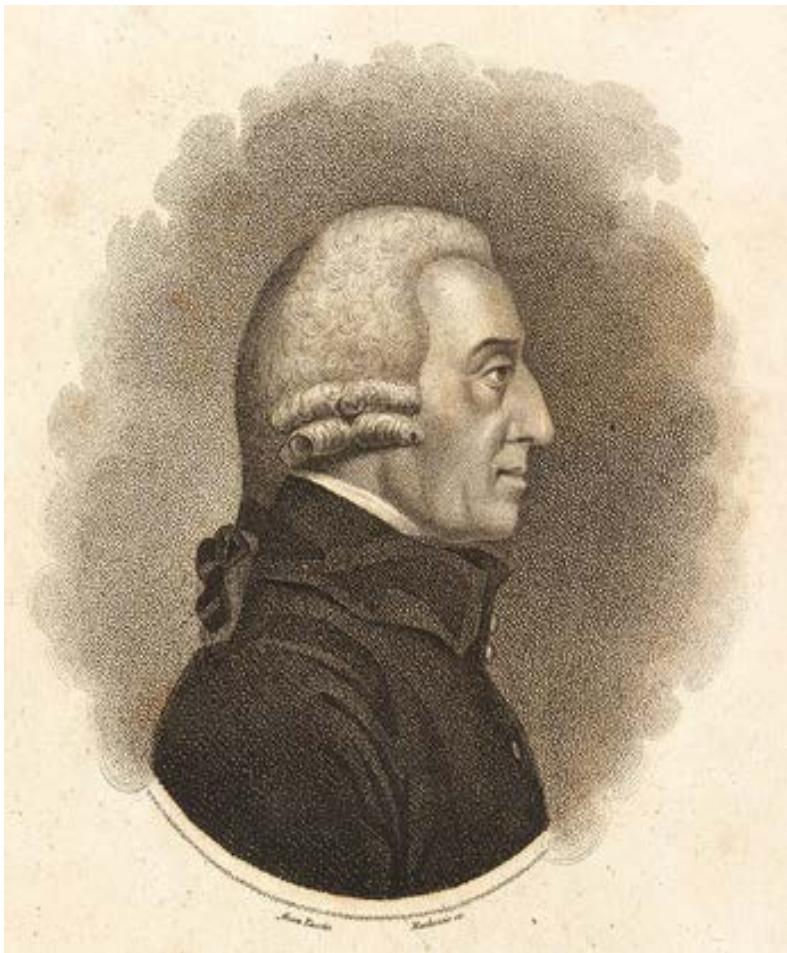


# A ‘Wicked Problem’: Towards a New Analytical Framework to Critique Sugar Tax Policies

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# Adam Smith (1776)



- **'sugar, rum and tobacco are commodities which are nowhere necessities of life... which are... objects of almost universal consumption, and which are therefore extremely proper subjects of taxation'**  
(Smith, 1776, p445)



