

# The Dutch external and flood safety policies

## A comparative study



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# Outline

- Introduction
- The Dutch external safety policy
- The Dutch flood safety policy
- Comparison
- Conclusions

# Introduction

Comparative studies can:

- Contribute to understanding (hypothesis testing)
- Facilitate learning from experiences elsewhere

Types:

- Small n
- Large n
- Cross-country comparison of practices within a single domain
- Comparison of practices within different domains in a single country

# Introduction

A focus on the formal outline of regulations

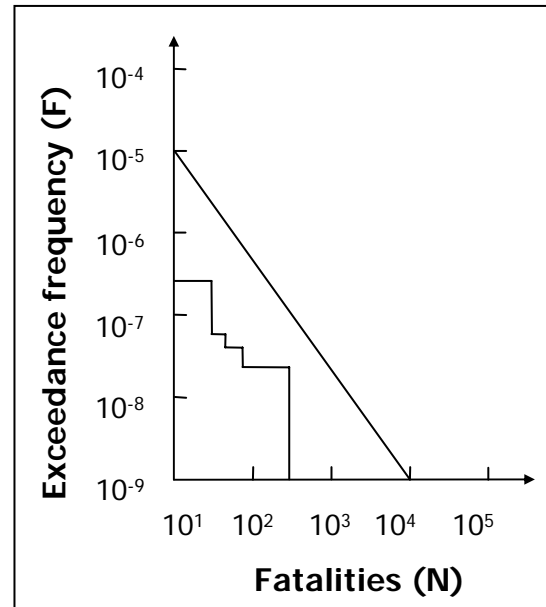
Analytical framework: a welfare economic perspective

→ Government action as a means to correct market failures

- Which market failures are we dealing with?
- How has the government attempted to resolve them?

# The Dutch external safety policy

- Third party risks
- Individual and societal risk criteria

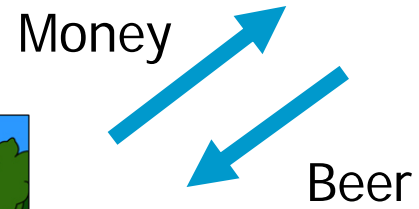
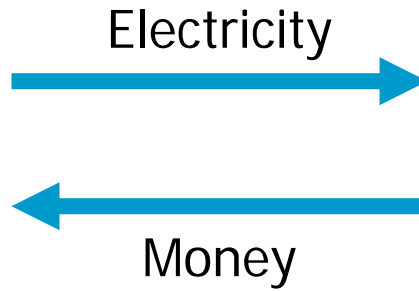
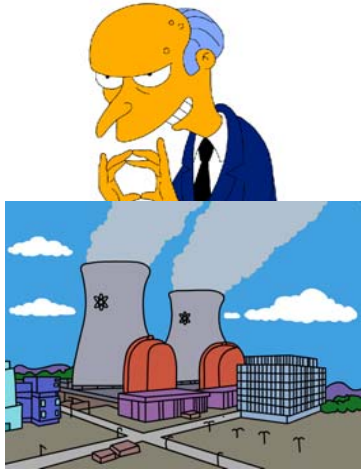


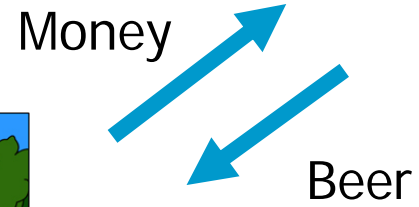
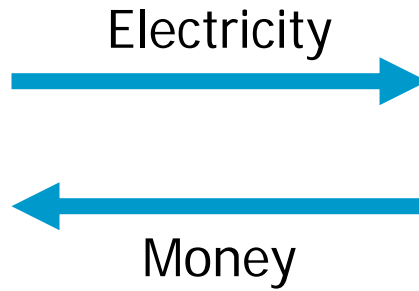
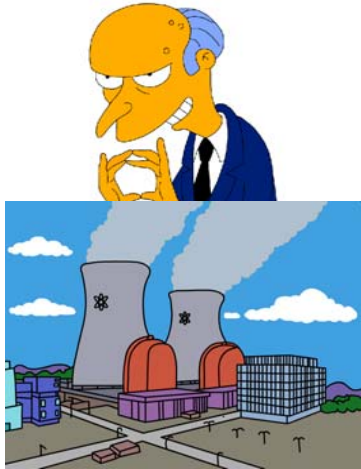
# The Dutch external safety policy

