



Research School for Operations  
Management and Logistics

**Multiple time windows and predictability constraints in distribution logistics**

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Cash supply chains continue to be important worldwide but remain virtually unexplored in the literature. In this research we aim to develop strategies and methods for generating increased efficiencies in cash supply chains (and industries facing similar problem characteristics). The research focusses on seeking sufficient unpredictability in the routes of Cash in Transit companies for safety reasons, while minimizing transportation costs. We propose novel methods to generate unpredictable routes by varying the arrival time at each customer using both exact and heuristic solution methods. Our project is supported by the Dutch Science Foundation NWO, software provider ORTEC and by Geld Services Nederland. It is furthermore backed by the three large Dutch banks (ABN-AMRO, ING Bank and Rabobank) and the Dutch central bank (DNB)