# ‘nowhere necessities of life...’



# Why?

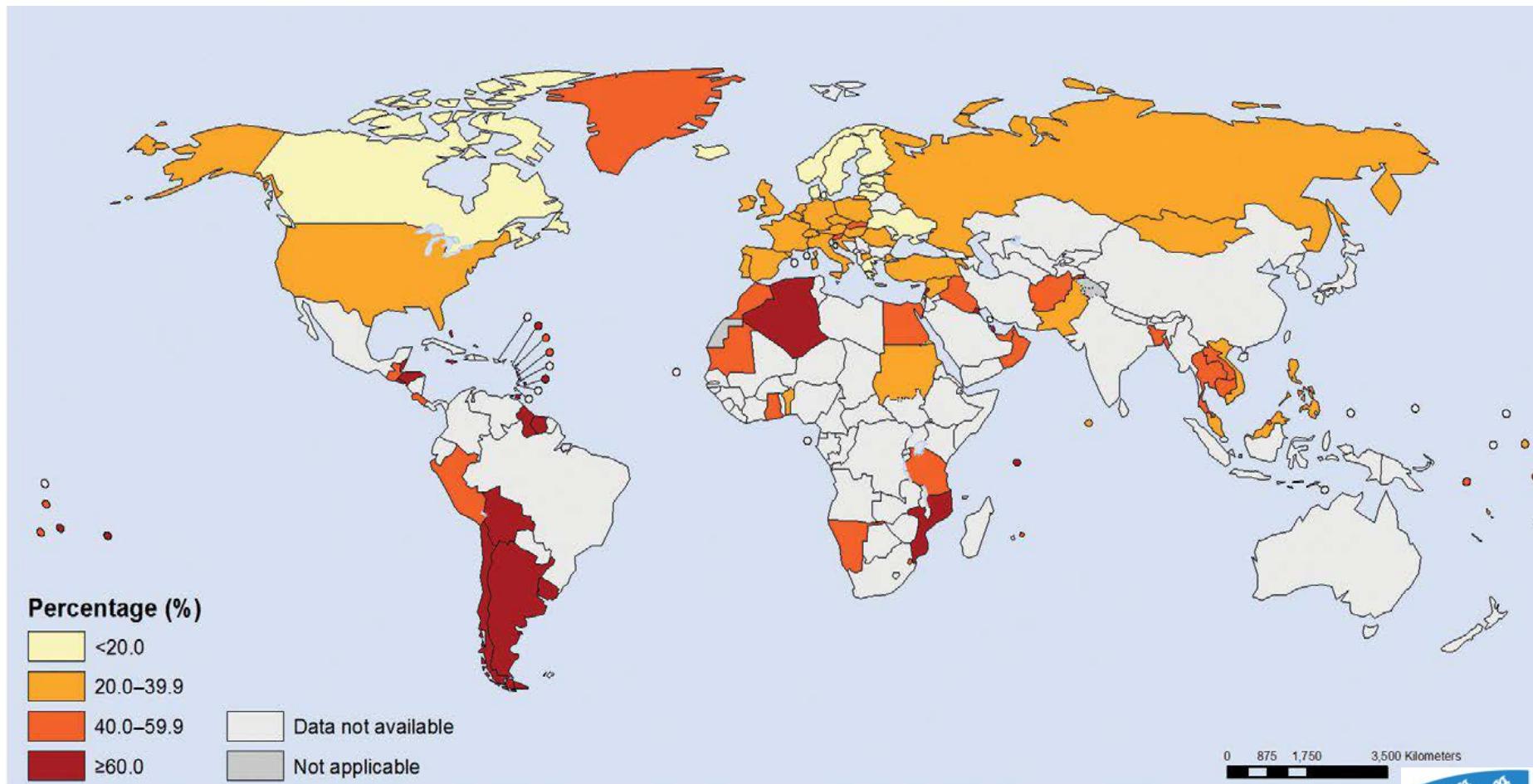


Increasing  
Prevalence of  
NCDs

Especially  
Vulnerable  
Groups

Societal  
Cost &  
Economic  
Cost

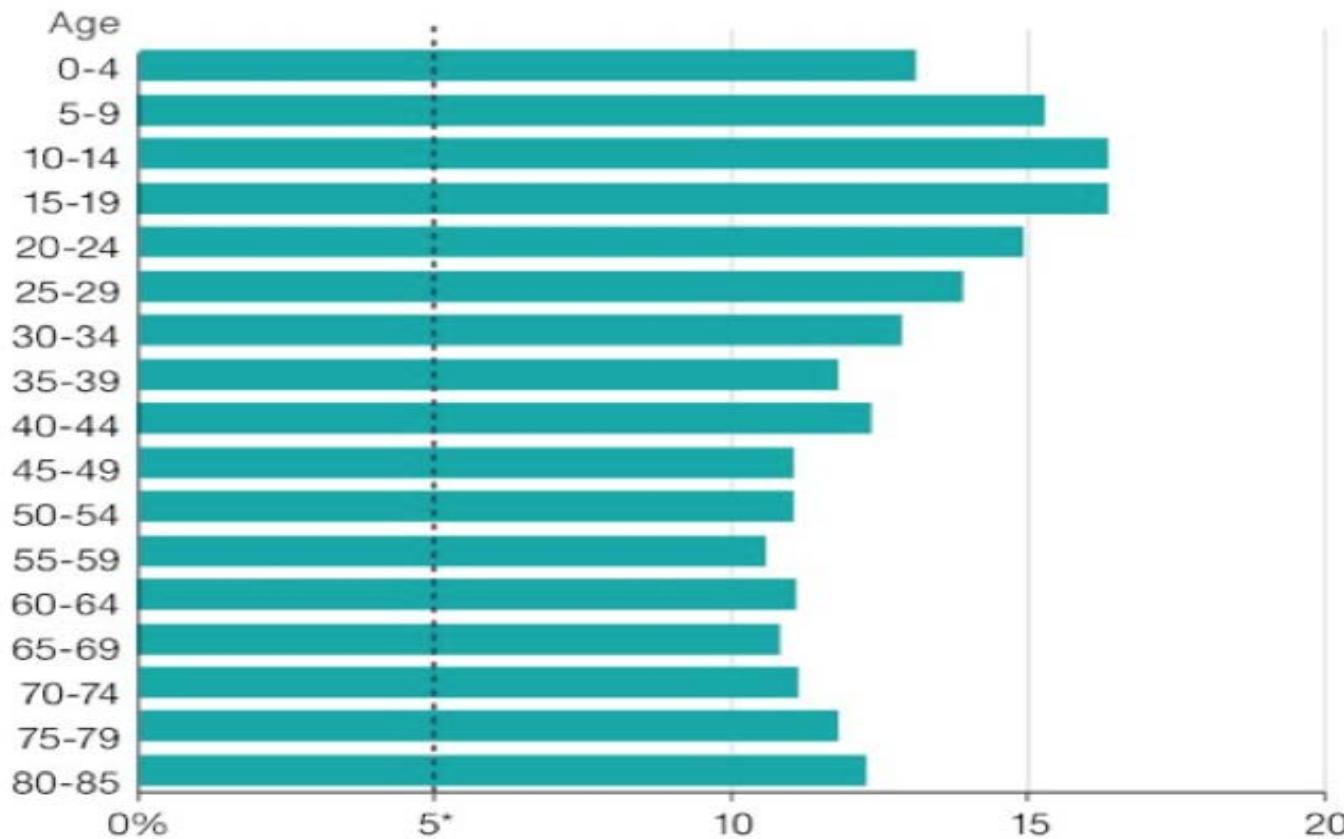
# % Adolescents who drink soft drinks daily (WHO 2016: HBSC Study)



# Why a SSB Tax? Over-consumption by Youth

**The average teenager consumes three times more sugar than recommended, as a share of total calories**

Percentage of calories which come from free sugars at each age



\*Note: It is recommended that we consume no more than 5% of our calories from free sugars

