



# The Establishment of Deposit on Single-Use Beverage Containers in Germany: A Case of Policy Resistance

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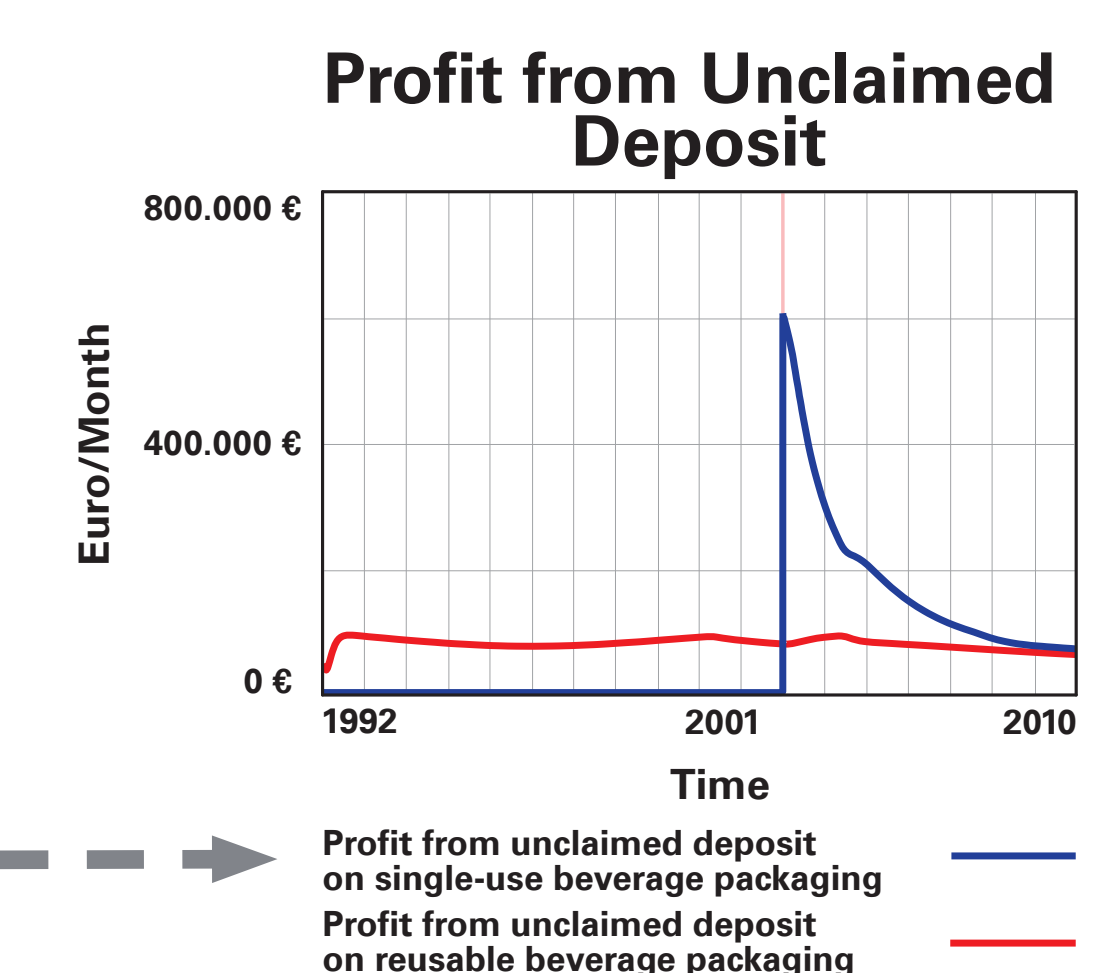
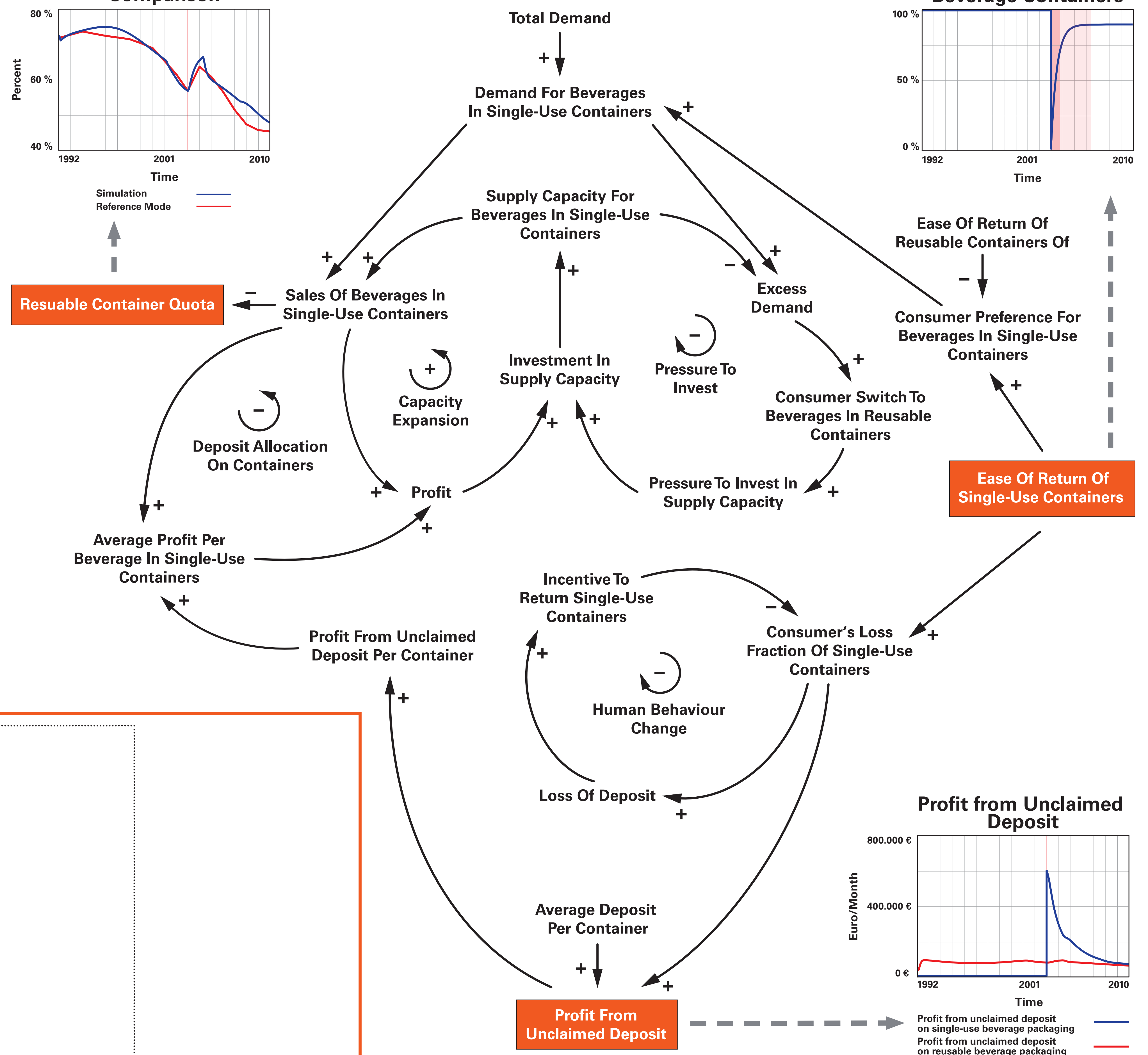
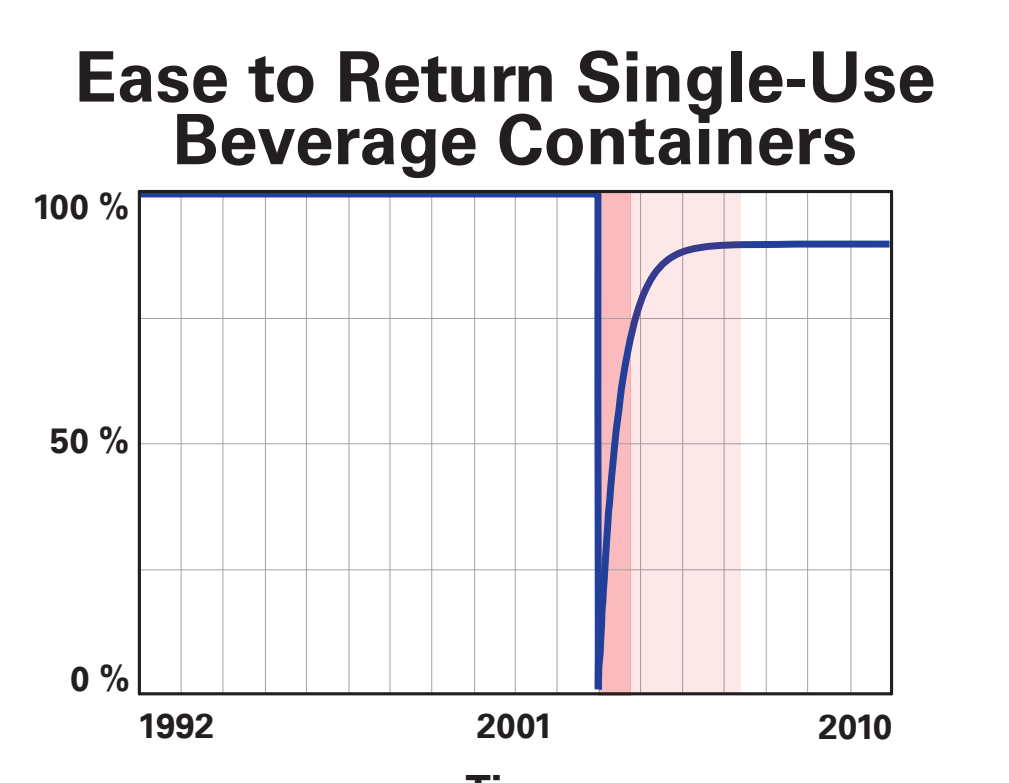
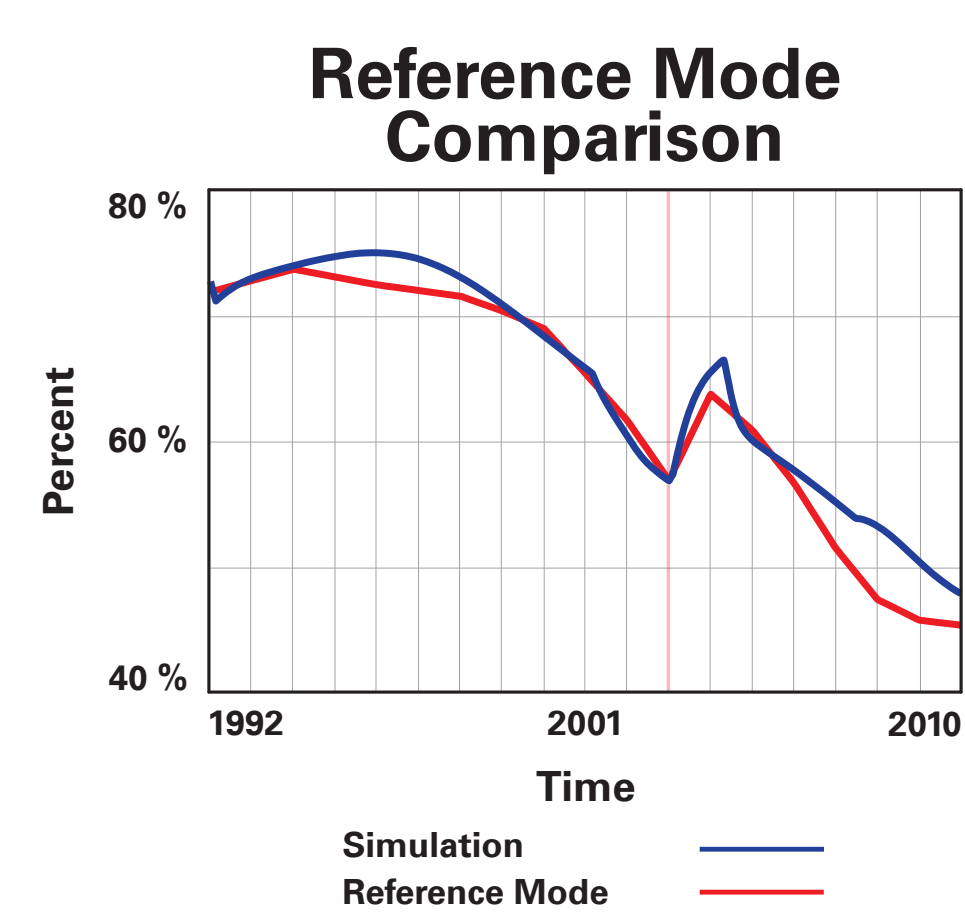
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In 2003, the German government introduced deposit on disposable single-use beverage containers in addition to the already existing deposit on reusable beverage containers. Politicians meant to enhance and stabilize the use of reusable beverage containers by lowering the attractiveness of beverages in single-use containers through a high deposit. After the new law was introduced, the usage of reusable beverage containers increased, but then it continued to decrease. This unexpected behavior can be explained by the fact that unclaimed deposit counts as profit for re-