Third party risk is a negative externality

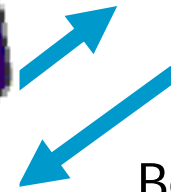
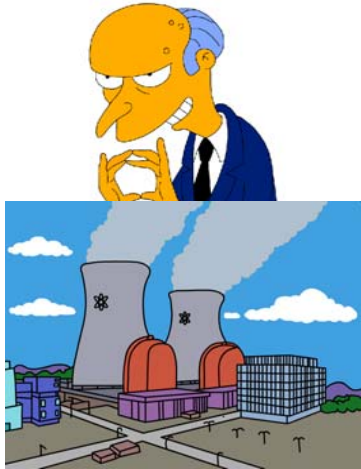
“A side-effect of production or consumption that is not accounted for in markets”

**(Samualson& Nordhaus, 1989)**









Beer



# The Dutch external safety policy

The Dutch external safety policy is about:

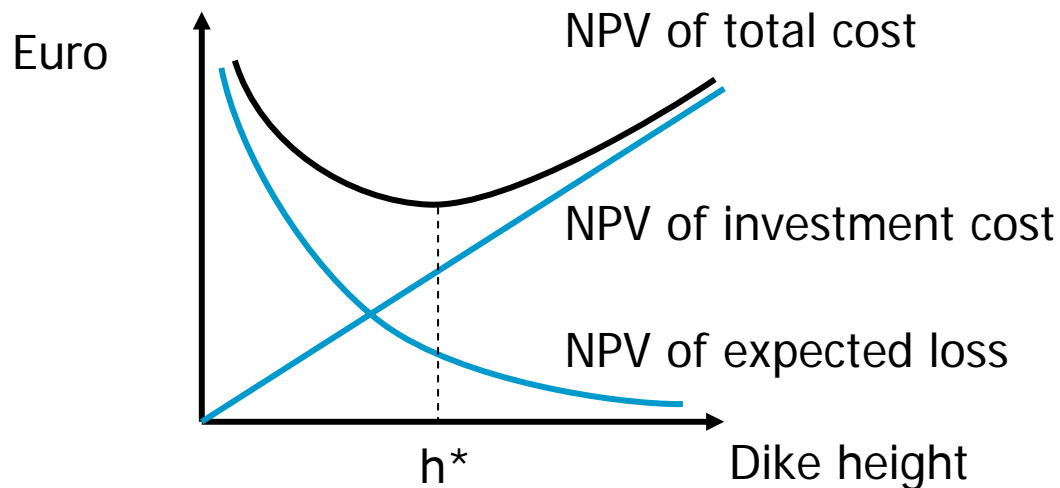
- Streamlining the behaviour of individual market participants
- Striking a balance between public safety, other interests

A combination of liability rules and regulation is an efficient strategy:

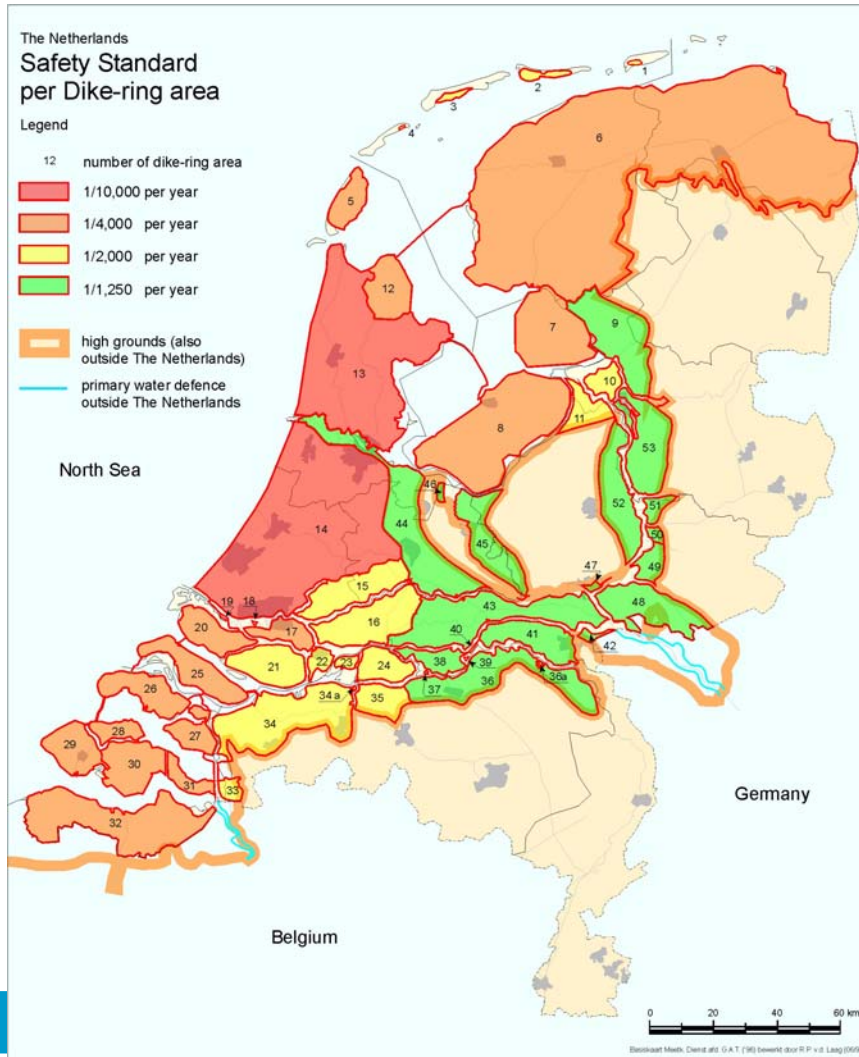
- Imperfect information
- Agency cost; high personal discount rates
- The cost of government intervention: administrative cost and imperfect rules
- Information asymmetries;
- ...