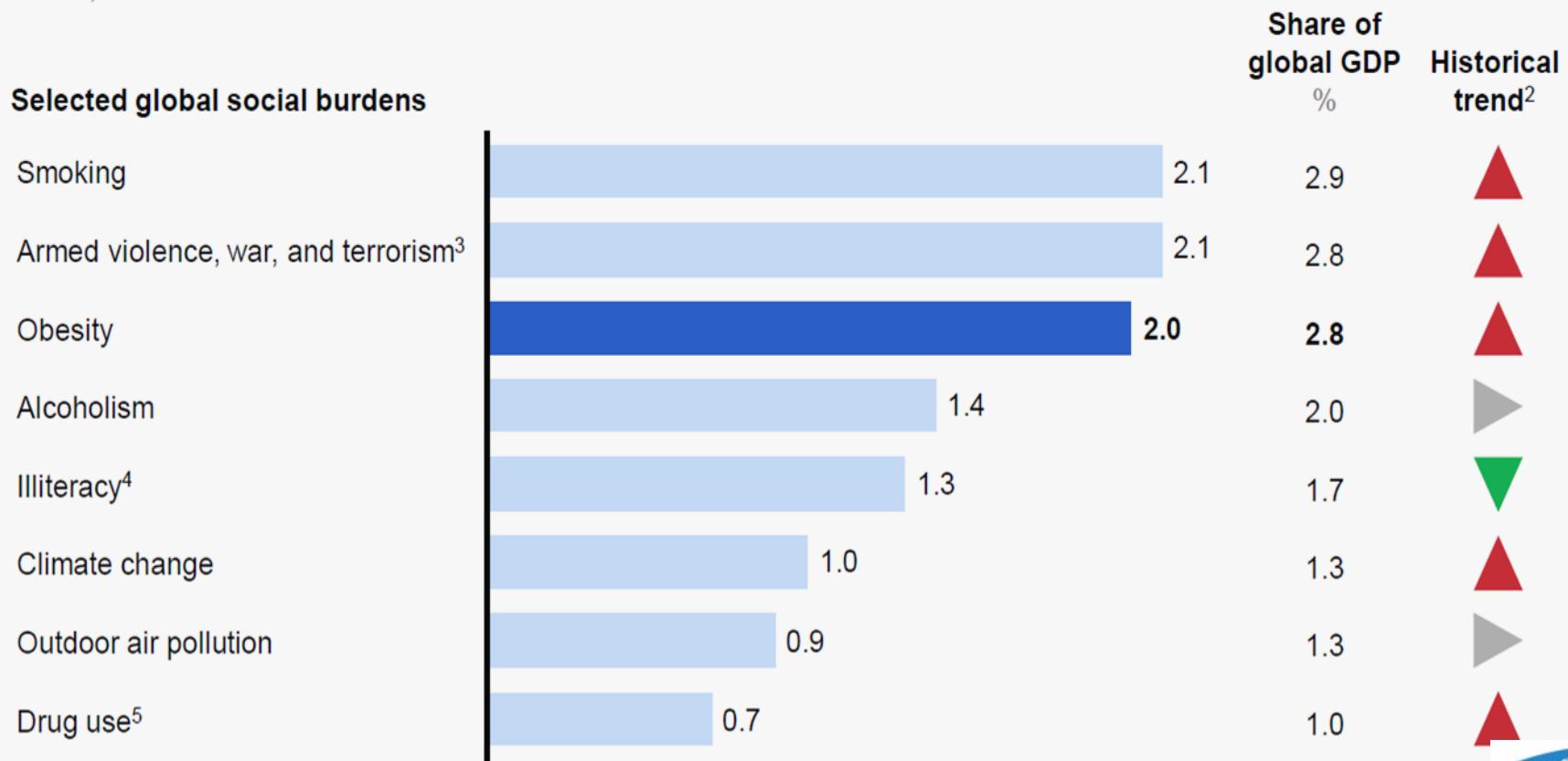
Source: National Diet and Nutrition Survey, 2008-2014

BBC



# Economic impact

Estimated annual global direct economic impact and investment to mitigate selected global burdens, 2012<sup>1</sup>  
GDP, \$ trillion



Source: McKinsey Global Institute



# WHO recommendations against childhood obesity

- **Promote Taxes on sugary drinks (2017)**
- Promote intake of healthy foods
- Promote physical activity
- Preconception and pregnancy care
- Guidance for early childhood diet and physical activity
- Health, nutrition and physical activity for school-age children
- Weight management services to families



