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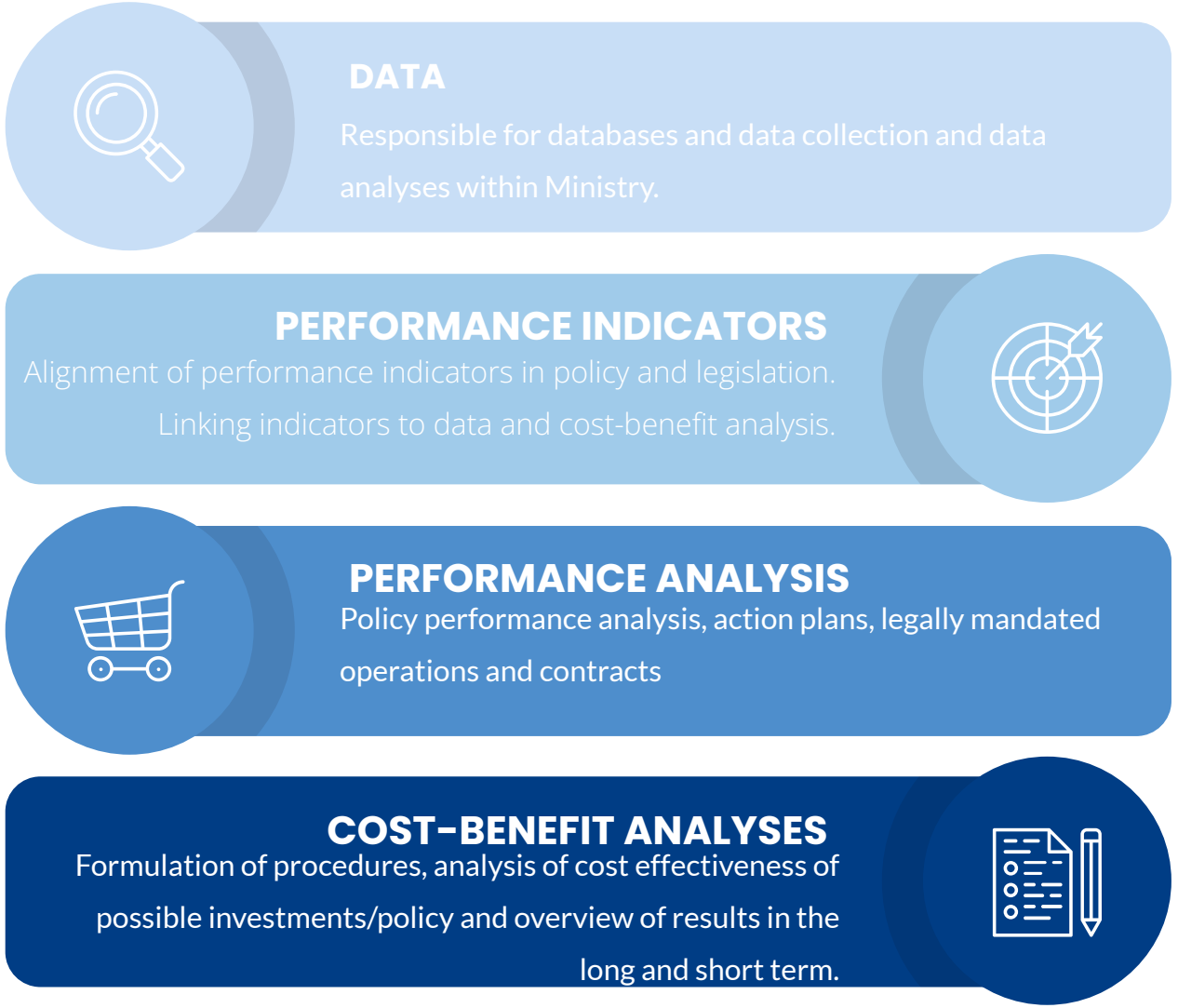
Cost-Benefit Analysis

The importance of investing in children

Government of Iceland
Ministry of Education and Children

Cost-Benefit Team



Objectives

1. Clear responsibility for data sets and data collection
2. Accessible and Streamlined into Planning and Policy Development
3. Establish a Sustainable fra mework around performance indocators - linked to data
4. Overview of policy and investment in regard to specific issues and groups
5. Increased performance: data-driven decisions, strategic planning and economic

