Acknowledgements

The adjudication and conferring of the PhD degree would not be possible without the thesis committee: Prof. Michael Fu, Prof. Michel Mandjes, Prof. Ivo Adan, A/Prof. Ad Ridder, and A/Prof. Sandjai Bhulai. Thank you for taking the time reading and considering this work. Also, thank you also to Sophie Chen and Sjoerd Goorden for assisting me with administrative affairs relating to the thesis defence.

I have learnt during the PhD that research is incremental, coming from improved understanding and refinement. I had assumed research (and hoped) is based upon impressive calculation or proof technique. There are elements of the former, but mostly it is about maintaining a high level of ability, sustaining your knowledge base, as the base is the source of ideas, and enduring, knowing that research almost always go askew. Google Scholar is an efficient research tool being an efficient method of searching for results and examples in articles.

From my supervisor, Prof. Bernd Heidergott, I have learned how to ask the right research questions and how to present research more effectively. The research presented in this thesis is methodological and the benefit of this work significantly depends on the context an applications in which the method is used and his guidance has improved the quality of my research. In addition, thank you for tolerating my stubbornness and perfectionism.

I would also like to thank Mr. David Robertson for fostering my development in mathematics. I always was mathematically talented, but never adept in this area, and it was he who improved my mathematical ability to the point where I was accepted into the university level mathematics course organized by the University of Melbourne during my final year of secondary school. While in Melbourne, I developed my mathematical style from the methods of the lecturers, but most of all from Prof. Konstantin Borovkov.

Lastly, thank you my parents, Eve and John, for their love, support, and providing an environment where I can be my stubborn and perfectionist self when writing up the thesis and attendant journal articles.