

# Matching, voting and cooperation

Citation for published version (APA):

Kasper, L. (2019). *Matching, voting and cooperation*. [Doctoral Thesis, Maastricht University]. ProefschriftMaken Maastricht. <https://doi.org/10.26481/dis.20190221lk>

## Document status and date:

Published: 01/01/2019

## DOI:

[10.26481/dis.20190221lk](https://doi.org/10.26481/dis.20190221lk)

## Document Version:

Publisher's PDF, also known as Version of record

## Please check the document version of this publication:

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## VALORISATION

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This annex will cover the valorisation of my doctoral thesis. I will provide answers to a number of questions that will guide this addendum on valorisation. I will elaborate on the social and/or economic relevance of the present research, the target group of the present research beyond academia, what activities or products can be created from the present research, and how innovative this research is. The last question asks for a plan to implement valorisation. I will then discuss the valorisation itself.

### 1. **What is the social/ economic relevance of your research?**

This thesis contributes to topics in matching theory, social choice theory and cooperative game theory.

*Matching theory:* The question on how to pair agents/ objects from different sides of the market, has never lost its relevance. How can we match workers to firms; students to schools; and kidney donors to patients? There have been made great contributions to society, in particular in school choice and kidney exchange problems. There are two Nobel Prize winners honored for their contributions to matching theory and mechanism design: Alvin Roth and Lloyd Shapley. Clearly, just because we already solved some real-life problems, by far not all our questions have been answered. What influence does a more complicated preference structure have on known results? If we would like to use a mechanism to allocate objects to agents or agents to agents, respectively, which one should we use? Can we make a decision based on some desired properties? And if so, what properties should that be? We discuss some of the above questions in this thesis.

*Voting theory:* Voting theory applies in any situation where we vote, may it be on political parties, or candidates, or simply on activities that we want to undertake as a group. So, we are all affected by the results presented in this field of research. The question on how to aggregate voters' ballots is not new, but it will also never lose its relevance. We all think that we should use our right to vote and that by voting we can only benefit. However, as it turns out, that is not true. This fact is discussed in this thesis.

*Cooperation:* The topic of cooperation is important to society. We are confronted with cooperation on a daily basis, may it be cooperation on individual level, as in our jobs, or on country level, e.g. European Union. Sometimes, cooperation takes place repeatedly over time, sometimes just once. In any case, also the topic of

cooperation is never going to lose its relevance. Repeated cooperation is discussed in this thesis.

**2. To whom, in addition to the academic community, are your research results of interest and why?**

As mentioned in the previous paragraph, some of the questions answered in this thesis are not of purely academic interest. Instead, these are questions raised by politicians and policy makers. Moreover, each individual might be affected by the results presented in this thesis. In particular, this thesis might raise new questions, to which people might wish to find answers.

**3. Into which concrete products, services, processes, activities or commercial activities will your results be translated and shaped?**

I agree that, in general, research can be translated in products, services, processes and (commercial) activities. However, many of them are not applicable to this thesis. I can imagine that some of the research presented in this thesis can be transformed into non-academic publications or used as teaching materials. Students that take a course in economic theory/game theory could read them in class in order to learn how to evaluate academic papers. I will elaborate on this further in section 5 of this annex.

**4. To what degree can your results be called innovative with respect to the existing range of products, services, processes, activities, and commercial activities?**

My research does not have any relationship to existing products, services, processes, activities, or commercial activities. The innovation(s) presented in this thesis are conceptual and analytical contributions to the research in above fields.

**5. How will this/these plan(s) for valorisation be shaped? What is the schedule, are there risks involved, what market opportunities are there and what are the costs involved?**

I already argued that the range of products into which this thesis can be translated is somehow limited. I suggested that some of this research can be published (in a modified version) in non-academic journals which would make the implementation cost efficient. Moreover, this thesis, or the corresponding papers could be used as teaching material, which would be cost efficient as well. A disadvantage of this research is, at least as this valorisation suggests, that there are no market opportunities for products created on its basis.

I would like to spend a few sentences on evaluating valorisation. I think that the valorisation, in particular, the above questions give the impression that research is only valuable, if it is implementable or it can be transformed in product, services, processes, and (commercial) activities. I do not share this opinion. What is the value of research? To me, the value of research is that it creates knowledge. Moreover, it creates new questions. Answers to these questions generate knowledge again. Sometimes we do not immediately see the impact of research to society, which does not mean, that there is no value of the research to society.