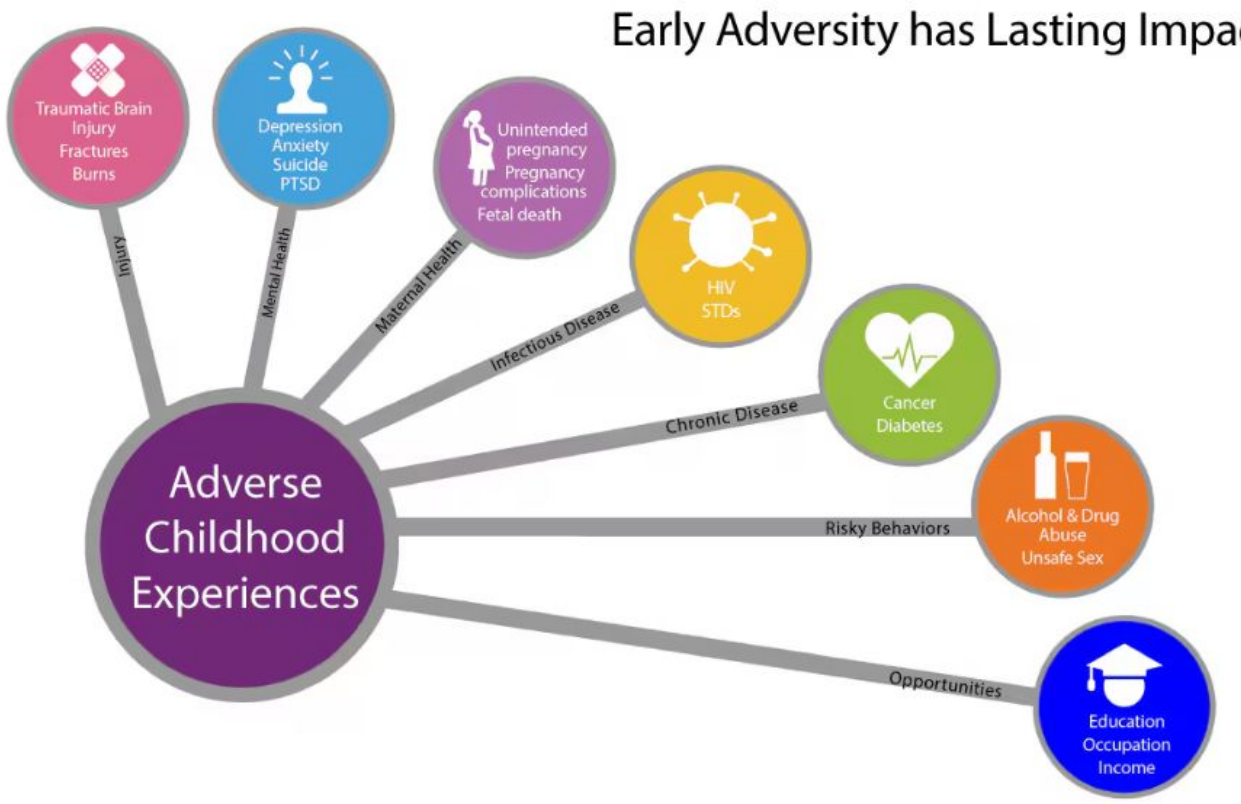
Investing in children

Costly government systems designed to reduce adverse factors

- Healthcare system: 360 billion ISK = 2.4 billion EUR
- Welfare system: 325 billion ISK = 2.2 billion EUR
- Law and judicial system: 45 billion ISK = 300 million EUR

