Propositions

attached to the thesis

Optimisation Models for Supply Chain Coordination under Information Asymmetry

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Consider the contracting problem in the economic order quantity setting with a finite number of retailer types. If the retailer’s type is uniformly and equidistantly distributed, then all contracts in any optimal menu are unique.

(Chapter 2)

In the robust pooling approach, the equidistant partition performs well when offering at least five contracts for the analysed problem settings. In fact, it is the optimal partition for a range of instances of the linear-quadratic-uniform problem.

(Chapter 3)

In the linear-quadratic-uniform problem setting, there is a significant trade-off between the seller’s expected and worst-case utility, regardless of the number of contracts offered.

(Chapter 4)

We can use a two-stage solution approach, consisting of a plan-generation stage followed by a plan-assignment stage, to solve the lot-sizing contracting problem. If the retailer’s setup cost is private and uniformly distributed, then this approach has polynomial running time.

(Chapter 5)

Problem settings with a type-dependent reservation level are significantly more complex to analyse and require a different solution approach, compared to a type-independent reservation level.

(Chapters 2-5)
VI
It is impossible to write a good section without knowing a proper title for it.

VII
You should have side projects during your PhD, but be unable to complete them.

VIII
Only by learning about other cultures can you become aware of how arbitrary certain customs are.

IX
Given the challenges of the near future, universities should put more emphasis on ethical reflection in their curricula.

X
We must never place the system above conscious entities.

XI
This proposition is private information.