1. Institutions and Transaction Costs

**Institutions** are exogenous to the EPI. They affect its design and performance, e.g., “Dutch habit of honestly paying taxes.”

**Transaction costs** are endogenous to the EPI. They are fixed and variable, e.g., cost of buying water meters and reading the meters.

It’s possible to overlook both, as they are not overtly part of the policy discussion or economic theory.

**Bottom Line:** Institutions and TCs can break an EPI that sounds good from an economic or environmental perspective. They can interact with distribution of costs and benefits to improve/worsen the social impact of an EPI -- and thus its political acceptability.
2. Complications with Institutions

- Need to describe (in)formal physical, political, cultural, legal and administrative exogenous factors affecting the EPI's design, implementation and function.

- A description of laws may miss factors affecting those laws or their implementation.

- A "partial equilibrium" approach may explain primary forces but miss secondary influences.

- Failure to understand institutions means we may misunderstand the potential to implement an EPI elsewhere.

3. Complications with Transaction Costs

- Some authors paid careful attention to TCs, tracing them from beginning to end, but most authors listed TCs without quantification (e.g., staff, time to trade). Quantification was easier when earlier studies has established TCs.

- TC evaluation was complicated when EPIs were additional to existing policies. The marginal TC was small due to institutions.

- We may have had a problem with survivor bias in ex-post studies. Significant TCs may mean the difference between a good and bad EPI.
4. The Dutch groundwater tax

- Reduce burden on productive activities and “green” environment.
- Applied to drinking water companies (75 %) and industry.
- Agriculture mostly exempt (small impact plus lobbying)
- Opaque impact on customers; companies loathed it.
- Small shift from ground- to surface water.
- No tracking of groundwater impact; “prevented” higher income taxes.

**Bottom Line:** Hard to see benefit on productive activities OR environment (no double dividend). Special interest benefits from repeal (EUR millions).

5. Institutional factors

**Wrong scale:** Dutch don’t want groundwater in some places.

Ineffective: Exemption of farmers and lack of monitoring gutted environmental component.

**Unnecessary:** Provincial groundwater fees funded monitoring and management since 1986. Fee revenue was 10 percent of GWT. Fees varied by location; everyone paid. Considered effective.

**Unpopular:** Special interest got hit by narrowing of tax base. Final consumers had zero elasticity of response, but less than 50 percent pass through (EUR 70 to company vs 40 million to customers)

Existing institutions handled groundwater and gutted the “green” component of the GWT. Ended when ineffectiveness became obvious.
Thanks!

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