https://rikisreikningur.is/fjarhagur

Childhood experiences shape the future



Individual and family

- Decreased income
- Lower wellbeing

Government

- Decreased production and taxes
- Increased costs

https://www.cdc.gov/violenceprevention/aces/about.html

Childhood experiences shape the future

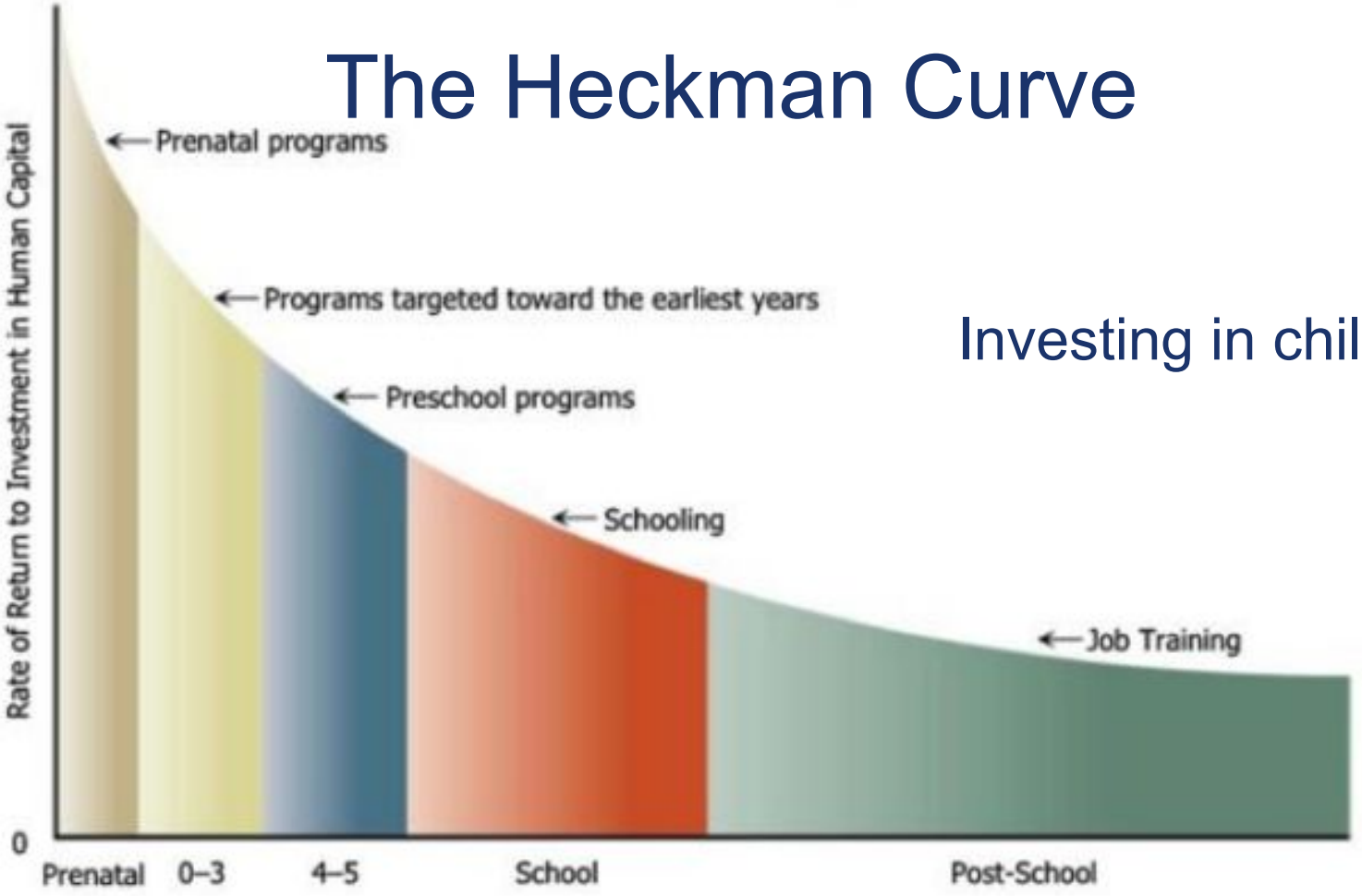
PCEs lead to

- Well-balanced
- Valuable members
- Satisfaction with life

PCEs

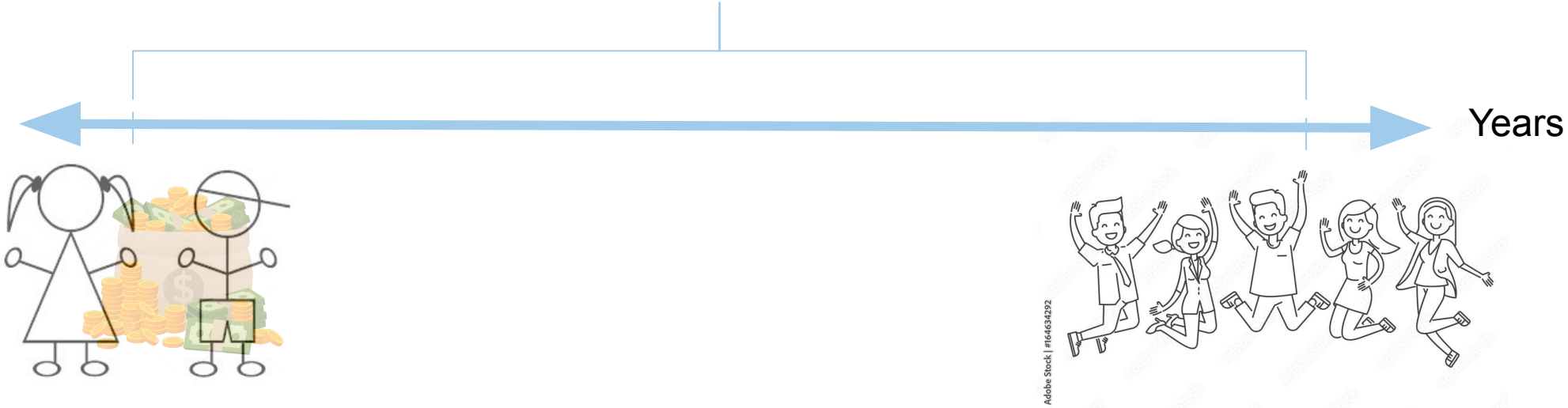
- Resilience
- Reduce adverse effects of ACEs