# The Dutch flood safety policy

- Standards for primary flood defences
- Standards based on the costs and benefits of risk reduction



# The Dutch flood safety policy



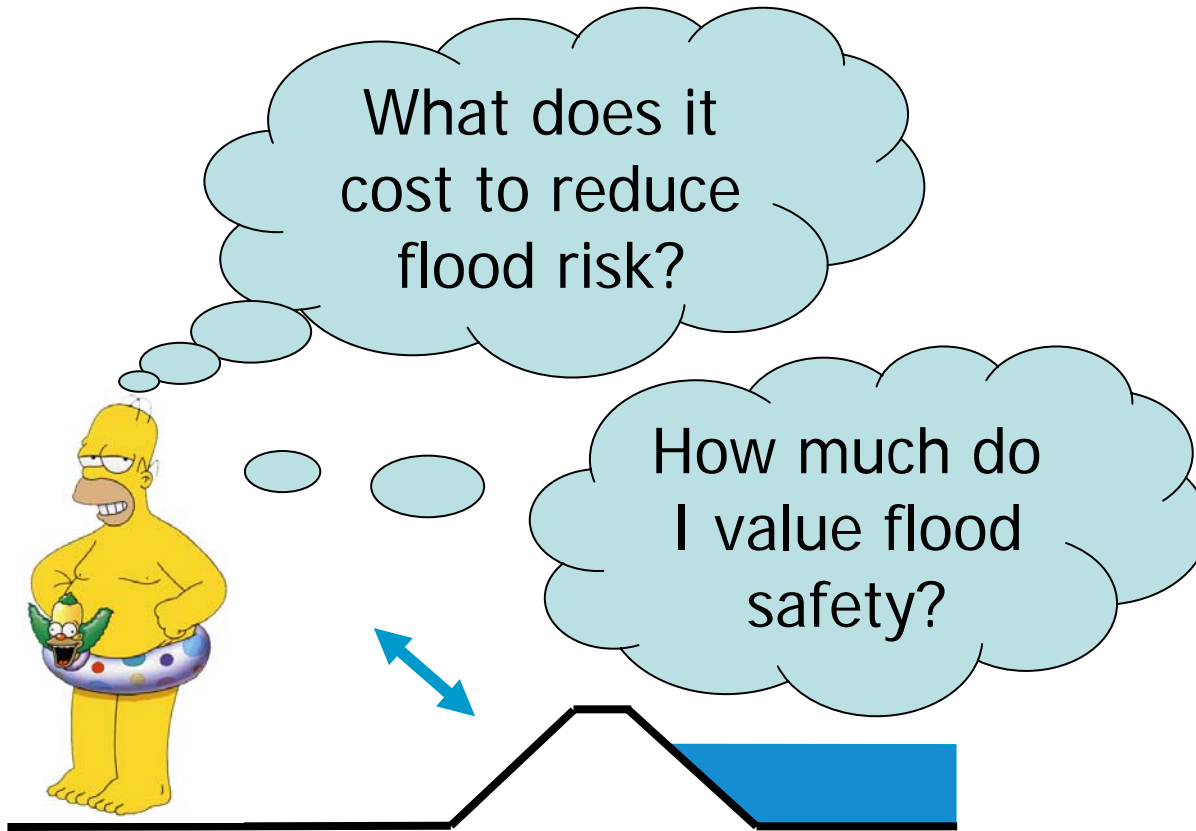
- Exceedance frequencies of water levels
- Standards vary throughout the country

