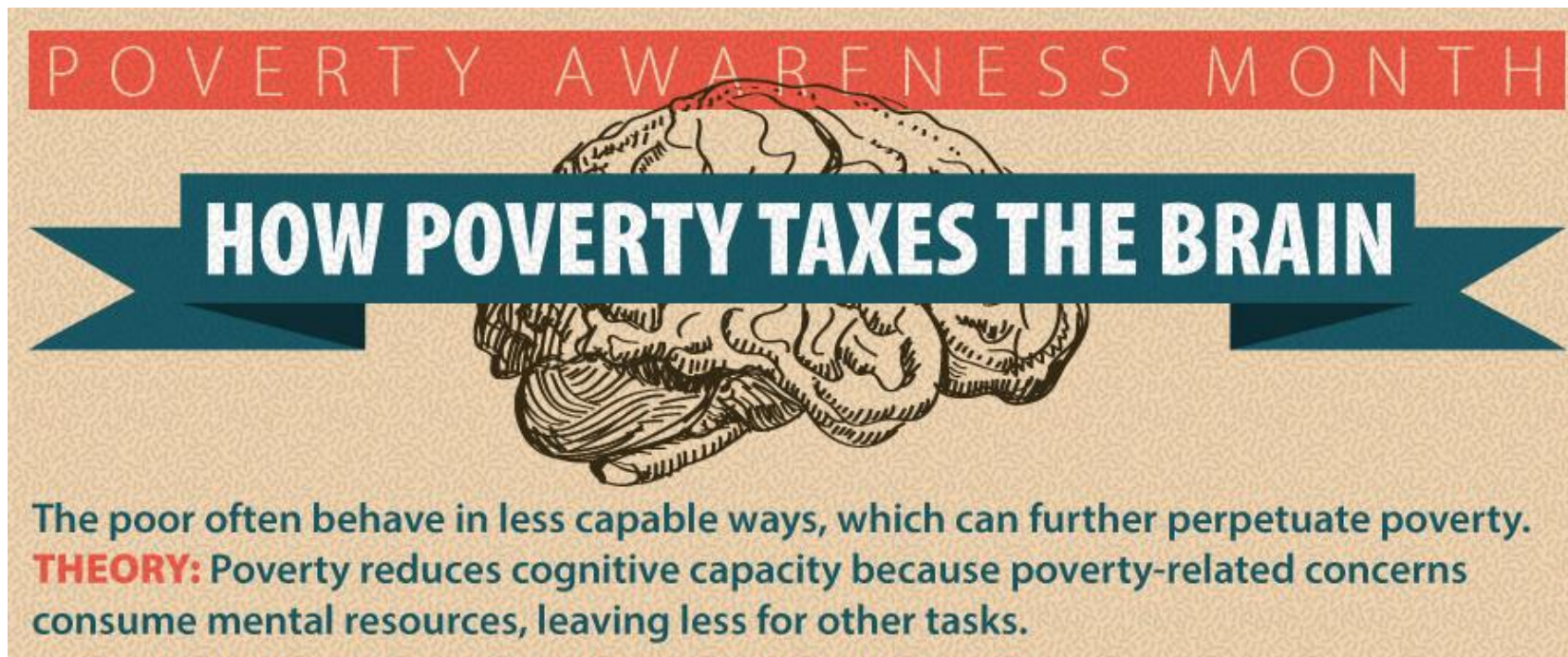
Most advertising is for unhealthy foods





Most food adverts are persuasive (not informative), likely to distort choices

Poverty and cognitive overload



POVERTY AWARENESS MONTH

HOW POVERTY TAXES THE BRAIN

The poor often behave in less capable ways, which can further perpetuate poverty.
THEORY: Poverty reduces cognitive capacity because poverty-related concerns consume mental resources, leaving less for other tasks.

