

# Xingang Wen

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## PERSONAL INFORMATION

Xingang Wen  
PO Box 90153  
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## EDUCATION

- Tilburg University, the Netherlands 2014-present  
Ph.D. in Economics
- Tilburg University, the Netherlands 2012-2014  
Research Master in Economics
- Xi'an Jiaotong University, Xi'an, China 2010-2014  
Ph.D. in Management Science and Engineering  
Doctorate Dissertation (in Chinese): *Online Traveling Salesman Problem with Deadlines*
- Shandong University of Science and Technology, Qingdao, China 2007-2010  
Master in Management
- Shandong University of Science and Technology, Qingdao, China 2003-2007  
Bachelor in Economics and International Trade

## RESEARCH INTERESTS

Industrial organization, strategic real options, investment under uncertainty, contract theory and competitive analysis

## PUBLICATIONS AND WORKING PAPERS

### JOURNAL PUBLICATIONS IN ENGLISH

Wen X., Y. Xu., H. Zhang. 2012. *Online Traveling Salesman Problem with Deadlines and Advanced Information*, Computers & Industrial Engineering, Vol. 63, pp.1048-1053.

Wen X., Y. Xu., H. Zhang. 2015. *Online Traveling Salesman Problem with Deadlines and Service Selectivity*, Journal of Combinatorial Optimization, Vol. 30, pp. 545-562.

H. Zhang, Y. Xu, X. Wen. 2015. *Optimal Shortest Path Set Problem in Undirected Graphs*, Journal of Combinatorial Optimization, Vol. 29, pp. 511-530.

### JOURNAL PUBLICATIONS IN CHINESE

Liu X., X. Wen, L. Ding. 2010. *Study on Double Moral Hazard Prevention in Venture Capital*. Journal of Science and Technology Management Research, Vol.5, pp.212-215.

Liu X., X. Wen, S. Wu. 2010. *Study on Double Moral Hazard Prevention Based on Overconfidence Bias*. Journal of Shanghai Jiaotong University, Vol. 44, pp.373-377.

Liu X., X. Wen, L. Ding. 2010. *Study on Stock Option Incentive Models Based on Dismissal Compensation*. Journal of Mathematics in Economics, Vol.27, pp.9-15.

Wen X., X. Liu, L. Ding, L. Qin. 2012. *Study on Multi-Task Dynamic Incentive Contract Design Based on Double Moral Hazard Prevention*. Operations Research and Management Science, Vol.21, pp.212-219.

Wen X., Y. Xu, L. Ding. 2013. *Online Nomadic TSP Based on Advanced Information*, System Engineering—Theory & Practice, Vol.33, pp.2845-2851.

Wu T., Y. Xu, X. Wen. 2015. *The Emergency Vehicle Routing Problem with Capacity Constraint and Advanced Information*, System Engineering—Theory & Practice, Vol.35, pp.1224-1229.

Ma J., Y. Xu, X. Wen, H. Zhang. 2015. *Online Homing Asymmetric TSP with Advanced Information*, System Engineering—Theory & Practice, Vol.35, pp.381-387.

### CONFERENCE PUBLICATIONS

Liu X., X. Wen, L. Ding. 2009. *Incentive Compensation Based on Managerial Ability and Overconfidence Bias*. IEEE International Conference on Management and Service Science, Beijing, P.R. China, September 20-22, pp.1-4.

WORKING PAPERS

Wen X. 2016. *Strategic Capacity Investment under Uncertainty with Volume Flexibility, Job Market Paper.*

Wen X., P. Kort, A.J.J. Talman. 2015. *Volume Flexibility and Capacity Investment: A Real Options Approach*, Journal of the Operational Research Society, revised and resubmitted.

