



RSB





COST BENEFIT ANALYSIS IN IMPACT ASSESSMENTS – CHALLENGES AND OPPORTUNITIES

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- Trade and Environment
- Circular Economy and Resource Productivity
- Modeling and Outlooks
- Green Innovation
- Cost-benefit and environmental valuation
- Economic instruments and the environment
- Environmental policy evaluation
- Env. Policies, Social and Distributional Outcomes



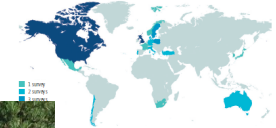
IMPROVING THE KNOWLEDGE BASE FOR THE COST OF INACTION ON CHEMICALS

Chemicals are part of our daily life and must be soundly managed to limit risks to human health and the environment. While countries around the world are setting up legal frameworks to address these risks, the cost of policy inaction is still poorly understood. Assessment of chemicals management options and environmental policies can be considerably improved by better estimating their costs and benefits. Financing national chemicals management programmes also often requires economic justification of the benefits of such an investment. However, data to support such analysis are lacking.

The OECD project **Surveys on Willingness-to-Pay to Avoid Negative Chemicals-Related Health Impacts (SWACHE)** project brings together expertise on chemical safety and economic analysis to fill this gap. The project aims to establish internationally comparable values for the willingness-to-pay (WTP) to avoid negative health effects due to exposure to chemicals. Such values can be used to demonstrate and measure the economic benefits of minimising the impacts of chemicals on human health.

To derive WTP values, surveys of a large number of citizens of countries have been conducted. These surveys supply data of the all approaches that can be used by economists to determine the full monetary value that survey respondents place on reducing their risk of a particular health effect.

Figure 1. Countries in which the first round of SWACHE surveys were implemented



5 Health effects
Kidney disease, asthma, entering very low birth weight, IQ loss

15 surveys implemented in **22** countries

46 Surveys in total

1 200 respondents per country, per health effect

OECD Work on Trade and the Environment Prospective, 2008-2020

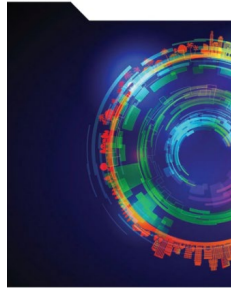


Cost-Benefit Analysis and the Environment FURTHER DEVELOPMENTS AND POLICY USE

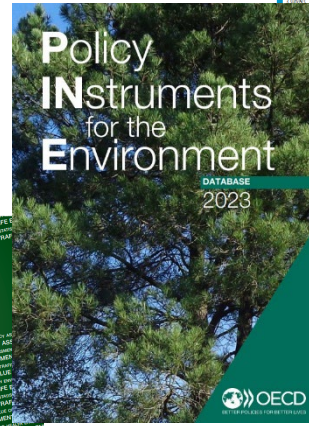
Giles Atkinson, Nils Axel Braathen, Ben Groom and Susana Mourato



OECD Urban Studies The Circular Economy in Cities and Regions SYNTHESIS REPORT



Mortality Risk Valuation in Environment, Health and Transport Policies





Updating OECD's Value of a Statistical Life (VSL) meta-analysis studies

VSL is a key component of many CBA studies

OECD's VSL estimates are widely used but needs updating (11 years old)

- Meta-analysis combines estimates from many studies
- Values used in many European countries for environment, health and transport policies

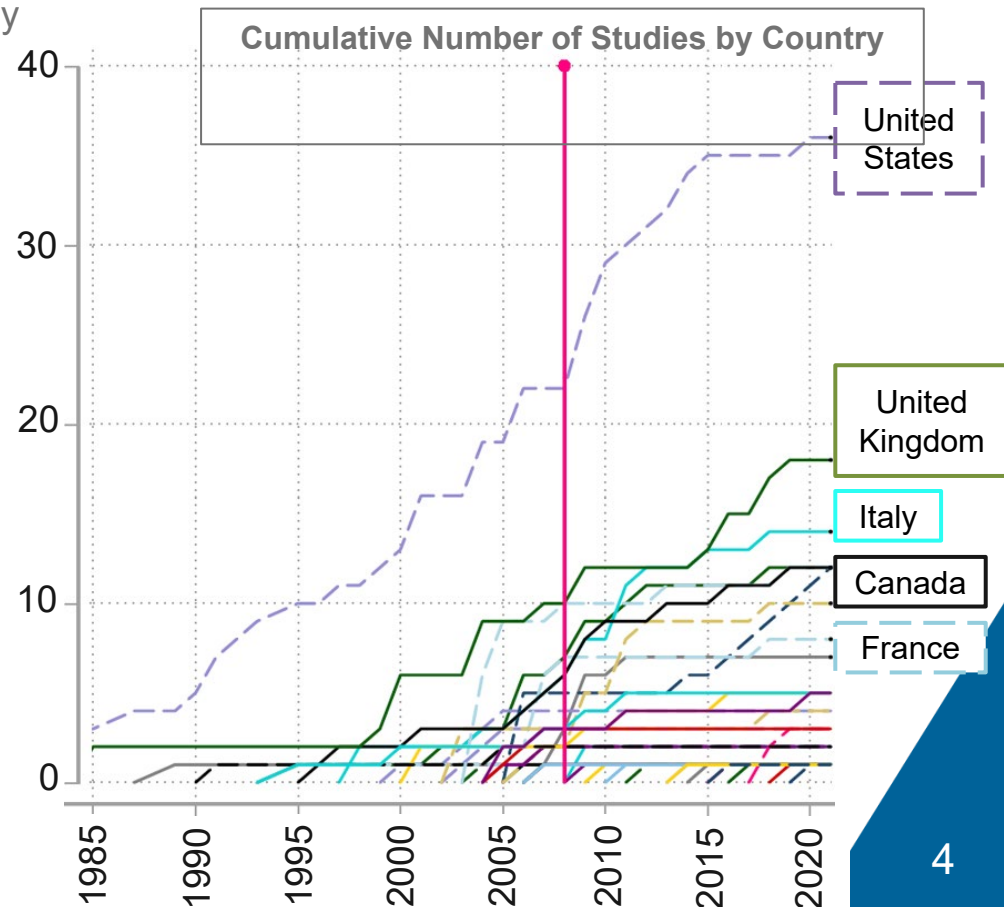
Update will include:

- Addition of revealed preference studies
- Adding new studies with stronger methodologies and newer data
- Adjusting for inflation and GDP growth
- Methodology improvements
- New concepts and situations

Report planned for 2024

$$VSL = \frac{WTP \text{ for a small reduction in mortality risk}}{\text{Small risk reduction}}$$

$$\text{Benefit} = VSL \times \text{Number of prevented fatalities}$$

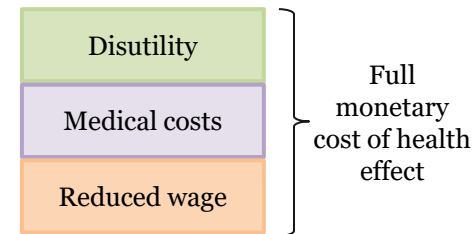




Better measuring the benefits of reducing health risks due to chemicals exposure

● **Important gap:** proper monetisation of the benefits of reducing health risk due to chemicals exposure could not be done

- Full monetary benefits of reducing health risk not available
- Existing data e.g. cost-of-illness do not capture disutility of disease



● OECD “**SWACHE**” -- **S**urveys of **w**illingness-to-pay to **a**void **c**hemicals-related **h**ealth **e**ffects – project

- improve the basis for doing cost-benefit analyses of chemicals-related policies, and of environmental policies more broadly
- support the economic justification of investing in national chemicals management programmes



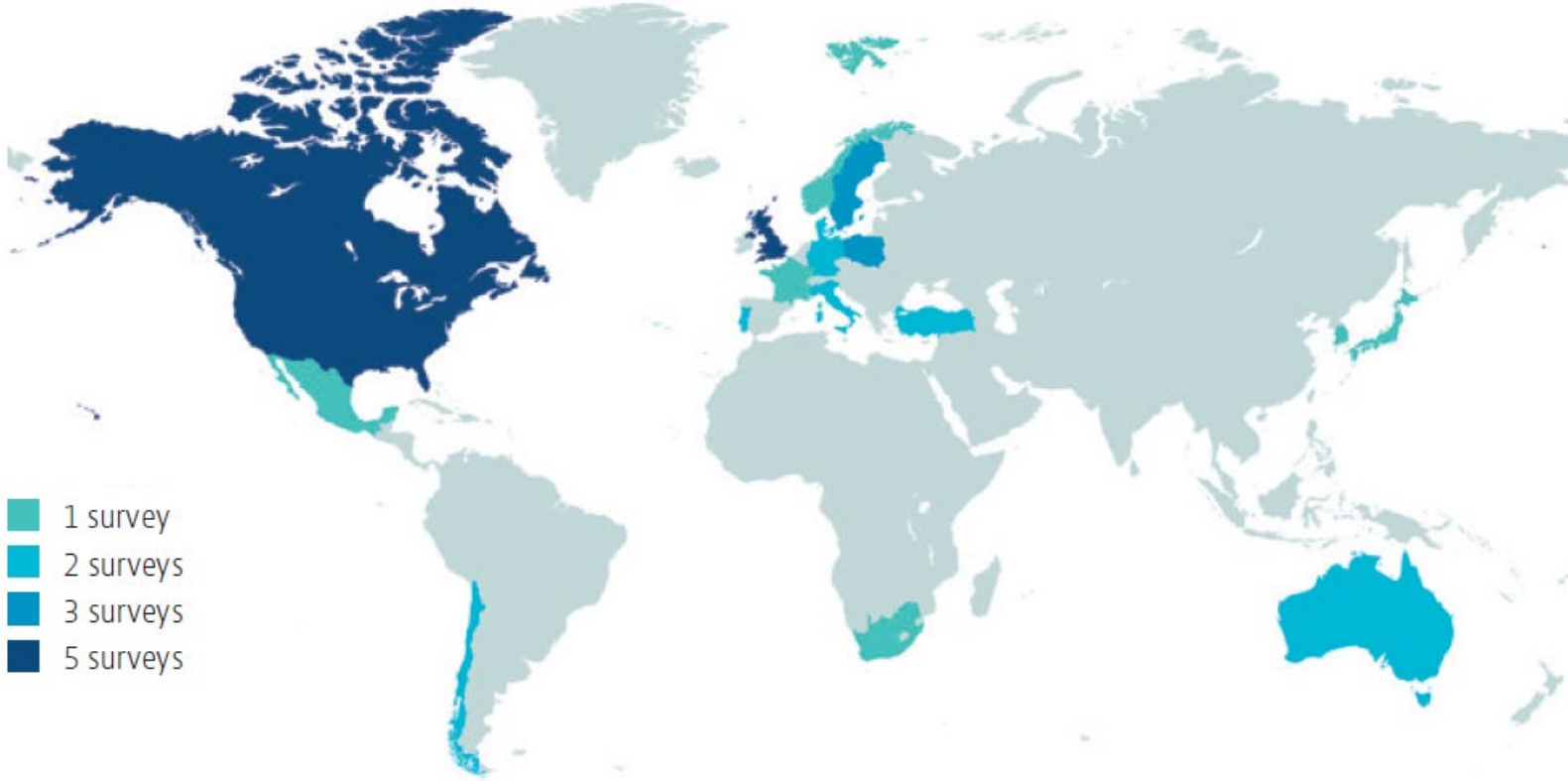
● **Two rounds of surveys** to ask respondents about their WTP to avoid 10 negative health impacts:

- Developed with leading international experts
- Unprecedented level of review: economists from academia, regulatory economists, medical doctor, chemicals risk managers





Key figures from the first round of SWACHE



- 1 survey
- 2 surveys
- 3 surveys
- 5 surveys

1-5 surveys implemented in

22
Countries

46
Surveys in total

5
Health effects

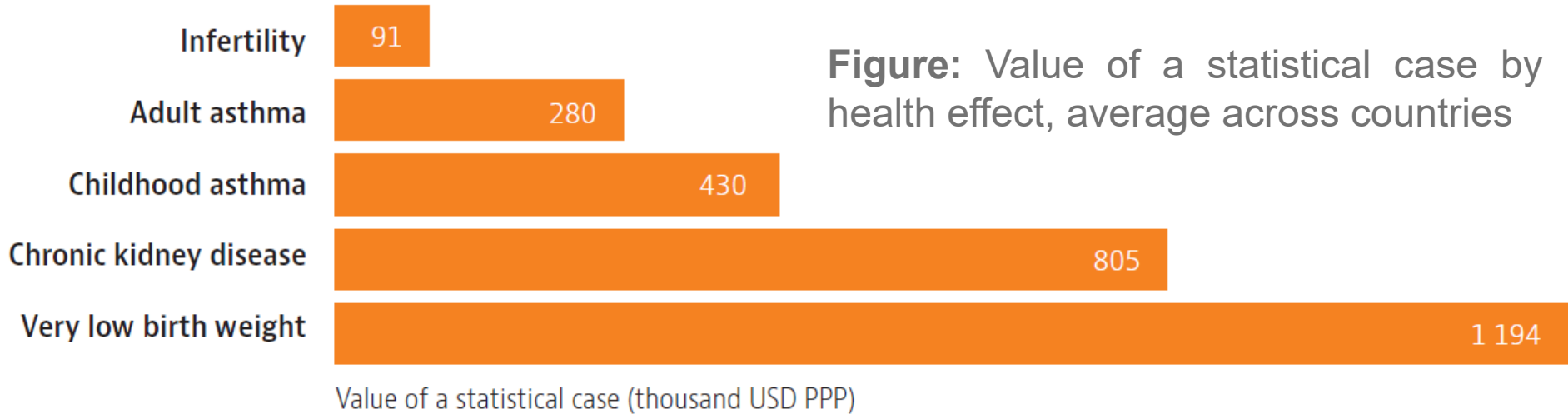
Kidney disease, asthma, infertility, very low birth weight, IQ loss

1 200
respondents
per country, per health effect

Diversity of countries that allows the *transfer* of values to non-surveyed countries



People are willing to pay a significant amount to reduce their chemicals-related health risks



- Lower than the OECD Value of a Statistical Life \approx USD 2015 PPP 4.3 million
- Expected ranking across health effects
- Significant evidence that chemicals management systems worth implementing
- Additional WTP values:
 - Mean WTP for reducing asthma severity equals USD 529 per year for adults and USD 948 per year for children
 - People are willing to pay USD 3 050 on average to avoid the loss of one IQ point in children

QUESTIONS?





THANK YOU FOR YOUR ATTENTION

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