

# 4<sup>th</sup> E.CA Competition Law and Economics Expert Forum

## Ex-post Evaluation of Competition Law Enforcement Effects on German Waste Packaging Markets

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Bundeskartellamt

The views expressed are those of the  
presenter and do not necessarily reflect  
those of the Bundeskartellamt.

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# Agenda

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I. The story

II. The data set

III. The results

# Collection and recycling of packaging waste is organized by “compliance schemes”

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Other household waste:  
Monopoly of municipality  
(~450 local monopolies  
throughout Germany)

Packaging waste:  
Former nationwide  
monopoly of DSD ;  
now: several competing  
compliance schemes  
("Duale Systeme")



# Compliance scheme DSD enjoyed a monopoly until 2003

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- Yellow bin was introduced 1990-1995
- Industry (producers, retailers) and government designed DSD to be the only packaging waste compliance scheme
- 500+ shareholders of DSD included predominantly producers/retailers, but also waste management companies
- DSD as “non-profit” company: DSD’s prices should equal costs
- DSD as “no operations” company: Operations were performed by private and public waste management companies.
- Yellow bin perceived as a joint national effort; extensive promotion campaigns with The Green Dot



# Competition authorities' interventions eventually enabled market entry

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- Bundeskartellamt brought 20+ antitrust cases in the area of packaging waste since 2000
- Two antitrust cases brought by EU COM in 2001
- First competing compliance scheme received regulatory approval in 2003 (regional scope) – 2006 (nationwide) ; some fringe competition by individual take-back solutions since ~2001
- Nine competing compliance schemes since 2008
- Sector inquiry 2012:  
evaluation of the effects that the de-monopolization had

# Agenda

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# Almost ideal market conditions for conducting an ex-post evaluation

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- Clear market boundaries and homogeneous service:
    - service defined by Packaging Ordinance
    - customers (=retailer/producer) obliged to procure service
    - customers focus on price only (view it akin a tax)
  - No distortion by quality effects:
    - quality of collection defined by municipality
    - minimum recycling quotas defined by Packaging Ordinance
    - quality slightly improved over time
  - No distortion by quantity effects:
    - quantities of collected waste roughly constant
- ➔ Except for de-monopolization, market conditions remained basically unchanged for 20+ years

# Data set covers a time span of 19 years ...

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- 11 years of monopoly and 8 years of competition
  - data collected through compulsory request for information
  - 100% market coverage: all 9 compliance schemes provided all requested data / documents
  - requested data previously tested by auditing firms and public authorities:
    - turnover (annual accounts)
    - quantities: compliance schemes are obliged to provide waste authorities with a yearly proof of packaging waste collection, sorting and recycling (“Mengenstromnachweis”)
- ➔ unparalleled time span and data quality if compared to other ex-post evaluation studies



# ... supplemented by rich information already in possession of BKartA

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- since 2003 yearly monitoring of DSD tenders for collection, sorting and recycling: in-depth cost/quantity data for each municipality throughout Germany
  - dawn raid of waste service operators in 2003 (on suspicion of bid rigging to the detriment of DSD)
  - several pieces of information from other BKartA proceedings
- ➔ in other ex-post evaluations, causality is typically established only indirectly (comparison with a control group – “DID”)
- ➔ this ex-post evaluation study is able to establish causality directly (through cost data, bidding data, etc.)

