

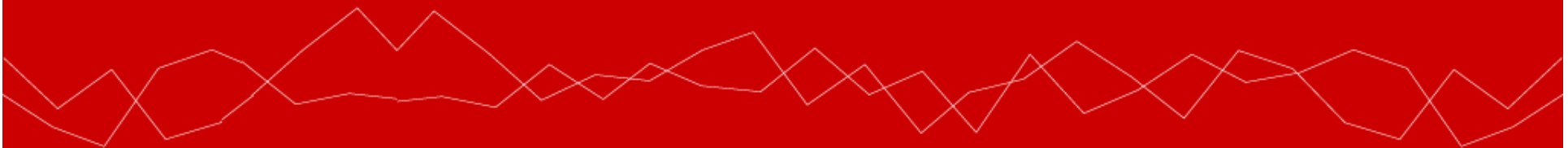
# Unbundling of distribution networks in the Netherlands

Lessons from the debate and standing research questions for other countries

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Michiel de Nooij

[www.seo.nl](http://www.seo.nl) – [m.denooij@seo.nl](mailto:m.denooij@seo.nl) - +31 20 525 1630

seo economisch onderzoek



## Structure of the talk

- § **Unbundling (Dutch style)**
- § **Policy debate**
  - § What happened?
  - § Why did it go this way?
- § **Welfare analysis**
  - § Cost benefit analysis
  - § Outcome
  - § Set-up of the CBA
- § **Research questions on the table**
- § **Conclusion**

## Unbundling

- § **The Netherlands**
  - § **Ownership unbundling of the distribution companies**
  - § **Plus increase the task of the TSO (was  $\geq 220$  kV; is  $\geq 110$  kV)**
- § **EU requires legal unbundling for DSO's**

## The legal controversy

### 1. Current regulation not enough for LPF (?)

§ July 2004 'Implementation and Intervention Act': many new and far reaching rules. Not yet completely implemented, not evaluated.

### 2. Free traffic of capital

§ After privatization, free traffic of capital can only be limited by national regulation, justified by compelling arguments of public interest, and applicable to all individuals and companies (Golden Share judgments).

### 3. Unbundling: telling an owner of a company what he can or cannot do with his possession.

§ EU Treaty: Restrictions to the undisturbed use of their possession by firms are allowed if they are in the public interest, proportional, and require a legal basis.