WORK IN PROGRESS

Wen X. and Y. Xu. *Online Prize-Collecting Traveling Salesman Problem with Deadlines.*

Wen X, V. Hagspiel, P. Kort. *Subsidised Capacity Investment under Uncertainty.*

GRADUATE AWARDS AND SCHOLARSHIPS	EXCELLENT STUDENT	Shandong Province, 2007
	STUDENT INNOVATION AWARD	Shandong University of Science and Technology, 2009
	ELITE STUDENT	Shandong University of Science and Technology, 2010
	NATIONAL SCHOLARSHIP	Xi'an Jiaotong University, 2013
	EXCELLENT DOCTORATE DISSERTATION AWARD	Xi'an Jiaotong University, 2016
	EXCELLENT PROVINCIAL DOCTORATE DISSERTATION AWARD	Shaanxi Province, 2016

PRESENTATIONS AT CONFERENCES, WORKSHOPS AND SEMINARS	<b>Online Nomadic TSP Based on Advanced Information</b>	Zhengzhou University, Zhengzhou, Henan Province, China	Mar. 2012
	<b>Volume Flexibility and Capacity Investment: A Real Options Approach</b>	13th Viennese Workshop on Optimal Control and Dynamic Games, Vienna, Austria	May 2015
	<b>Subsidised Capacity Investment under Uncertainty</b>	Department of Industrial Economics and Technology Management, Norwegian University of Science and Technology, Trondheim, Norway	Dec. 2015
	<b>Subsidised Capacity Investment under Uncertainty</b>	20th Annual International Conference on Real Options, Oslo, Norway	Jun. 2016

TEACHING AND THESIS SUPERVISION AT TILBURG UNIVERSITY	Mathematics 1 for IBA	undergraduate level, 2014
	Microeconomics 1 for CentER	research master, Ph.D. level, 2014
	Statistics 2 for IBA	undergraduate level, 2015
	Microeconomics 3 for CentER	research master, Ph.D. level, 2015/2016
	Statistics 2 for BE	undergraduate level, 2016
	Master Thesis Co-supervision	Alexandru Pacini, 2016

ADDITIONAL INFORMATION  
 Programming: Matlab, Mathematica, SPSS, Eviews, Stata  
 Languages: Mandarin Chinese (Native), English (Fluent), Dutch (Basic)

REFERENCES	Prof. dr. Peter M. Kort (Supervisor) Tilburg University +31 13 466 2062 kort@uvt.nl	Prof. dr. Dolf Talman (Supervisor) Tilburg University +31 13 466 2346 talman@uvt.nl
	Prof. dr. Verena Hagspiel Norwegian University of Science and Technology +47 7359 3152 verena.hagspiel@iot.ntnu.no	

JOB MARKET PAPER: **Strategic capacity investment under uncertainty with volume flexibility**

**Abstract:** This paper considers investment decisions in an uncertain and competitive framework, with a first investor, the leader, always producing up to full capacity and a second investor, the follower, capable of adjusting output levels within the constraint of installed capacity. Both firms need to decide on the investment timing and the investment capacity levels. The main findings are as follows. Compared to a situation where the follower always produces up to full capacity, the leader has a larger incentive to accommodate a flexible follower. This is because the leader also benefits from the follower's volume flexibility. Due to the first mover advantage, the leader's value is higher than the follower's value, despite the follower's technological advantage in flexibility.

**Volume flexibility and capacity investment: A real options approach**

**Abstract:** This paper considers the investment decision of a firm where it has to decide about the timing and capacity. We obtain that in a fast growing market, right after investment the firm produces below capacity, where the utilization rate (the proportion of capacity that is used for production right after the investment) increases with market uncertainty for a very big market trend, and shows no monotonicity for a moderately large market trend. On the other hand we get that, for a slowly growing or shrinking market, the firm produces up to capacity right after investment. In the intermediate case, the firm produces up to capacity right after investment when uncertainty is low and below capacity when uncertainty is high, whereas the utilization rate decreases with the market uncertainty.

**Subsidised Capacity Investment under Uncertainty**

**Abstract:** This paper studies how subsidy support, e.g. price support and reimbursed investment cost support, affects the investment decisions of a monopoly firm and social welfare under uncertainty. The analytical results show that subsidy encourages earlier investment at the cost of investing less. There exists optimal subsidy rates to align the firm's investment decisions to decisions that maximise social welfare.