# Determinants of nutrition and eating: (DONE) School Children Analysis (2017)

## Environment Determinants

### *Meso/Macro*

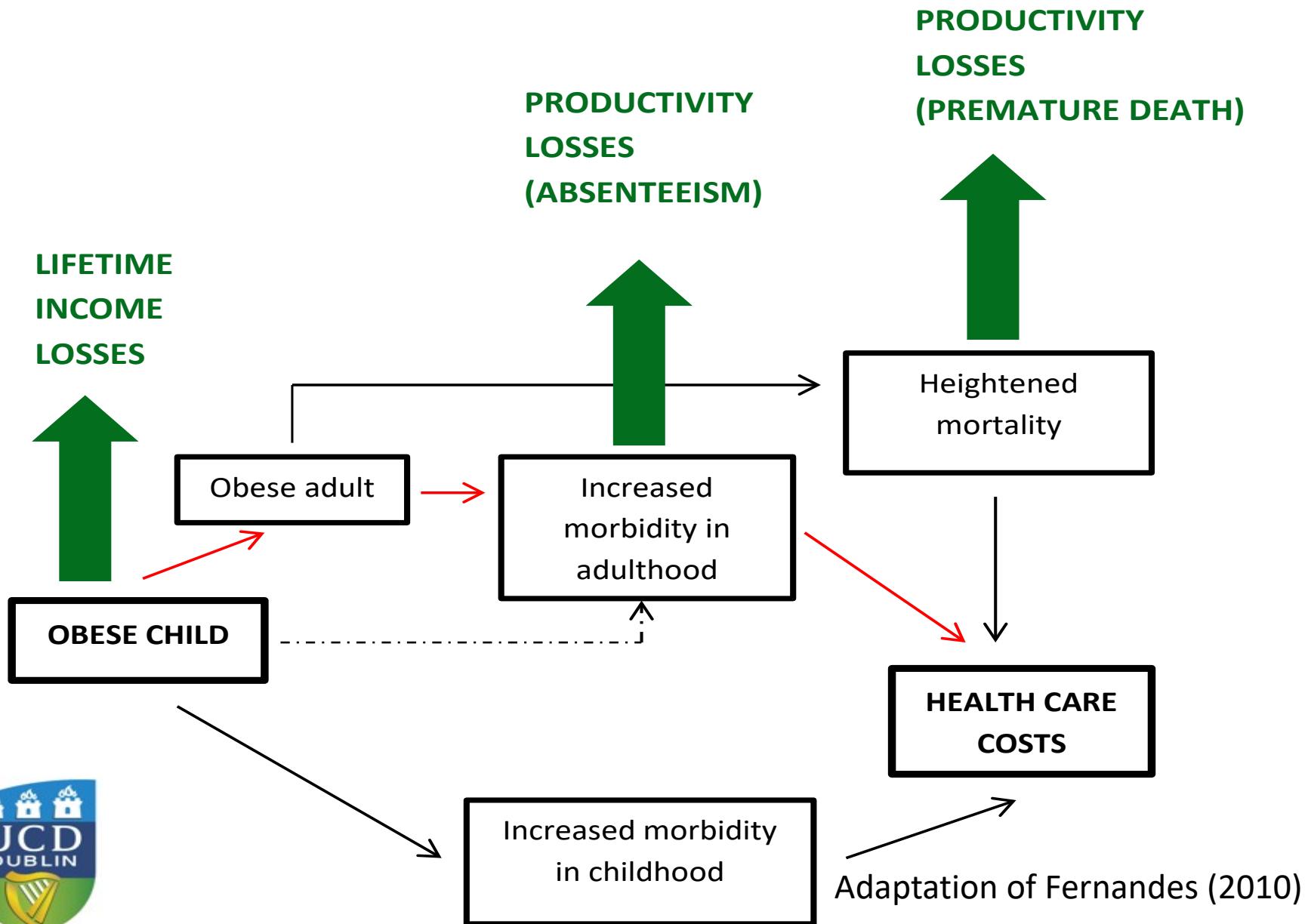
- Exposure to food promotion
- Market Prices
- Environmental Food Availability/and Accessibility
- Food Outlet Density

### *Micro*

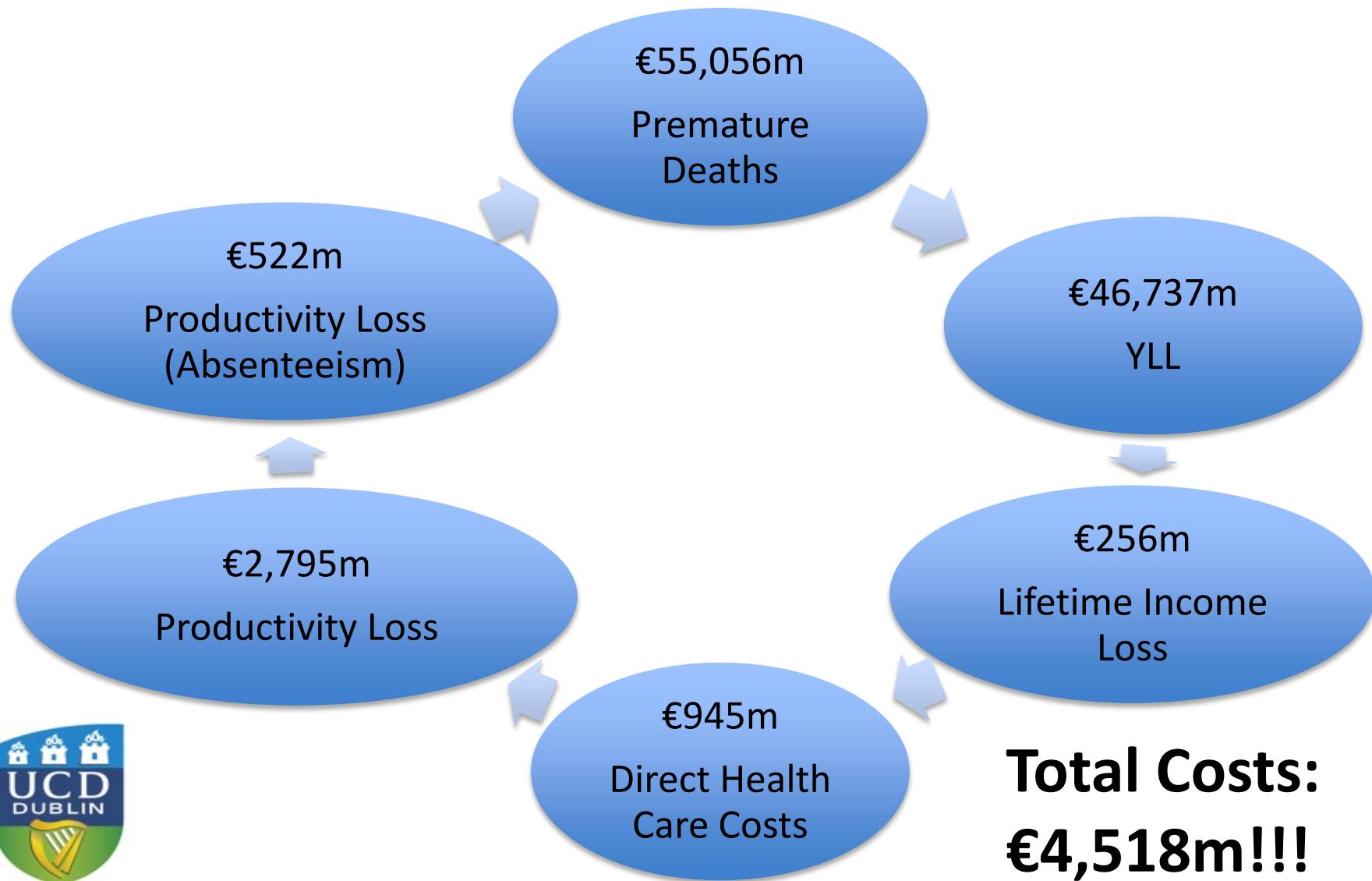
- Portion Size
- Home Food Availability/and Accessibility
- Eating Environment