The Heckman Curve



Investing in children - the sooner the better

Investing in children
Long-term investment



Cost-benefit analysis (CBA)

Help decision making

- More efficient allocation of resources

Quantifies in *monetary terms* the value of all impacts of a policy to all members of a defined population.

CBA - Basis

Compares total *expected* costs (C) and total *expected* benefits (B)

- Net benefits (NB)
- $NB = B - C$
- If NB>0 → Project should be recommended
- If NB<0 → Project should not be recommended

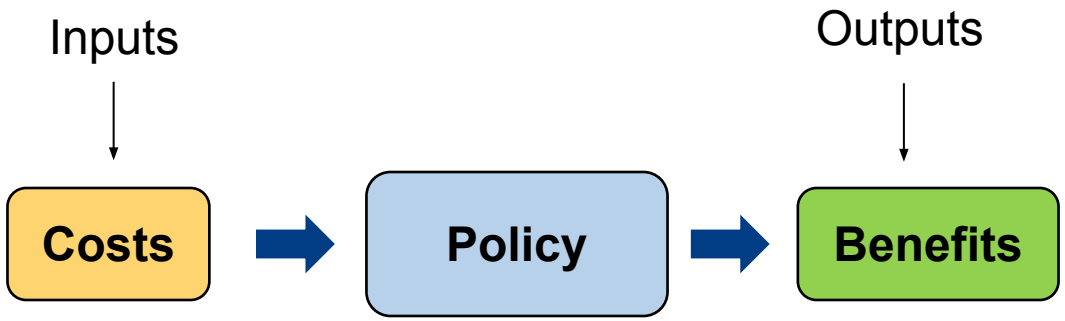
CBA – Main steps

1. Decide who has **standing** (whose benefits and costs matter)

Boardman, Greenberg, Vining & Weimer. (2006). Cost-Benefit Analysis, Concepts and Practice. 3rd ed.

CBA – Main steps

2. Catalogue **impacts** and select measurement indicators



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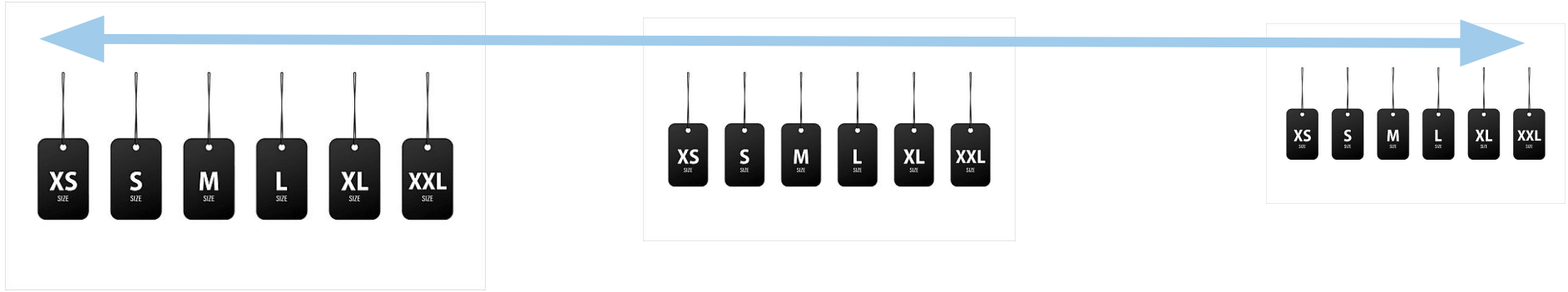
CBA – Main steps