The Psychological Lives of the Poor

Two-system model of the brain

- System 1 thinks fast: it is intuitive, automatic, and effortless, and as a result, prone to biases and errors
- System 2 is slow, effortful, deliberate, and costly, but typically produces more unbiased and accurate results

When mentally taxed, people are less likely to use System 2

- we have a limited capacity for the kind of effortful thought required to use System 2
- when burdened, there is less of this resource available for use

The Psychological Lives of the Poor

The insights from this literature are very relevant to study obesity

- it implies bandwidth is malleable
- stresses from living in poverty, including malnutrition, affect bandwidth
- low bandwidth leads to worse decision making

These bad choices are a direct impact of being in poverty

- this implies that it is not that the poor are bad decision makers
- it is that being in poverty makes you a bad decision maker
- lifting people out of poverty allows them to be better decision makers

Food insecurity

Food insecurity is associated with higher obesity

Food insecurity is the situation where a household is uncertain about having or acquiring enough food to meet their needs

- the main determinant is low income
- but other factors, such as income volatility and poor decision making, are also important
- there is a strong association between mental health problems and food insecurity

Potential policies

If governments want to reduce obesity+malnutrition, what are the potential policy levers?

- change relative market prices
- change choice environments
- in kind transfer (give people food)
- lift people out of poverty (give people money)

Broader reforms in civil society

- not the remit of government

Taxes can change relative prices

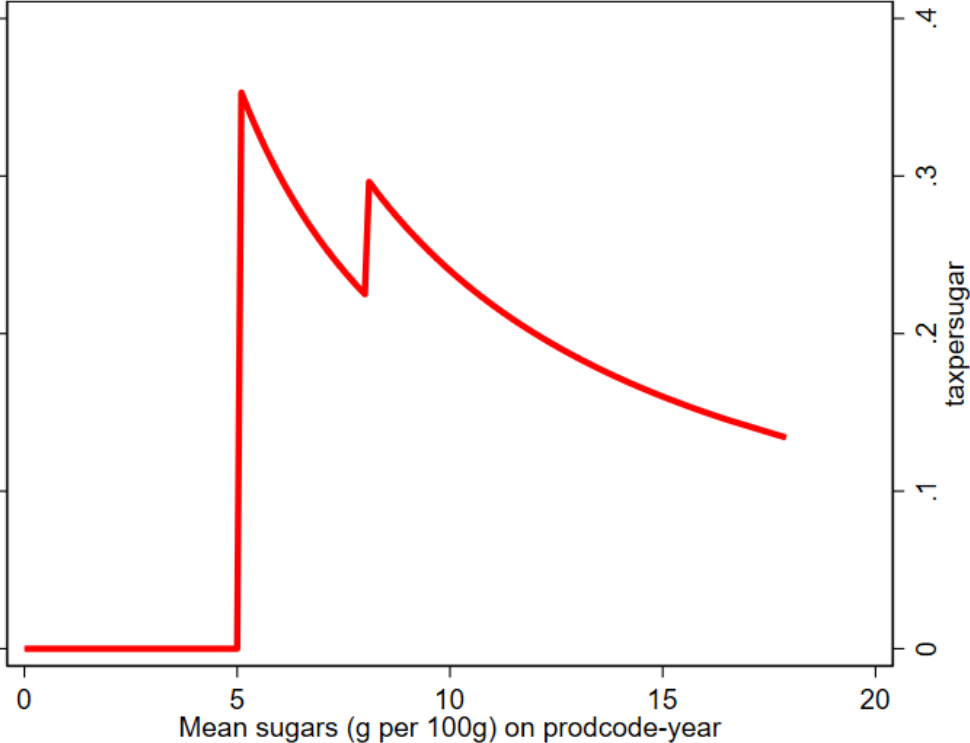
- Corrective taxes aim to increase the *relative price* of "bads"
 - tobacco, alcohol, more recently soda taxes
- Impact of a corrective tax depends on
 - how firms adjust prices (and adjust advertising, reformulation, ...)
 - how different people respond to price changes
 - do the people who we want to target, e.g. those that consume a lot of sugar, respond to increases in the price of sugary soda
 - if they do respond, what do they buy instead

What impacts have soda taxes had?