# Unbundling Dutch style

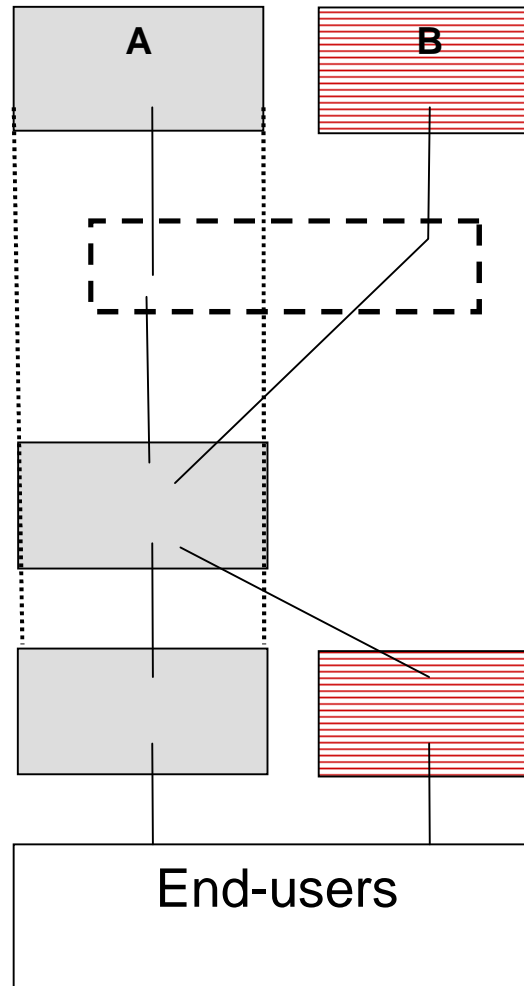
Production

Transmission

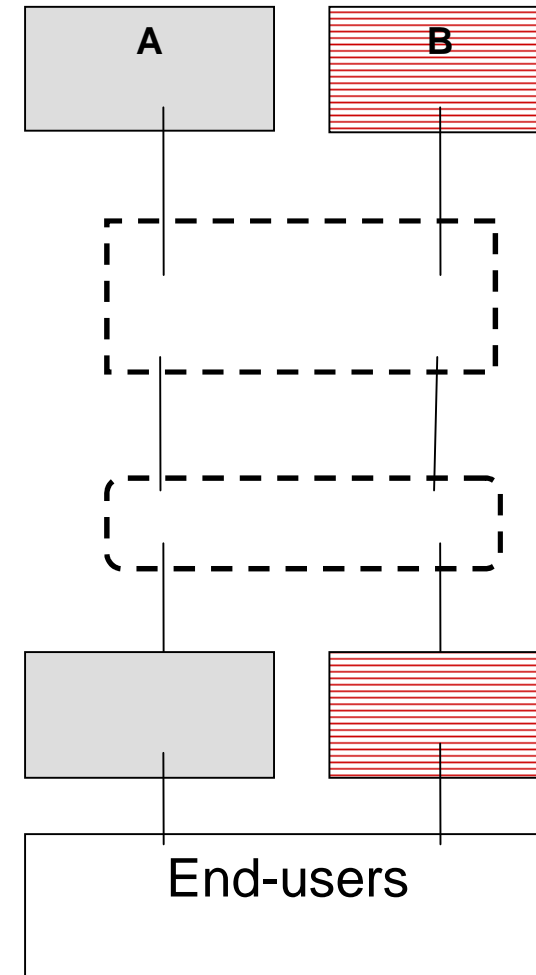
Distribution

Supply

Without unbundling;  
Region X



After unbundling;  
Region X



## Policy debate: what happened?

- § 1999 – 2000: legal and administrative separation between commercial and grids
- § 2004 Intervention and Implementation law:
  - § more rules on independent grids
- § March 2004 MEA launched the unbundling plan
- § August 2005 Draft bill presented to Parliament
- § Parliament not convinced about cost and benefits.
- § MEA commissioned a validation commission, which reported on 20 March 2006 (included sort of a CBA by CPB). Alternatives are not debated
- § Parliament approved the same month

## Policy debate: what happened?

- § **Senate agreed, conditional that unbundling is not realized, unless:**
  - § **companies want to privatize** (networks should remain public)
  - § **companies abuse their position**  
(hinder domestic competition or do risky investments abroad)
  - § **Europe requires unbundling**
- § **New government in its first week: unbundling is necessary:**
  - § **Delta bought Belgium garbage collector**
    - § Short distance (50 km) & same business line
  - § **Essent and Nuon expressed intention to merge**
    - § Conditions of competition authority not clear
- § **Merger failed. International acquisitions**
  - § **Essent & RWE, Nuon & Vattenfall**
- § **Energy regulator: We cannot find cross subsidies**

## Policy debate: why did it go this way?

- § Why was NL taking the lead?
- § Why was a typical Dutch solution (agreement) ignored?
- § Chaos / political process
  - § Many arguments, no overview (in a cba)
    - § So not only 'rational' (economic) arguments
    - § Political (economy) arguments
- § Lack of trust of politicians towards (big) energy companies
  - § Public companies, top managements gets business salaries
  - § Cpi-x(*i*) regulation severely challenged by energy companies
  - § Complains about lack of separation by entrants
- § Possibility for politicians to demonstrate power (?)

## Welfare analysis: cost benefit analysis

- § NPV of all future cost and benefits
- § If  $NPV > 0$ , good investment / policy
- § Measure cost and benefits compared to a counterfactual, and do so for all relevant alternatives
- § 5 steps:
  - § Problem analysis and solutions
  - § Analysis of all effects
  - § Quantifying all effects
  - § Valuing the effects
    - § non-market goods and future effects (discounting)
  - § Aggregating and sensitivity analysis

