

# Propositions

attached to the thesis

## Optimisation Models for Supply Chain Coordination under Information Asymmetry

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## I

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)*

## II

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)*

## III

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)*

## IV

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)*

## V

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.