# JANPA Conceptual Framework (2015)



# Some Findings: Impacts & Costs of Childhood Obesity in Ireland (Janpa, 2015)

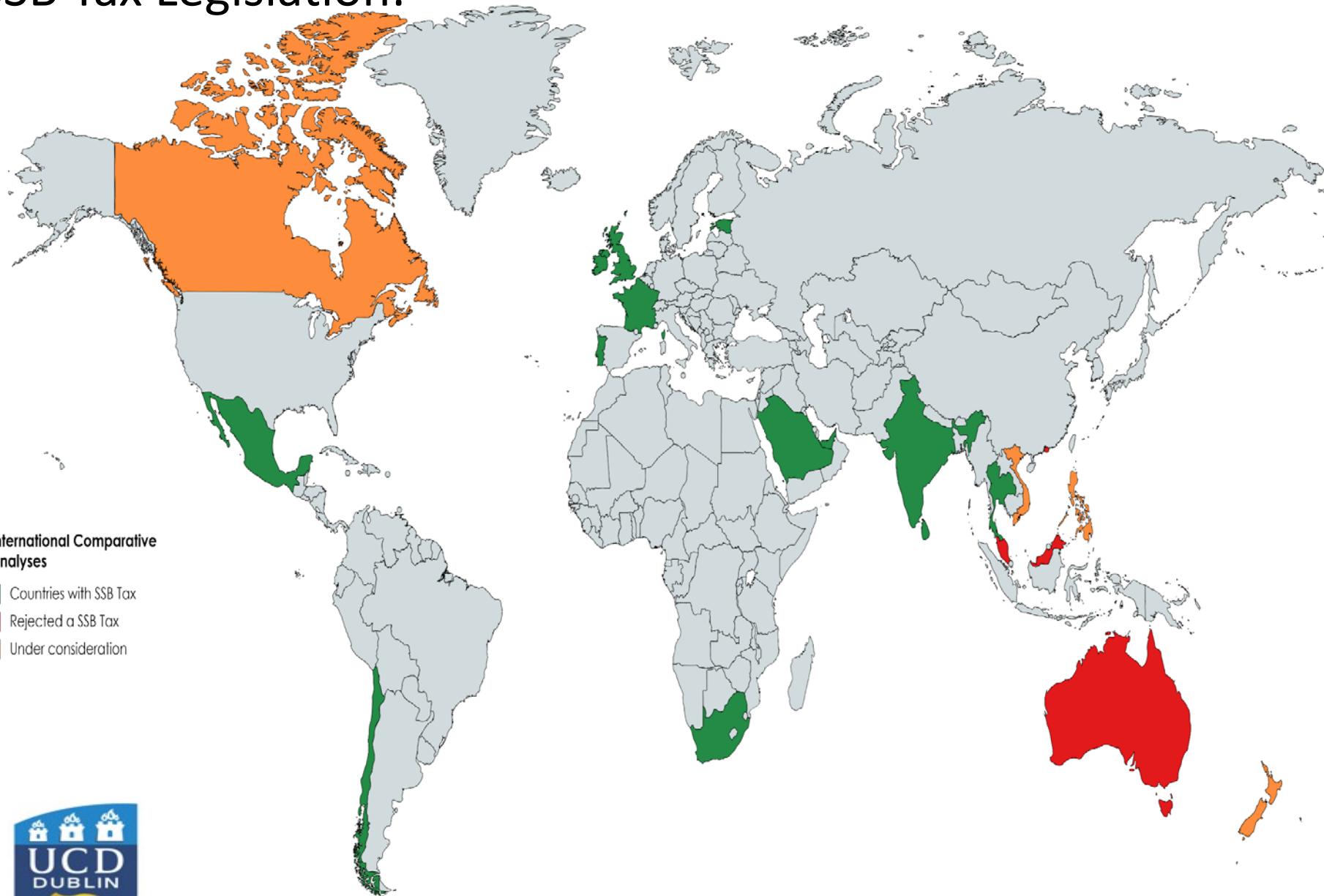


# Why a Sugar Tax? The ‘3 Cs’

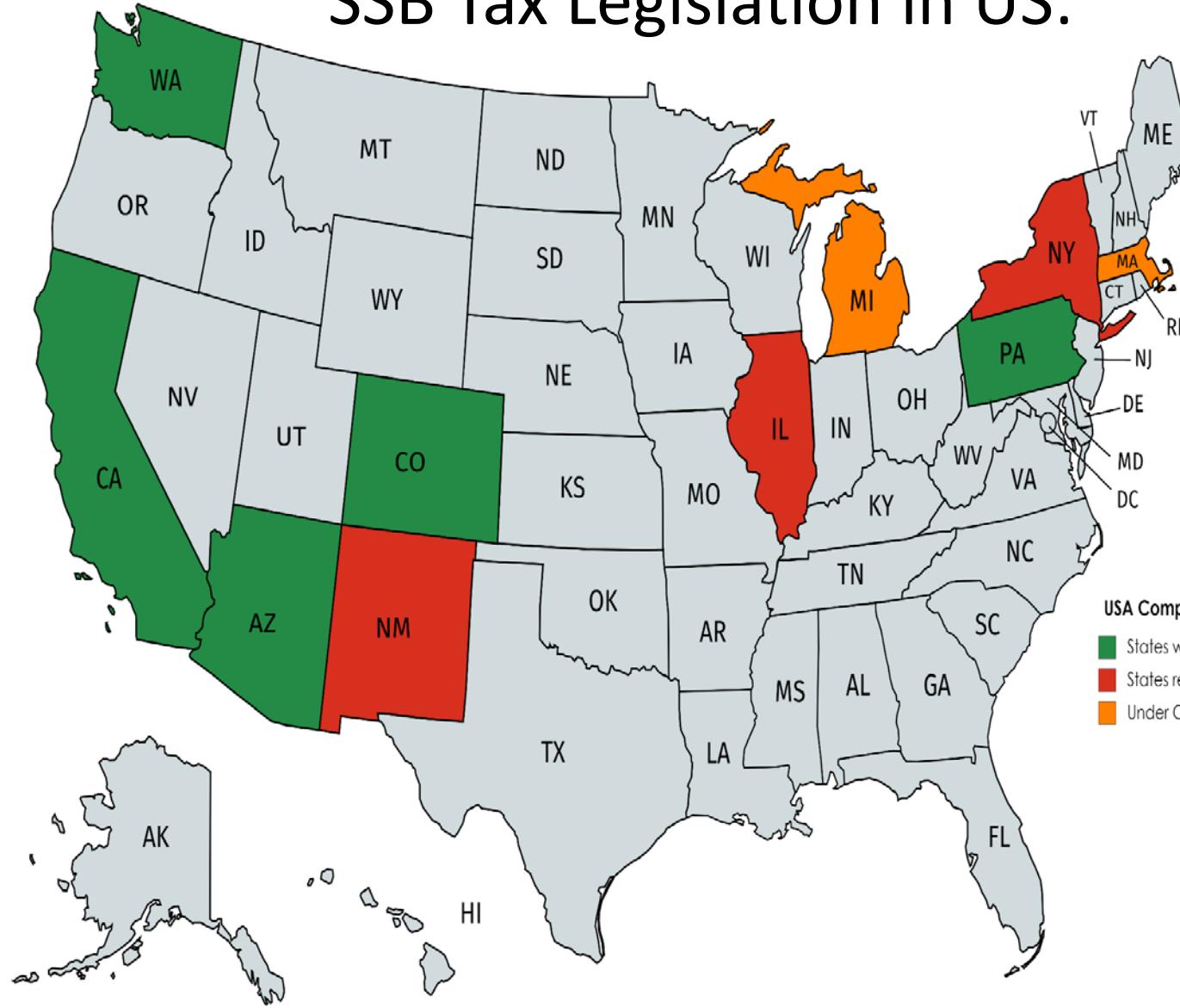
- **Curb Consumption**
- **Change formulations**
- **Create revenue streams for public health initiatives**



# SSB Tax Legislation:



# SSB Tax Legislation in US:



## USA Comparative Analyses

- States with SSB Tax
- States rejected SSB Tax
- Under Consideration



# Manufacturer's Response

## Manufacturers' response

**Irn-Bru** cut sugar from 10.3g to 4.7g per 100ml

**Pepsi** to cut 11g of sugar by 20% by 2020

**Ribena** cut sugar from 10g to less than 4.5g per 100ml

**Lucozade** cut sugar from 13g to less than 4.5g per 100ml

**Coca-Cola** no recipe change; remains at 10.6g per 100ml



## Kellogg's?

Source: Institute for Fiscal Studies

# Some Principles of Tax Policy Design

Guiding Principles

Equity, Efficiency, Certainty, Convenience

What to tax? How to tax?

Pigouvian Tax Model (Pigou, 1920)

Nudge Theory (Thaler & Sustein, 2008; Saghal, 2013)

# ‘Wicked Problems’ ~ How to govern ‘Wicked Problems’?

- Rittel & Webber (1973) original definition of wicked problems (urban planning San Francisco)
- Complex societal challenges
  - Cannot be framed and understood in linear cause-symptom-effect relationships
  - Evolve unpredictably over time
  - Involve conflicts of values among stakeholders



# Characteristics of Wicked Problems

Dentoni et al(2018)	Rittel & Webber (1973)
<b>1. Knowledge Uncertainty</b>	<p>No definitive formulation of a wicked problem</p> <p>Every wicked problem is unique</p> <p>Every WP can be considered to be a symptom or consequence of another problem</p> <p>There is not have an enumerable set of potential solutions</p>
<b>2. Value Conflict</b>	<p>Multiple actors influencing or affected by the WPs have different assumptions on what causes the problem and what should be done about it</p> <p>Solutions chosen have serious repercussions on societal groups</p> <p>Solutions are not true or false but better or worse</p>
<b>3. Dynamic Complexity</b>	<p>WP have no stopping rules</p> <p>Is no immediate and no ultimate test of a solution to a WP</p> <p>Every solution to a WP is a 'one-shot operation'</p>