- Soda taxes have been implemented in over 50 jurisdictions worldwide
- The effects of soda taxes have been
 - reductions in consumption of taxed products (usually sugary drinks)
 - reductions amongst young consumers, less so amongst older consumers

In the UK the biggest effects have come through reformulation by firms that reduced the sugar intensity of drinks

The UK soda tax



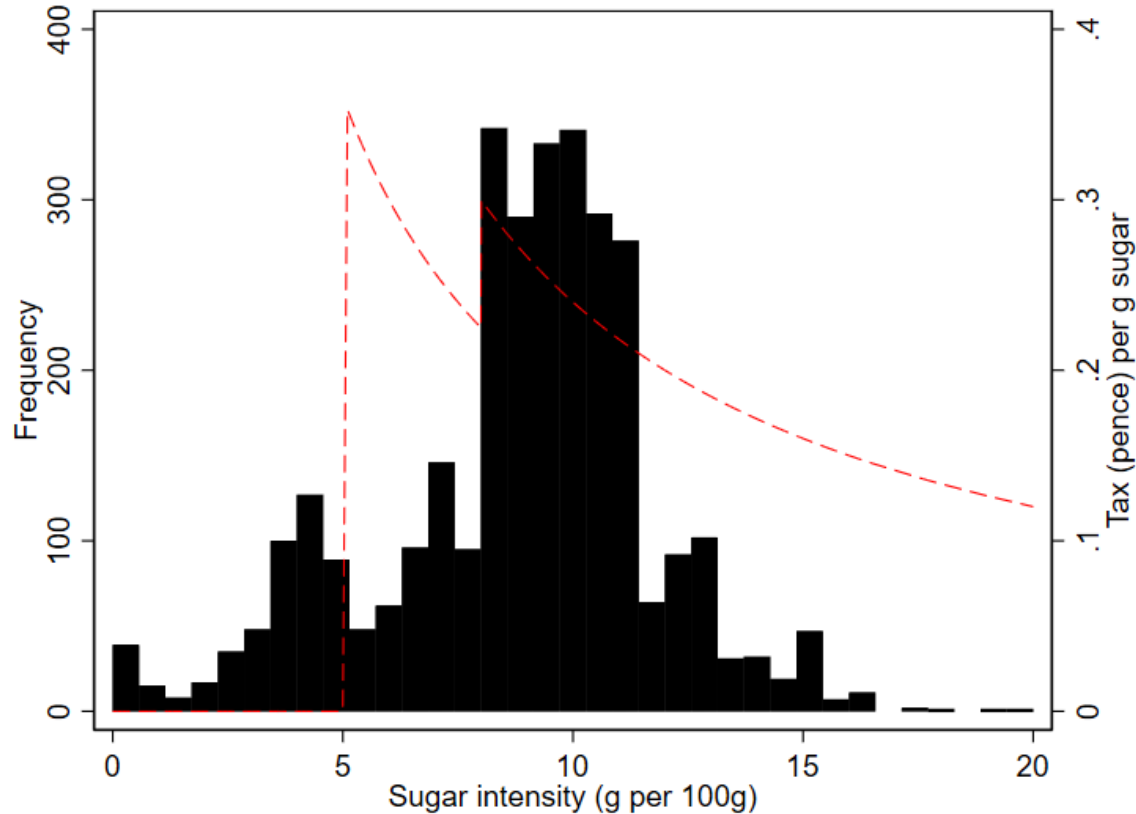
**tax rate
per unit
of sugar**

Sugar per 100g

Source: Griffith (2022); <https://doi.org/10.1093/ej/ueac013>

2016, before the soda tax was introduced