# Agenda

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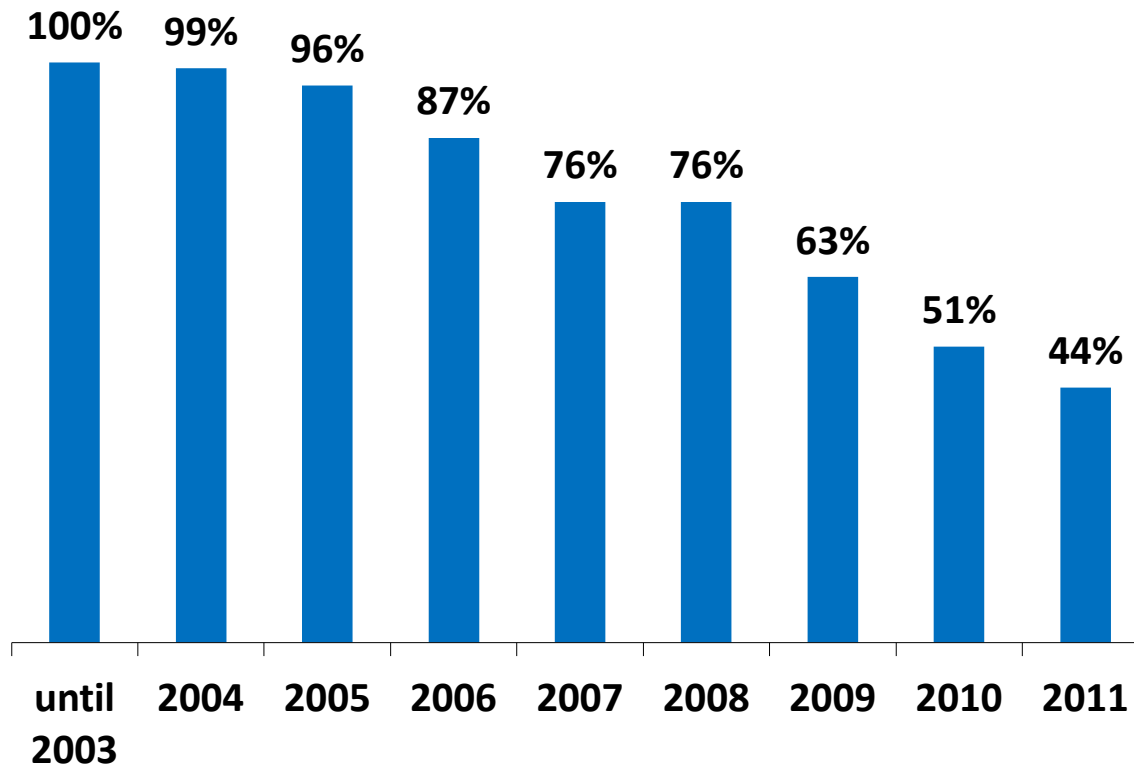
I. The story

II. The data set

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# Market share of DSD dropped down to 44%

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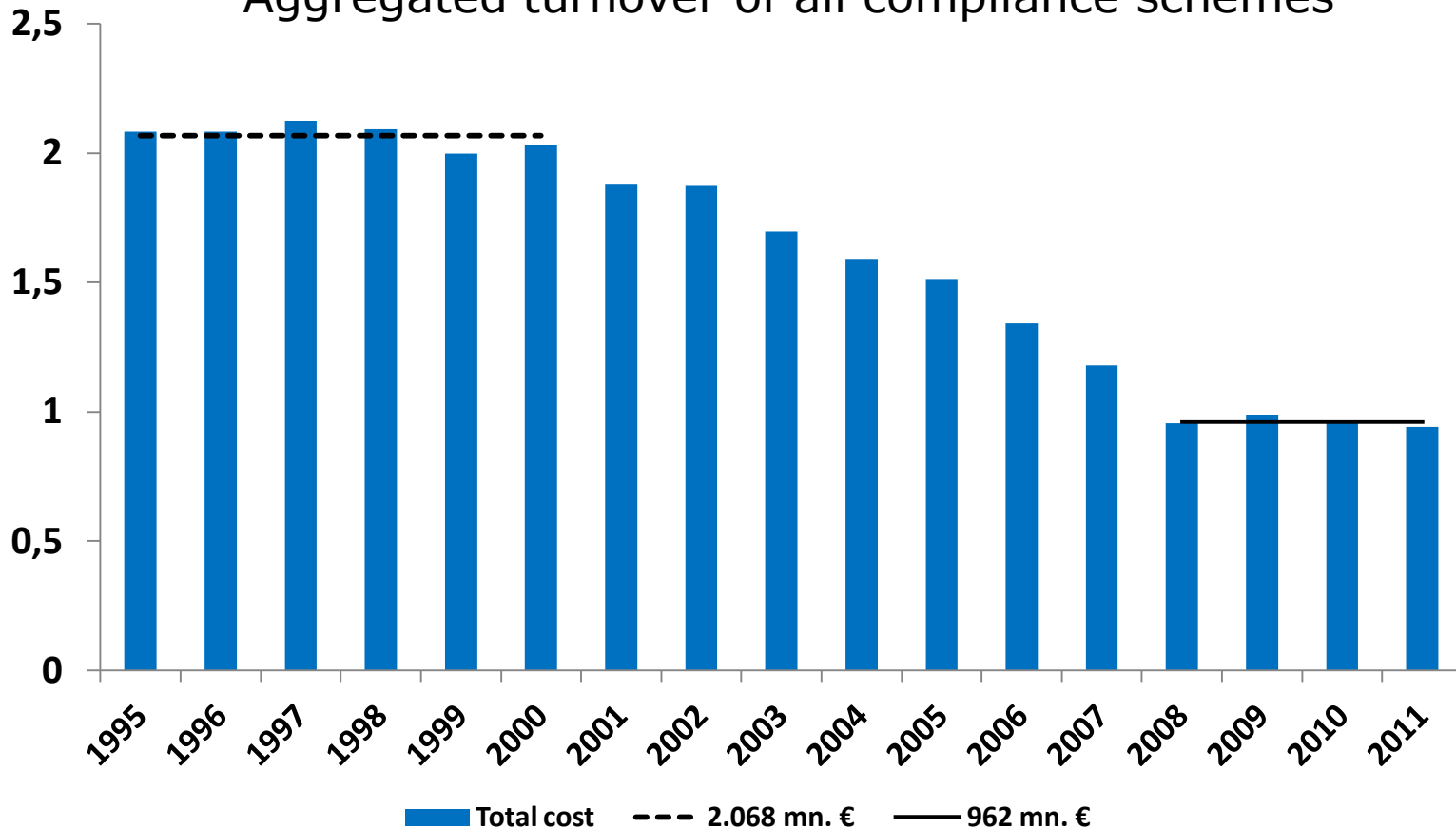