## Policy options

**Counterfactual: only fine tuning**

<b>A. Fat distributor,</b>	<b>110 kV not to TenneT,</b>	<b>no privatisation</b>
<b>B. No fat distributor,</b>	<b>110 kV to TenneT,</b>	<b>no privatisation</b>
<b>C. Fat distributor,</b>	<b>110 kV to TenneT,</b>	<b>no privatisation</b>
<b>D. Agreement,</b>	<b>110 kV to TenneT,</b>	<b>no privatisation</b>
<b>E. Agreement,</b>	<b>110 kV to TenneT,</b>	<b>minority privatisation</b>
<b>F. Unbundling,</b>	<b>110 kV not to TenneT,</b>	<b>no privatisation</b>
<b>G. Unbundling,</b>	<b>110 kV to TenneT,</b>	<b>no privatisation</b>
<b>H. Unbundling,</b>	<b>110 kV not to TenneT,</b>	<b>privatisation</b>
<b>I. Unbundling,</b>	<b>110 kV to TenneT,</b>	<b>privatisation</b>

**Policy: alternative G/I (started to enable priv., but now privatisation )**

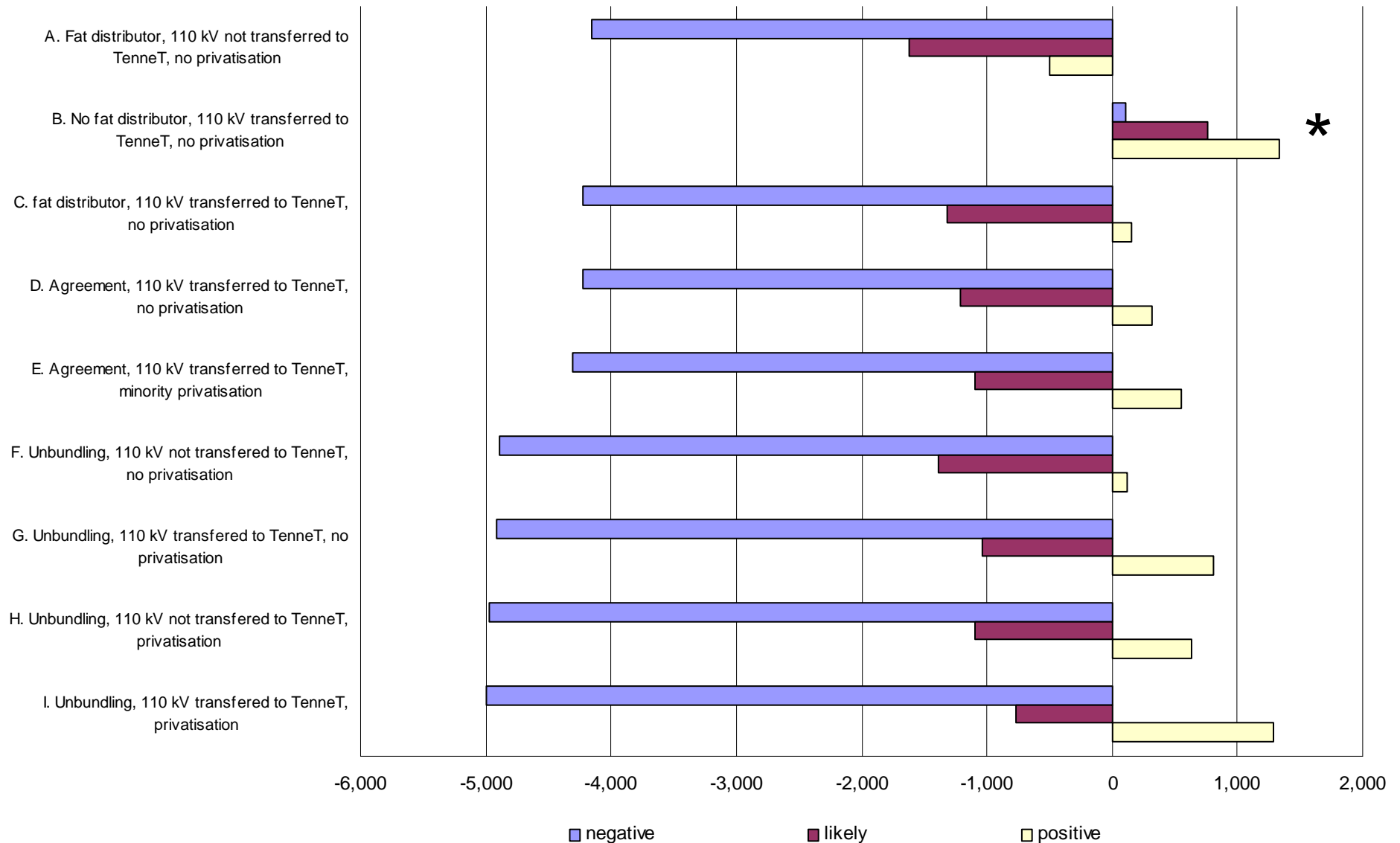
**Three scenarios: negative, likely and positive**