3. Predict impacts **quantitatively** over the life of the project



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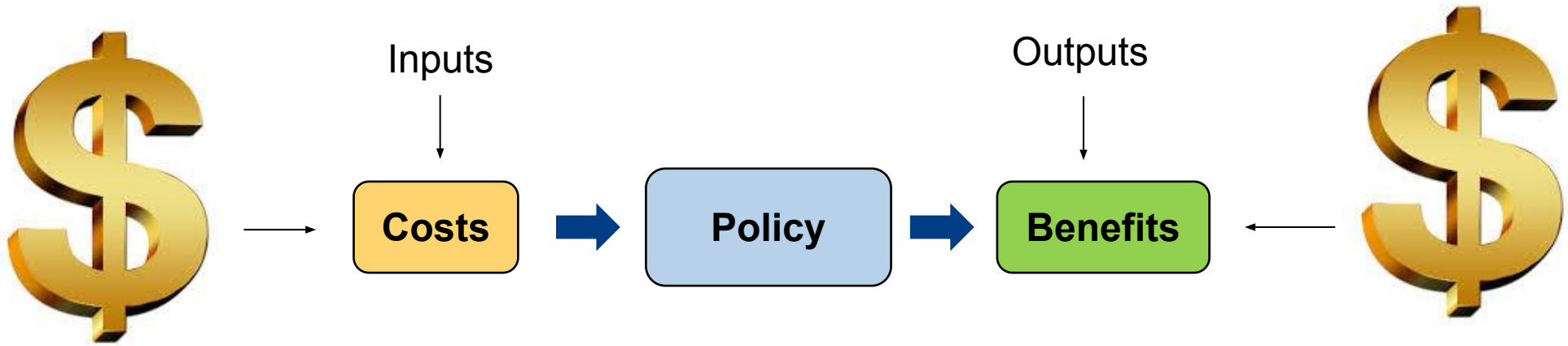
CBA – Main steps

4. Assign monetary values to all impacts



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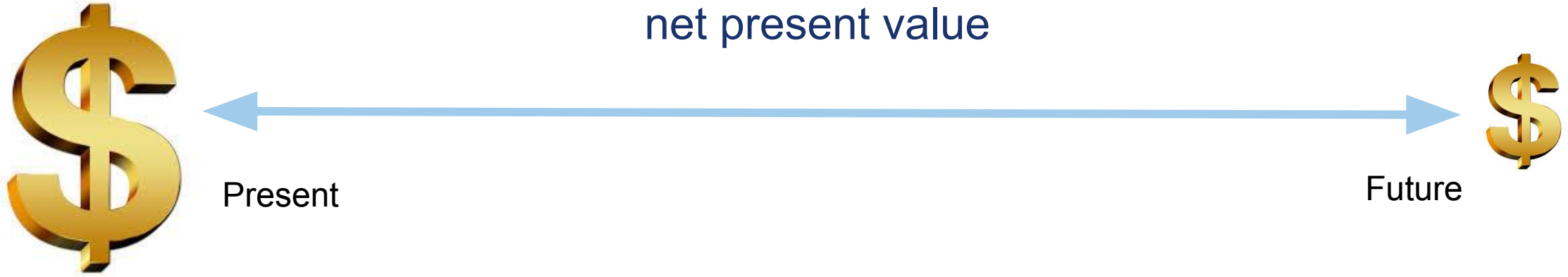
CBA – Main steps

5. Use a discount factor to obtain present values and calculate net present value



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Example from Iceland

In 2023 a CBA was conducted on school support services in Iceland

- Improved social and emotional learning
- Services tailored to the needs of each individual child