# Competition reduced prices by more than 50%

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bn. Euro

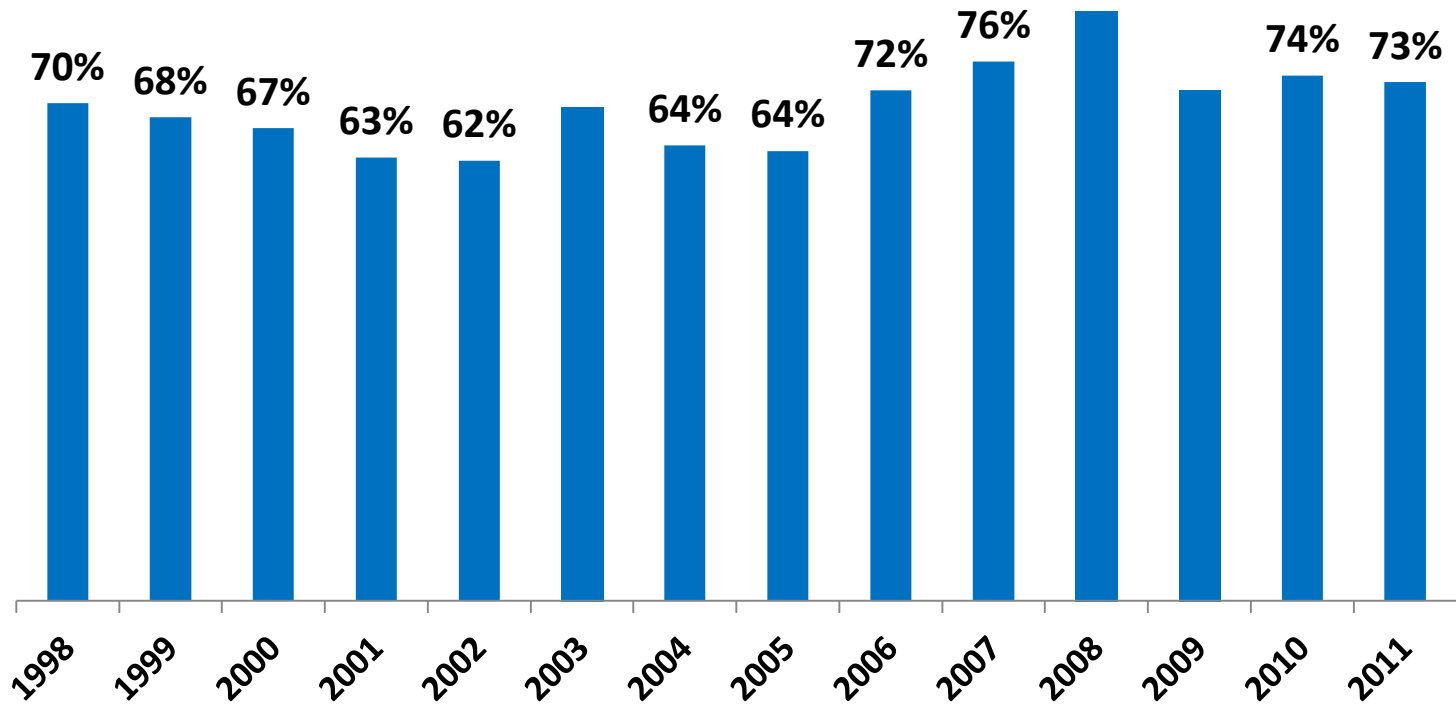
Aggregated turnover of all compliance schemes