## Cost benefit analysis

Results in terms of

- § Outcome: net present value
- § Three scenarios: negative, likely and positive
- § Sensitivity analysis not discussed here

# Outcome



# Cost-benefit analysis likely scenario

	A. Fat distributor, 110 kV not transferred to TenneT, no privatisation	B. No fat distributor, 110 kV transferred to TenneT, no privatisation	C. Fat distributor, 110 kV transferred to TenneT, no privatisation	D. Agreement, 110 kV transferred to TenneT, no privatisation	E. Agreement, 110 kV transferred to TenneT, minority privatisation	F. Unbundling, 110 kV not transferred to TenneT, no privatisation	G. Unbundling, 110 kV transferred to TenneT, no privatisation	H. Unbundling, 110 kV not transferred to TenneT, privatisation	I. Unbundling, 110 kV transferred to TenneT, privatisation
Less hindering of competition: more efficiency in supply	21	21	21	43	74	64	64	128	128
Less hindering of competition: more efficiency in generation	91	91	91	182	318	272	272	545	545
More competition and thus efficiency through more distributed generation	0	0	0	0	0	0	0	0	0
Cheaper regulatory oversight	59	0	59	59	59	119	119	119	119
Better focussed and thus more efficient distribution companies	346	346	346	346	346	691	691	691	691
Security of supply	16	25	41	41	41	16	56	31	56
One of reorganisation cost	-80	-20	-100	-100	-150	-100	-120	-150	-170
Permanent reorganisation cost	-2,073	319	-1,754	-1,754	-1,754	-2,392	-2,073	-2,392	-2,073
Legal cost adjusting the Cross Border Leases	0	-25	-25	-25	-25	-50	-50	-50	-50
Damages on the Cross Border Leases	0	(-PM?)	(-PM?)	(-PM?)	(-PM?)	-PM?	-PM?	-PM?	-PM?
<b>Total (benefits net of cost)</b>	-1,623	762 (-PM?)	-1,318 (-PM?)	-1,210 (-PM?)	-1,091 (-PM?)	-1,264	-922 -PM?	-970	-644 -PM?

## seo economisch onderzoek

	Unbundling, 110 kV transferred to TenneT, no privatization Likely scenario
Less obstruction of competition: more efficiency in supply	64
Less obstruction of competition: more efficiency in generation	272
More competition and thus efficiency through more distributed generation	0
Cheaper regulatory supervision	119
Better focused and thus more efficient distribution companies	691
Security of supply	56
One-off reorganization cost	-120
Permanent reorganization cost	-2,073
Legal cost of amending the cross-border leases	-50
Total (benefits net of cost)	-1.032-NM?

## Benefits: More competition (i)

More competition → efficiency supply and generation ↑

By preventing integrated companies to favour the own supply company hampering competition, by (e.g.)

- § Setting network tariffs too high
- § Passing commercially information to the own supplier
- § Cross-subsidies from the network company
- § Suggestion of the above

§ Valuation:

- § How much competition is created by unbundling?
- § Effect of competition on efficiency?
  - § Benefit of competition in other sectors / countries?
- § Effect of distributed generation?

## Benefits: Valuing more competition (ii)

- § Newbery and Pollitt (1997) competition reduced cost by 5 % in the UK. Here the change is much smaller
- § Pollitt (1999) same study for Scotland: no effect
- § Jamasb and Pollitt (2005): in the UK legal unbundling (almost) completely stopped cross-subsidies
- § UK and Scandinavia did not require ownership unbundling, but are considered more mature markets anyway
- § Relevant market: Netherlands or Europe?
- § Favouring only possible if network regulation is too soft
- § Regulation prevents most favouring behaviour
- § Clark (1940) workable competition, market in which several conditions for competition are violated, does not always get better when one is improved
- § Is distributed generation at independent producers stimulated? And if so is this going to stimulate competition and thus efficiency further?
- § ...