Standing: Population living in Iceland

Time horizon: Next 50 years

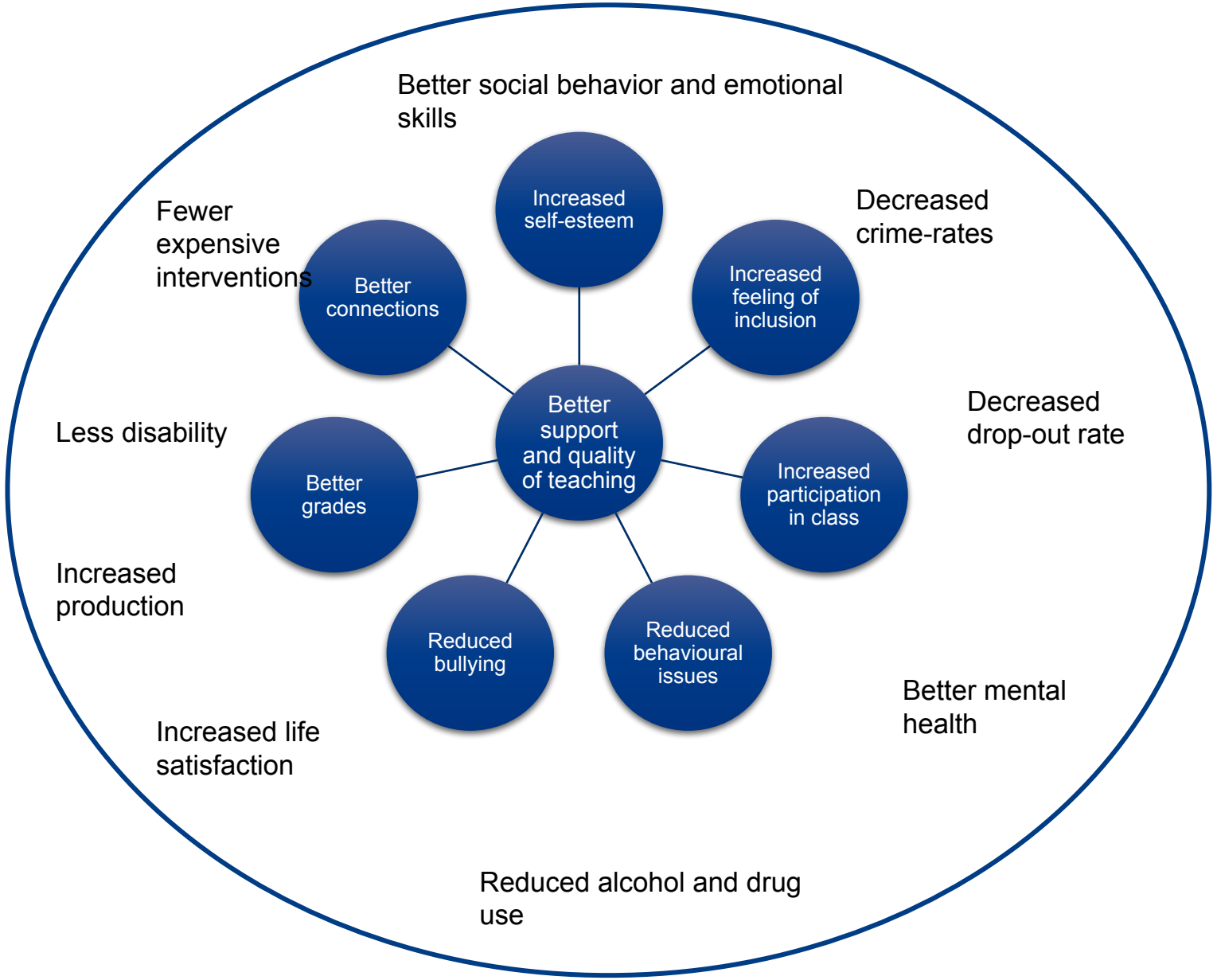
Expected costs (inputs)