# Recycling quotas have not fallen

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Overall recycling ratio for „yellow bin“ materials



\* Recycling ratios for 2003, 2008 and 2009 not representative due to statistical reasons.

# Competition unleashed a wave of innovation in recycling technology

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- significant investments by sorting plant operators after introduction of competition
- rapid transition from manual sorting of waste towards automated sorting
- increased sorting depth, e.g. separation of plastics by type, thus enabling higher quality recycling
- Aggregate cost of sorting and recycling dropped from 715 mn. Euro (2003) to 173 mn. Euro (2011)

# How could competition reduce prices that much ?

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DSD as a former non-profit company:

High prices were not due to DSD earning monopoly profits, but rather due to inefficiencies during monopoly period (until 2003):

- Inflated remuneration paid by DSD to contractors:  
operating margins of DSD-contractors typically ~30%
- Direct awarding of contracts without tendering procedure,  
thereby selecting less efficient contractors
- Lack of innovation
- ➔ Competition led to drop of operating costs of compliance schemes (=costs of collection, sorting, recycling) by 54%
- ➔ aggregated operating costs 2003: 1.777 mn. Euro  
aggregated operating costs 2011: 824 mn. Euro

# De-monopolization resulted in huge consumer welfare gains

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Very conservative assumptions for welfare estimation

- e.g. monopoly price would have stayed equal, even though
  - inflation since 2003 more than 20%
  - prices for similar service (household waste) increased
- additional high lump-sum markdown (200 mn. Euro per year)

Consumer savings for the years 2003-2011 at least 5,6 bn. Euro, possibly up to more than 10 bn. Euro

- is there any other antitrust case worldwide which was followed by an in-depth ex-post documentation of such a high consumer welfare gain?