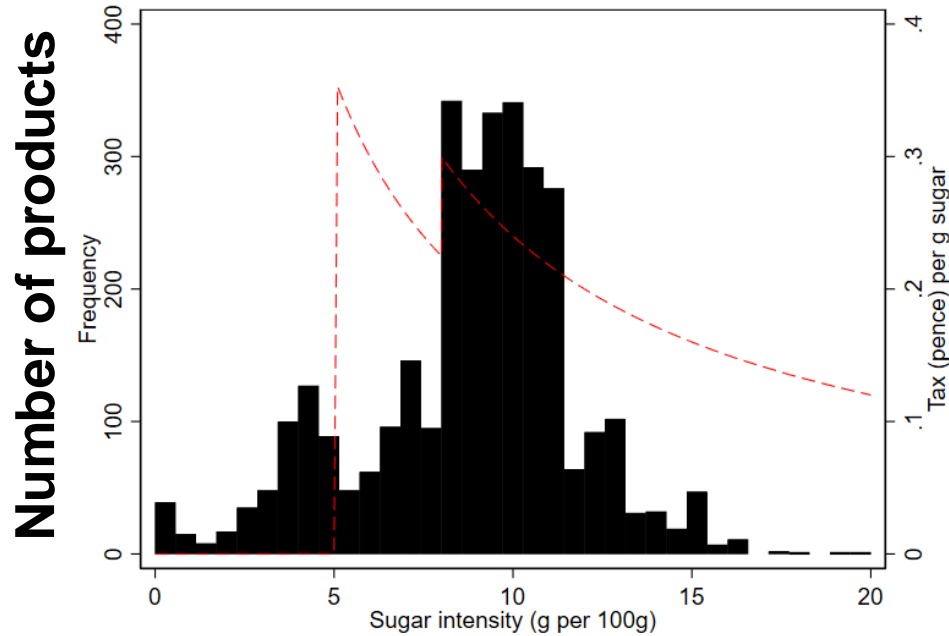
Number
of products



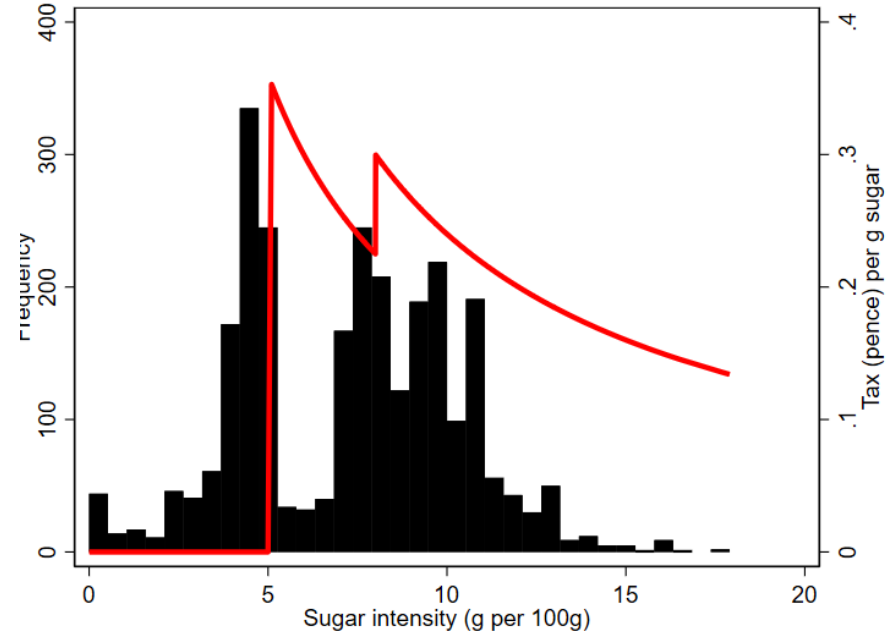
tax rate
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Reformulation

2016, before tax



2019, after tax



What are the prospects for extending taxes?

It depends on how firms respond

- how do they change prices? do they reformulate?
- complicated to get reformulation incentives right over many products
- reformulation only encouraged when tax imposed in a large jurisdiction

and how consumers respond

- do they substitute to alternative products? which products?