# Over-consumption of sugar – through the lens of a ‘wicked problem’

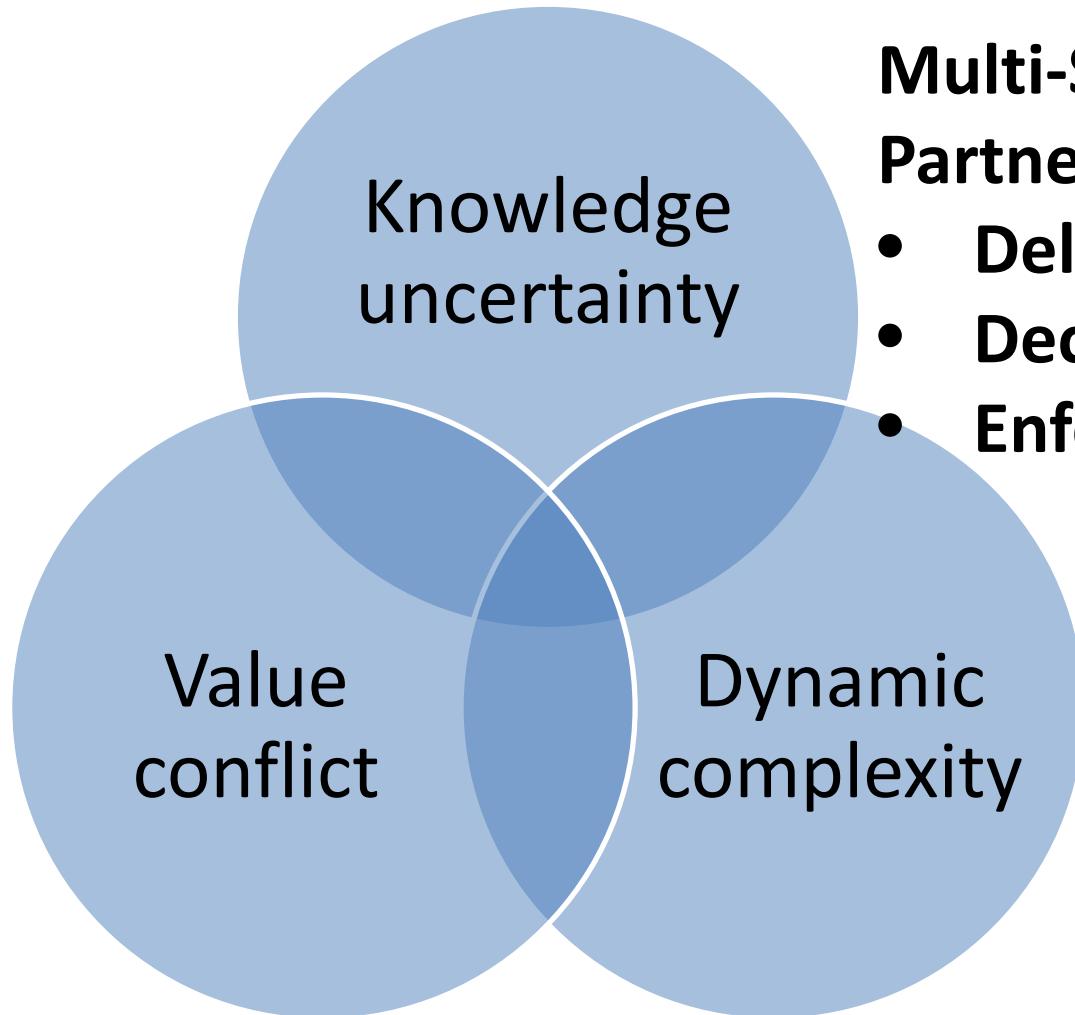
- How to tame this wicked problem?
- A multi-faceted approach from multi-stakeholders? (EVIDENCE study)
- Dentoni et al. (2018) explore whether and how multi-stakeholder partnerships may harness wicked problems?



# How to tame a ‘wicked problem’?

- Dentoni et al., (2018) advocate collaborative forms of governance to address the wicked nature of problems via **Multi-Stakeholder Partnerships**
  - **Systemic change** requires the use of **less conventional approaches** to bring about a **remarkable shift in power structures** while supporting change across multiple societal spheres and subsectors (voice & power)
  - **Multi-Stakeholder Partnerships** require a fluidity & continuous negotiation between the actors

# ‘Wicked Problems’ ~ How to govern ‘Wicked Problems’?



## Multi-Stakeholder Partnerships

- Deliberation
- Decision-making
- Enforcement

# Call for a new model of strategic research to target 'change agents'

The unsavory side of sugar



# Prior Studies of Sugar Taxes

- **Method**
  - A systematic Literature Review (680 articles)
- **Categorise by methodology**
  - Modelling Studies
  - Experiments (Country Specific Studies)
  - Randomised Controlled Trials of price changes
  - Surveys
- **Meta-analyses**
- **A consensus** – taxes on sugary products do influence consumption decisions



# How to evaluate SSB Tax?

Economic

Political

**SSB Tax**

Cultural

Medical

**Ethical Dimension!**



# How to evaluate the impact of a SSB Tax?

## 1. Who are the **stakeholders**?

- How does each stakeholder respond to the Tax?
- How do we measure the response?

## 2. Are there **economic, political, medical, cultural and ethical considerations** at play?

- How do we measure these considerations?