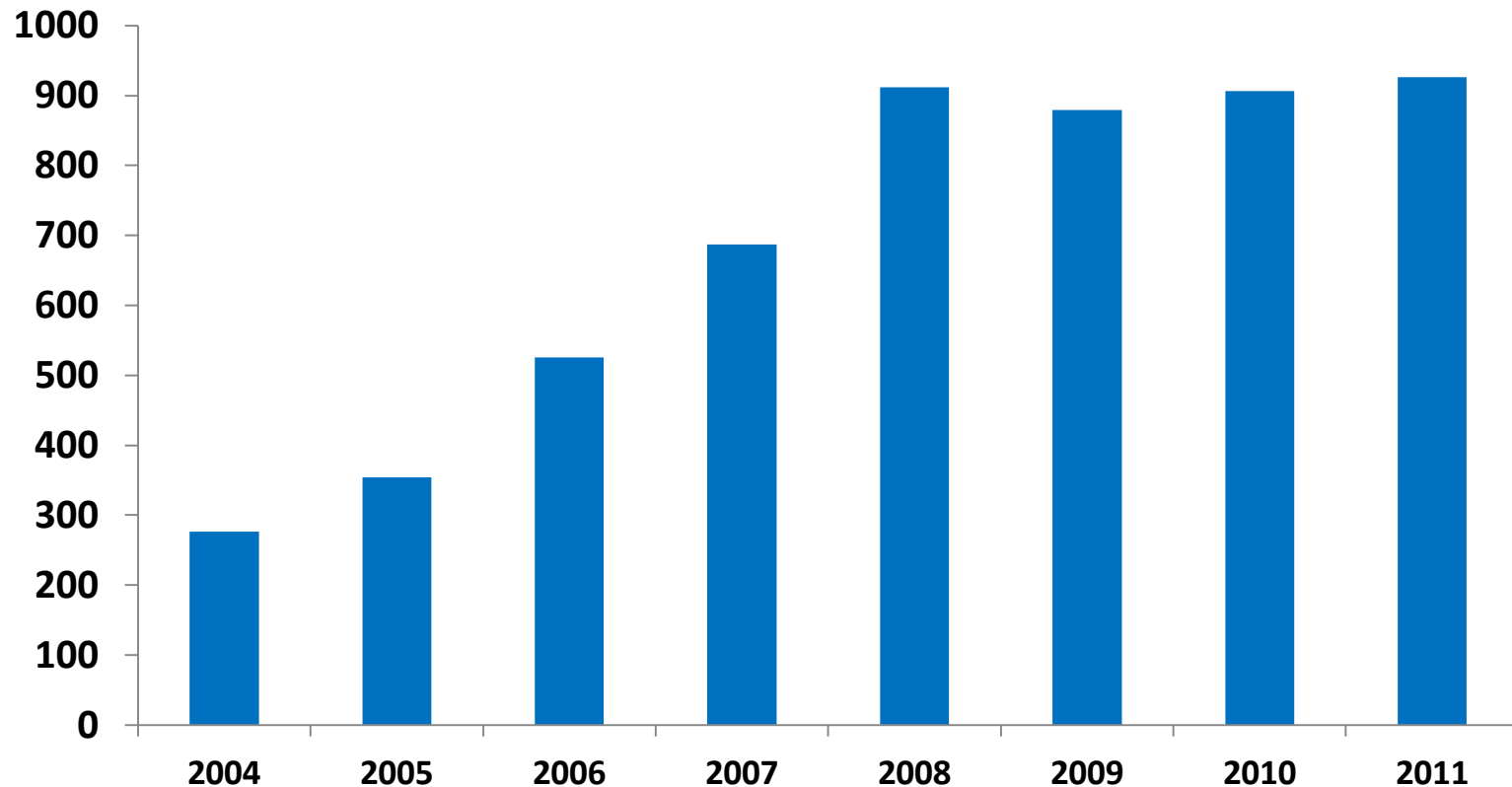


# Consumers save at least ~1 bn. Euro per year since 2008

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mn. €

## lowest bound consumer savings



# Conception of results by sector stakeholders

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- stakeholders did not criticize methodology, data validity or causality between de-monopolization and price drop
- “criticisms”:
  - “competition drove wages down” (not true)
  - “recycling should be improved” (competition link?)
  - “there is still too much free-riding” (competition link?)
  - “BKartA study is only a collection of data”
- notion that competition cut prices by more than 50% is accepted by all stakeholders
- BUT: municipalities lobby for becoming the new monopolist

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Thank you for your attention!



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# BACKUP

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# Packaging ordinance 1991 introduced “yellow bin”

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- Packaging ordinance 1991 obliged manufacturers/retailers to take back and recycle packaging waste, without (separately) charging waste generators (i.e. end consumers)
- Obligation can be met by individual take-back or by contracting a **compliance scheme** that assures collection
  - at/near households
  - free of charge
  - on a full-area coverage basis
- In addition to existing waste containers (grey, blue, green), new **yellow bin** for packaging waste was introduced
- Full cost of take back and recycling system assigned to manufacturers/retailers
- Compliance scheme must meet **recycling quota** targets:  
e.g. plastics 36%, composites 60%, tinplate 70%, aluminium 60%

# Key function of a compliance scheme is to manage numerous contracts

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