tail and production companies. In that way, the container deposit made beverages in single-use containers less attractive for the consumers but, in turn, increased the profit per unit for the retailers. That led to a higher supply of beverages in single-use containers and a massive shortfall of beverages in reusable containers. Consumers substituted their demand by available beverages in single-use containers. Surprisingly, most of the discussed policies to enhance the usage of reusable beverage containers appear to be ineffective after testing them in the present model.

**Problem:**

- Existent system of reusable beverage containers aims on lowering waste and production efforts, deposit as incentive for consumers to return reusable containers
- Usage of single-use beverage containers increased → waste production increased
- Performance indicator:  
Reusable container quota [%] =  $\frac{\text{Beverages sold in reusable containers [in l]}}{\text{Beverages sold in reusable and single-use containers [in l]}}$
- Public policy: deposit on single-use beverage containers in order to make beverages less attractive → sales shift towards beverages in reusable containers → reusable container quota increases → less waste
- Declared objective of government to stabilize reusable quota at a level of 72 %
- Behavior over time of the reusable container quota shows a policy resistance concerning the establishment of deposit



**Policy Analysis:**

Scenario	Increases of reusable container quota	Stabilizes reusable container quota	Operational possible
Skimming of unclaimed deposit at the beginning	✓	•	✗
Skimming of unclaimed deposit	✗	✗	✓
Increase of reusable container deposit	✓	✗	✓
Taxation of single-use beverage containers	✓	✓	✓

**Conclusions:**

- Policy resistance due to endogenizing unclaimed deposit = profit
- Unclaimed deposit due to consumer's loss rate which adapts over time and reaches a low level that most discussed policies appear to be ineffective
- None of the discussed policies stabilizes the reusable quota at a level of 72 %
- Skimming of unclaimed deposit in the beginning would have stabilized the reusable container quota, skimming of unclaimed deposit now is ineffective
- Increase of container deposit leads to a short-term increase of the reusable quote and then to a decrease
- Taxation of single-use beverage containers appear to be the most effective measure in stabilizing the reusable quota

**References**

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