The main costs are fairly predictable

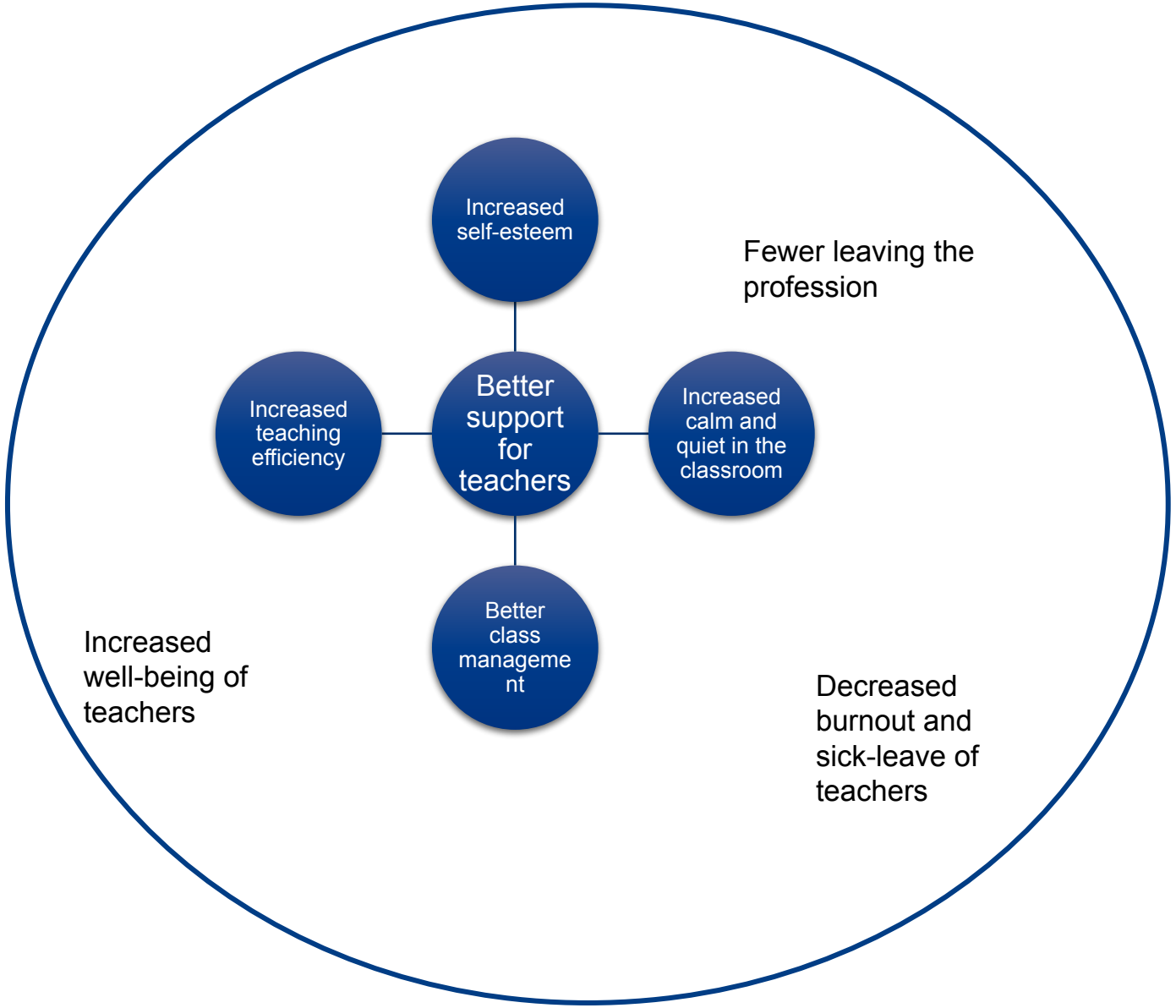
- Labour costs
- Need for additional 40+ experts