## Benefits: simplicity

### Simplification of market structure and company structure

- § Cost for the regulator and the companies ↓
- § Each separate companies can better focus at the core activity
  - § 1 percent lower cost with a fat distributor (€30 million)
  - § 2 percent after unbundling (€60 million)

## Other benefits

- § Lower governments can sell there shares, and at a higher price?
  - § Commercial energy activities are too risky
  - § Privatization vetoed by the minister
  - § Increase in value mostly a transfer
- § Security of supply
  - § No underinvestment in the network, better focus
  - § From 30 to 27.75 minutes of outage: annual benefit of €3.4 million
- § Lower cost of adjusting the law
  - § Saves costly time
  - § €1.5 million annually
  - § Adjusting the current law costs €28 million

## Cost of reorganizing

### In the first year

- § Creating two companies, lawyers, building, IT, etc.
- § €20 million for transfer of the grid
- § €80 million for fat distributor, €100 m. for unbundling
- § €50 million for privatizing

### Annual cost:

- § Deloitte: €455 million
- § Roland Berger: €280 – 400 million after 5 years because of mergers and acquisitions
- § MEA: max €150 million. Huge savings by changing the billing system. Roland Berger disagrees
- § CPB: €100 million
- § SEO: €150 for unbundling, and €130 for fat distributors
- § Follow the minister?

## Annual cost: Deloitte (incomplete)

Items	Sub items	Costs 2005 (A)
Management	Strategic policy	55
	Communication and marketing	40
P&O	Security and health	20
	Personnel and organization	20
ICT	ICT products and services	90
	ICT planning and control	50
	Control ICT structure	45
Financial	Reports and analysis	80
Support	Customer service and billing	105
	Facilities	55
....		
Initial estimate of total annual cost		890
Final estimate of total annual cost		890

## Other cost

- § **Cross Border Leases**
  - § **Sale and lease back constructions at the cost of US government**
  - § **Cost of re-negotiating + damage faced by the American investor**
- § **Reputation of the government**
  - § **Unbundling goes beyond European obligation**
  - § **Violation of property rights**
- § **Loss of synergy: higher cost of attracting money**
  - § **Minister claims this cost up to 100 million in the beginning**
  - § **Theoretically strange**
  - § **Negative scenario: first 10 years, each year 10 percent lower**
- § **Legal claims**
  - § **10 DSO's, each with 20 lawyers, during 2 year, 200,000 euro per lawyer: 40 million. + 50 percent for cost of government**
  - § **Likely scenario: 50 percent. Negative scenario: 100 percent**

## Other effects?

- § **Employment**
  - § **General equilibrium effects**
- § **Environment**
  - § **Possibility for national environmental policy?**
- § **Competitive position energy intensive industry**
- § **Dutch national energy companies easier prey for foreign take-over?**
- § **Redistribution**
  - § **Newbery and Pollitt (1997): total cost – 5 %, producers gained while consumers and the government lost**
  - § **NL: two main groups: citizens in jurisdiction with shares versus those without.**
  - § **Companies are not allowed to pass on higher cost (reorganization or CBL) to their consumers**
    - § **Credible / legal / enforceable?**
    - § **The first five years**

## **New research possibilities & open questions**

- § **So far all research ex ante. Now ex post becomes possible!**
- § **Competition benefits**
  - § **How much did the integrated companies really harm competition?**
  - § **How much will distributed generation contribute to competition?**
  - § **Expected efficiency improvement could be less crude?**
- § **How large are the annual cost of reorganizing?**
- § **Benefits of simplicity**
  - § **Importance of level playing field for all suppliers increases**
  - § **Distributed generation impacts grid investments and vice versa**
    - § **How will unbundling impact investments in distributed generation?**  
Coordination between supplier and network coordinator are harmed.

## Conclusion

- § **Cost are likely to exceed benefits**
- § **Motivation of unbundling?**
  - § **Public interest theory (Posner, 1974)**
  - § **Private interest theory (Stigler, 1971/4): Regulatory capture**
  - § **Both theories unable to explain unbundling proposal**
  - § **Inversely explained by the private interest theory??**
    - § **Tit-for-tat strategy (revenge) for forceful and successful proceeding of energy companies against cpi-x regulation?**