# The Dutch flood safety policy

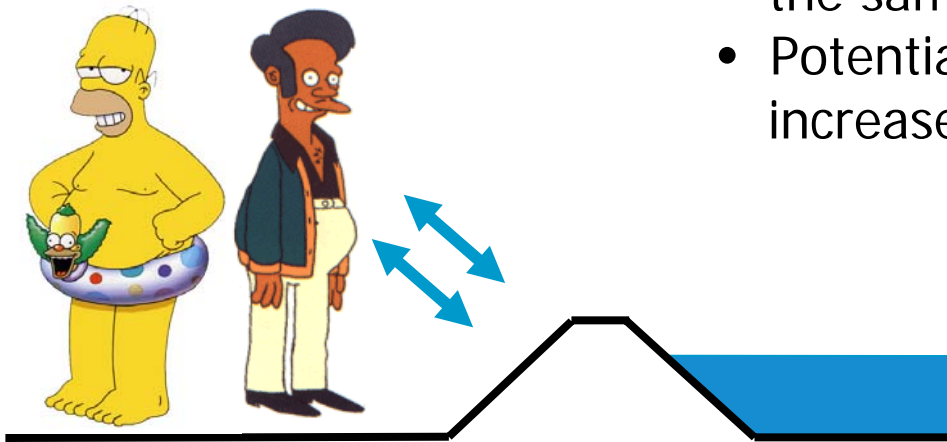
A flood defense is a public good:

- Non-rivalry
- Non-excludability

# The Dutch flood safety policy

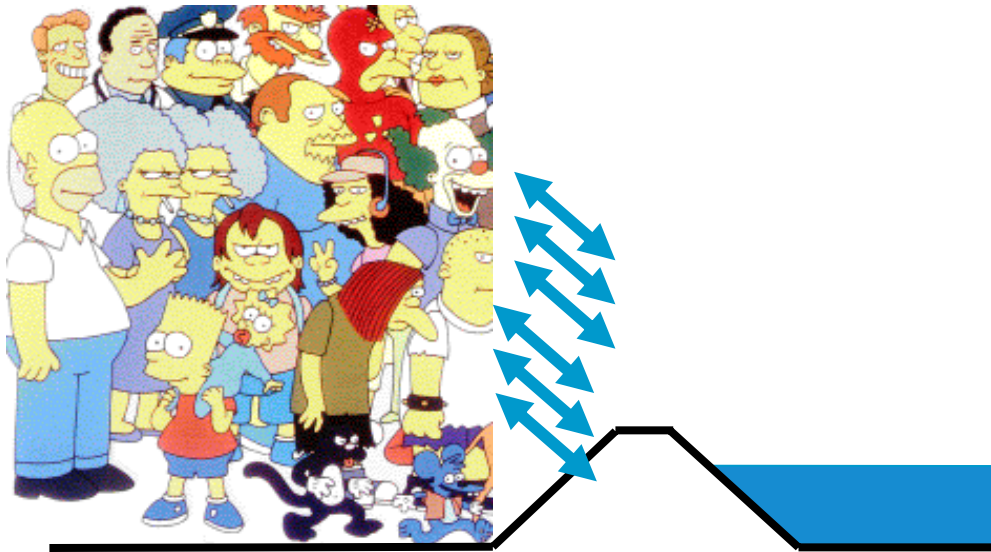


# The Dutch flood safety policy



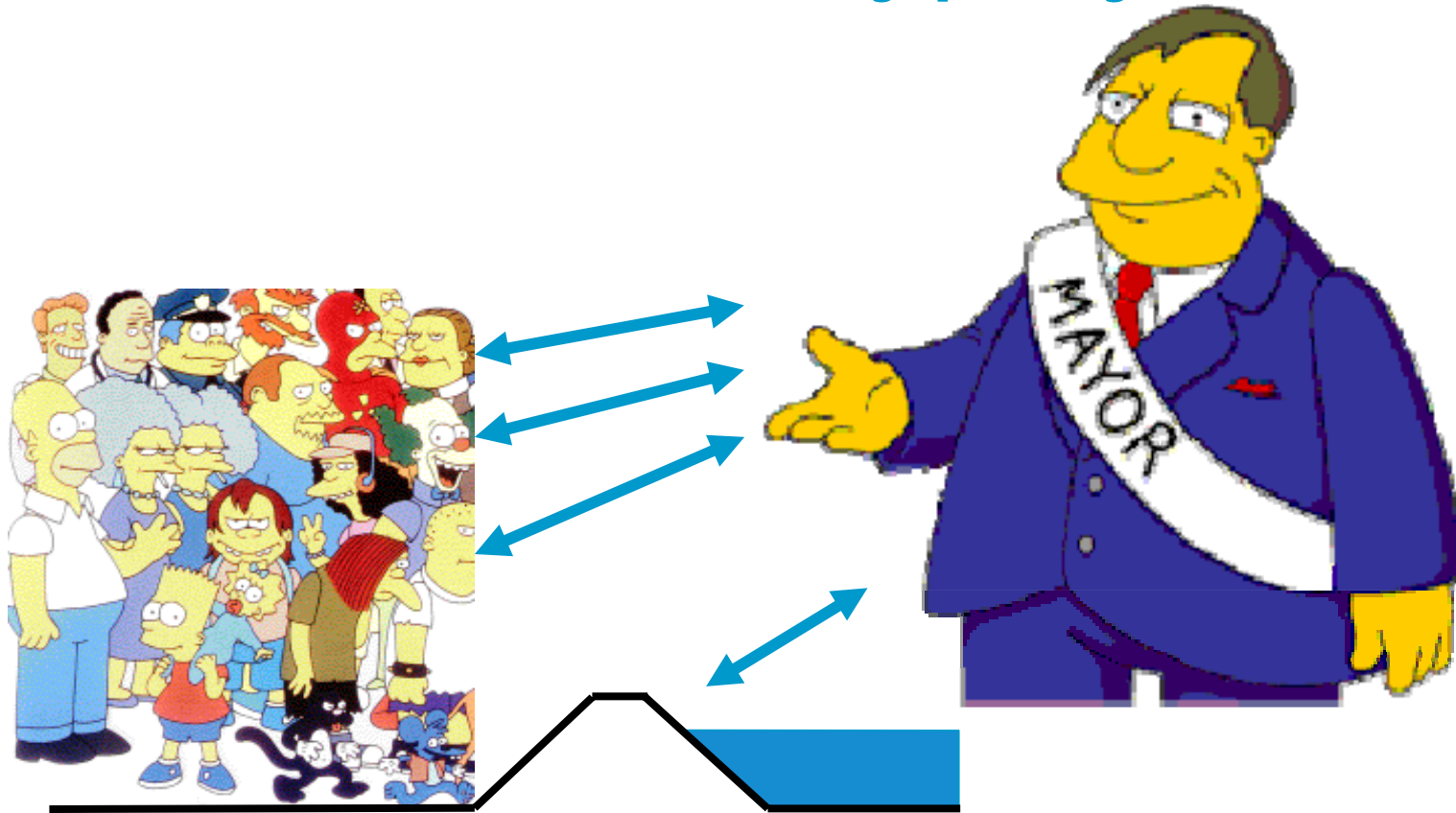
- Costs of dike strengthening stay the same
- Potential losses (willingness to pay) increase

# The Dutch flood safety policy





# The Dutch flood safety policy



# The Dutch flood safety policy

## The Flood Defence Act

- Links citizens to one another by laying down an agreed-upon standard of protection
- Links the government to its citizens by laying down the standard of protection that the public expects to receive in return for the taxes that it pays

# Comparative study

- The Dutch industrial and flood safety policies are both firmly risk-based

Yet:

- Dealing with a negative externality vs. the provision of a public good
- Flood safety standards differ by region, while equal criteria apply to all installations/transport kilometers
- The Dutch flood risk policy lacks criteria to prevent disproportional individual exposures
- The Dutch flood risk policy largely ignores loss of life
- The Dutch flood risk policy targets flood probabilities only

# Conclusion

- Further work:
  - Accounting for loss of life in the Dutch flood safety policy
  - Targeting consequences as well as flood probabilities

Note: different perspectives are likely to yield different results

# Discussion

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