Expected benefits (outputs)

For students, teacher and families Government and society



Expected effects for students



Expected effects for teachers

CBA - analysis

Many impacts: Effect sizes and monetary values largely unknown.

Focus on:

- Reduced drop-out rates from highschool
- Decreased incidence of bullying
- Decreased incidence of rehabilitation
- Reduced long-term sick leaves of teachers

Effect sizes

Assume lower and upper bound

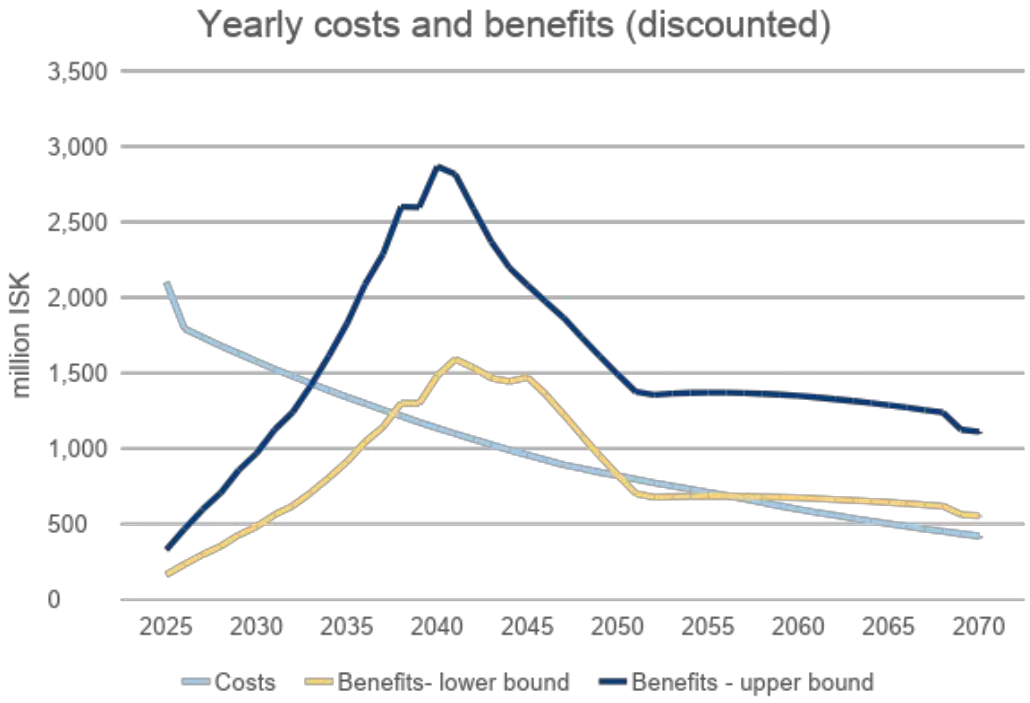
Basic values are conservative

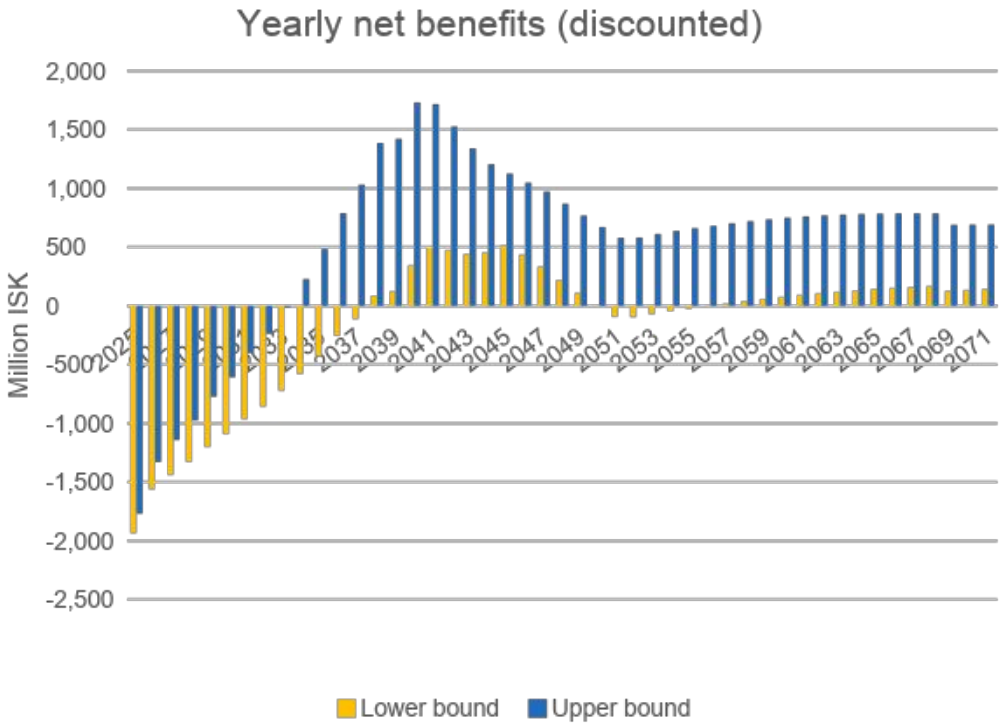
Policy-makers and specialists can adjust the bounds and the results will adjust accordingly.

Can use it to see how large the effect sizes need to be to get the desired results.

Benefits	
Drop-out rates	
New law reduces drop-out rates of:	
Icelanders	
Lower bound	5.0%
Upper bound	10.0%
Foreign origin	
Lower bound	5.0%
Upper bound	10.0%
Sick-leave of teachers	
New law reduces long-term sick leave	
Lower bound	5.0%
Upper bound	10.0%
Bullying	
New law reduces bullying incidence	
Lower bound	5.0%
Upper bound	10.0%
Rehabilitation/disability	
New law reduces rehabilitation incidence	
Lower bound	2.0%
Upper bound	4.0%

Results


Yearly costs and benefits (discounted)
million ISK
3,500
3,000
2,500
2,000
1,500
1,000
500
0
2025
2030
2035
2040
2045
2050
2055
2060
2065
2070
Costs
Benefits- lower bound
Benefits - upper bound


Yearly net benefits (discounted)
Million ISK
2,000
1,500
1,000
500
0
-500
-1,000
-1,500
-2,000
-2,500
2037
2039
2041
2043
2045
2047
2049
2051
2053
2055
2057
2059
2061
2063
2065
2067
2069
2071
Lower bound
Upper bound

Results

Results

	Lower bound	Upper bound
PV(B)	38,469,725,991	71,624,673,609
PV(C)	45,591,404,897	45,591,404,897
NPV	**-7,121,678,906**	**26,033,268,713**

Included in analysis:

- Total costs
- Only part of the benefits

Conservative effect sizes

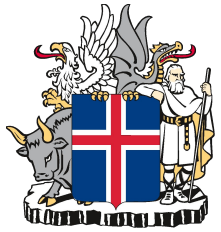
Policy **recommended!**

Moving forward

Lack of investment in early intervention and prevention results in great costs in governmental systems.

Need to change the way we think about early intervention from sunk costs to investing in the future

Create happier, well-balanced and contributing individuals



Thank you

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