## 3. How do we measure **distal health outcomes**?

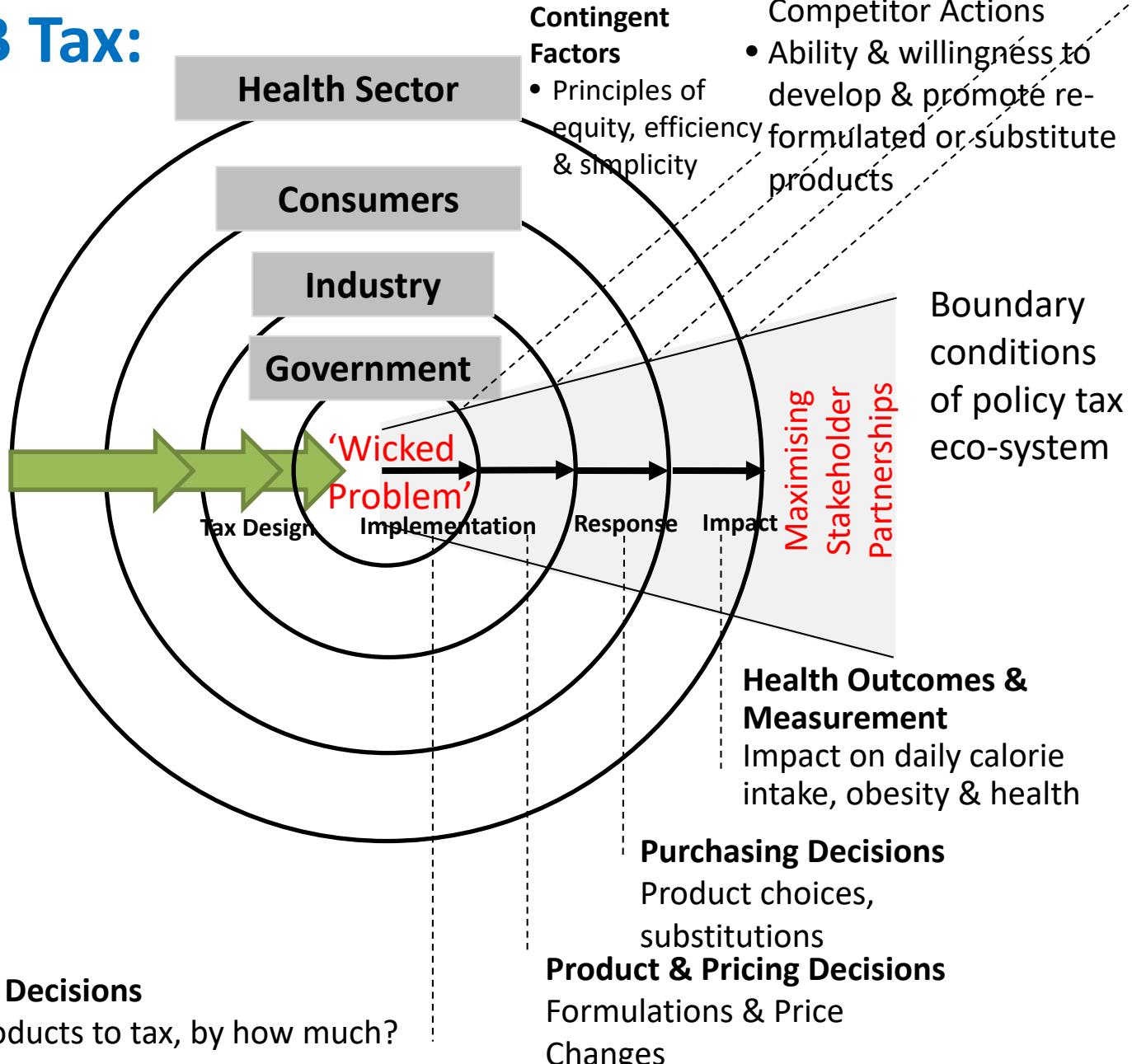
- Over what period of time?

## 4. Feedback to **inform future SSB tax policy and other food related taxes**?



# A New Analytical Framework to evaluate SSB Tax:

Stakeholder feedback and influence on policy tax process



# Future Research

- Draw upon this **new interdisciplinary framework** for a critical analysis of the effects of a SSB tax which is **reflective of the**
  - **complexity of human behaviour** and
  - **nexus of the economic, political, medical, cultural and ethical dimensions**, and
  - **complex system and problems which are non-linear in nature, dynamic where value conflicts prevail**



# Calls for and Current Research Agenda

- **WHO – targeting policy tools towards overweight or obese children**

- H2020 BigO Project ([BigOprogram.eu](http://BigOprogram.eu))

- UCD Campus Study

- Gaisce Partnership – ‘Sugar Tax Challenge’

- **International Comparative Analyses**

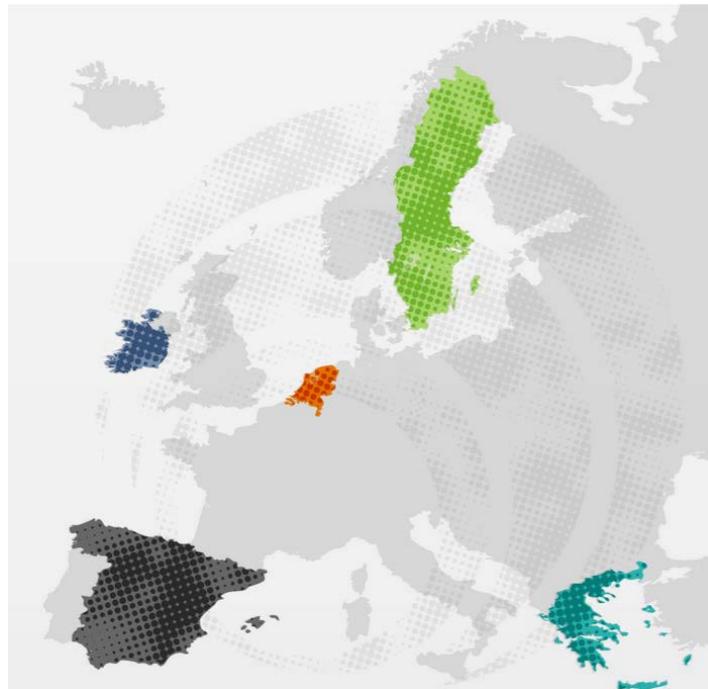
- At risk groups/vulnerable groups

- The ‘Bigger Picture’ Campaign (UCSF)

[thebiggerpictureproject.org](http://thebiggerpictureproject.org)



# *Big Data against Childhood Obesity*



## **Aim:**

BigO will collect and analyze **big** data on **children's behaviour** and **their environment** to enable public health authorities to plan and execute effective **programs against obesity**



# Healthy UCD

#healthyucd



# Proposed Comparative Study

- US and the island of Ireland
- Build upon the multi-disciplinary expertise of both research teams
- To evaluate interventions aimed at addressing this complex global societal challenge
- **Focus** on evaluation of the effectiveness of SSB Tax and **Obesity amongst young people**

Thank you for the kind invitation and  
warm welcome ☺

Thank you to my fabulous co-authors:  
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*Gerardine*