Poorly designed taxes can cause harm

- if neither firms nor consumers respond then we've increased prices (so reduced incomes), for households in poverty, and not benefited them

Change the choice environment

enticing foods by the checkout provide temptation, particularly for young children

in the UK these are now not allowed



Change the choice environment

TV adverts provide temptation, particularly for young children

in the UK these are now restricted to after 9pm



What impact does restricting advertising have?

Will have more impact if advertising expands the market

- if it convinces people to eat more junk foods

Will have less impact if advertising is rivalrous between firms

- e.g. if Pepsi advertising mainly steals Coke market share

It will also depend on how firms respond

- do they adjust prices
- do they adapt their advertising strategy

The impact of banning advertising of potato chips in UK?

Firms compete in advertising and in prices

Banning advertising means

- consumers pay more attention to prices, less attention to "tastiness"
 - this leads to consumers buying less
- firms can no longer compete in advertising, so compete more in prices
- both of these mean that price competition increases
- this leads firms to reduce prices
 - this leads to consumers buying more

Banning persuasive advertising reduces purchases, but in this market it also leads firms to reduce prices, partially offsets impact

Firms can often circumvent restrictions

In 2007 UK banned adverts for junk foods on children's TV



McDonalds now
advertises carrots

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Kellogg's "Coco pops"
ads ban
Kellogg's introduce "Coco
Pops Mini Crocs", highly
advertised

Obesity, poverty and equality of opportunity

Obesity and poverty are strongly associated

- children in deprivation are more likely to be obese+malnutrition
- consequences of malnutrition higher for children in deprivation

Child poverty is high in the UK

- around 30% of UK children live in poverty
- prevalence is much higher in single parent households

Why not focus on lifting children out of poverty?

Policies aimed at alleviating child poverty



Cash benefits

Universal Credit - means-tested (medium income)

Child benefit - near universal (very high income), paid to women with children up to 16



In kind transfer

Health Start Vouchers – means-tested (very low income), paid to women with child <4; used in any store to buy fresh/frozen fruit and vegetables

Free School Meals – means-tested (very low income), children given meal in school



How can we further reduce child poverty?

Free School Meals and Healthy Start vouchers are only available at very low income levels

- large share of children in poverty not eligible for them
- expanding eligibility would mean more children in poverty received them, but these children are relatively less poor than those already eligible
- could instead expand the generosity so the poorest children got more

Cash benefits have much higher eligibility rules

- expanding them reaches more poor children
- but would be much more expensive, and money not so well focused on the poorest children

How can we further reduce child poverty?

What are the mechanisms by which growing up in deprivation is more likely to lead to obesity?

Is poor decision making by parents an important factor?

- cash benefits can be spent on anything, so require good decision making
- child benefit is paid to mothers, based on the idea that mothers will spend better (for children) than fathers
- health start vouchers can only be spent on fruit+veg, so remove some decision making, but take up is relatively low
- Free School Meals are received directly by children in school

How can we further reduce child poverty?

Eligibility for in kind benefits have a sharp cut off (as opposed to cash benefits which gradually taper down)

- this means they provide strong incentives for families not to increase their income around that level
- this discourages people from seeking to earn more, because they lose the benefits if their income increases
- this reduce economic efficiency, and could make it less likely these families move out of poverty in longer run

Beyond government policy

My work focuses on the role of government policy

There is certainly an important role for wider civic society

- institutions that support new and young parents and their children
- community initiatives like community farms, youth centres, etc
- many other initiatives

Policy can help, but it needs to be well designed

Compelling evidence that people are making poor choices

- particular bad consequences for children growing up in deprivation

Policy has the potential to make people better off

- but to be effective policies must be well targeted
- many reasons individual and firm behaviours might undermine the ability of policy to achieve this aim
- policies can make things worse and might even reduce welfare of the people they are aiming to help - be wary of unintended consequences
- this doesn't mean we shouldn't implement policies, but we need to be careful to do so intelligently