



Universiteit  
Leiden  
The Netherlands

## Essays on welfare benefits, employment, and crime

Stam, M.T.C.

### Citation

Stam, M. T. C. (2022, January 20). *Essays on welfare benefits, employment, and crime*. *Meijers-reeks*. Retrieved from <https://hdl.handle.net/1887/3250487>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/3250487>

**Note:** To cite this publication please use the final published version (if applicable).

## Essays on Welfare Benefits, Employment, and Crime

# Essays on Welfare Benefits, Employment, and Crime

Proefschrift

ter verkrijging van  
de graad van doctor aan de Universiteit Leiden,  
op gezag van rector magnificus prof.dr.ir. H. Bijl,  
volgens besluit van het college voor promoties  
te verdedigen op donderdag 20 januari 2022  
klokke 16.15 uur

door  
Marco Theodorus Cornelis Stam  
geboren te Langedijk  
in 1990

Promotor: prof.dr. M.G. Knoef  
Co-promotor: dr. A.A.T. Ramakers

Promotiecommissie: dr. L.H. Andersen (Rockwool Foundation, Denemarken)  
prof.dr. C.L.J. Caminada  
prof.dr. I.A. van Gaalen (Universiteit van Amsterdam)  
prof.dr. P. Nieuwebeerta  
dr. H.T. Wermink

Lay-out: AlphaZet prepress, Bodegraven  
Printwerk: Gildeprint, Enschede

*All parts of this book may be reproduced in any form, by print, photoprint, microfilm or any other means without permission from Marco Stam*

# Preface

Finishing my dissertation allows me to thank those who have contributed to its existence, both directly and indirectly. I am grateful to the Department of Economics and the Department of Criminology at Leiden University for giving me the privilege to explore both the economic and criminological sciences. Foremost, I would like to thank my promotor and co-promotor, Marike Knoef and Anke Ramakers. Marike, your enthusiasm never failed to motivate me to take on new research challenges, even when they seemed insurmountable. Anke, your guidance always kept me on the right track of the balancing act between disciplines. I am truly grateful to have had you as the supervisors of my dissertation, which would not have existed without you.

I also thank Lars Andersen, Koen Caminada, Ruben van Gaalen, Paul Nieuwebeerta and Hilde Wermink for taking part in my PhD committee and their valuable comments on my dissertation.

Many people have fueled my interests in academic research over the years, including numerous conference participants. To the participants of the *CRwRD* meetings in particular, thank you for the inspiration from your related research projects. I am especially thankful, however, to Jim Been, Arjan Blokland, Marike Knoef, Merel Schuring and Hilde Wermink, for the reignition of my interests beyond my doctoral research.

To my colleagues, many thanks for the countless interesting discussions, lunch breaks, and drinks and dinners after work. In particular to all of my roommates over the years, Babette, Clare, Eduard, Heike, Jan, Maria, Roosmarijn and Vincent, I appreciate our sharing of the ups and downs of daily PhD life. Lieke and Babette, your infectious enthusiasm made

me feel right at home upon arrival at the respective departments. Eduard, the outings inspired by our shared interests in comedy (among others) are impossible to forget. Heike and Jim, I feel fortunate to have shared so many memorable moments with you, both inside and outside of work. Thank you for being my *paranimphs*.

Finally, my gratitude goes out to my friends and family at large. My hometown friends, for the healthy distractions from anything work-related. My parents, Anneke, Wim and Nel, for all their unconditional love and support. My sister, Joyce, for showing me that you should always follow your heart. Sofie, if I had not grown up with you, I would not be writing this preface today.

# Contents

<b>Preface</b>	<b>v</b>
<b>1 Introduction</b>	<b>1</b>
1.1 Motivation . . . . .	1
1.2 Research questions . . . . .	4
1.3 Main findings . . . . .	9
<b>2 The effects of welfare receipt on crime</b>	<b>17</b>
2.1 Introduction . . . . .	18
2.2 Welfare and the job search period . . . . .	22
2.3 Empirical methodology . . . . .	24
2.4 Data and graphical evidence . . . . .	28
2.4.1 Sample and descriptive statistics . . . . .	28
2.4.2 Graphical evidence . . . . .	32
2.5 Results . . . . .	36
2.5.1 Estimation results . . . . .	36
2.5.2 Cost-effectiveness . . . . .	43
2.6 Robustness checks . . . . .	44
2.7 Conclusion . . . . .	50
2.A Linear models . . . . .	53
2.B Employment . . . . .	55
2.C Extended estimation results . . . . .	56
<b>3 Mandatory activation of welfare recipients</b>	<b>73</b>
3.1 Introduction . . . . .	73
3.2 Welfare and the work-learn offer . . . . .	78
3.3 Empirical strategy . . . . .	79
3.4 Data . . . . .	82
3.4.1 Descriptives . . . . .	83
3.4.2 Graphical evidence . . . . .	85
3.5 Results . . . . .	92

3.6	Robustness checks . . . . .	98
3.7	Conclusion . . . . .	104
3.A	Employment . . . . .	108
<b>4</b>	<b>Crime over the welfare payment cycle</b>	<b>111</b>
4.1	Introduction . . . . .	111
4.2	Data and graphical evidence . . . . .	117
4.2.1	Welfare benefits . . . . .	117
4.2.2	Sample and descriptive statistics . . . . .	120
4.2.3	Graphical evidence . . . . .	124
4.3	Empirical methodology . . . . .	126
4.4	Estimation results . . . . .	128
4.4.1	Baseline estimation . . . . .	128
4.4.2	Higher-order estimates . . . . .	131
4.4.3	DSP indicator specification . . . . .	132
4.4.4	Heterogeneous effects . . . . .	135
4.5	Robustness check . . . . .	138
4.5.1	Rent and healthcare benefits exclusion . . . . .	138
4.6	Conclusion . . . . .	139
<b>5</b>	<b>Crime state dependence and employment</b>	<b>143</b>
5.1	Introduction . . . . .	143
5.2	Data . . . . .	149
5.2.1	Sample and descriptive statistics . . . . .	149
5.3	Empirical methodology . . . . .	153
5.4	Estimation results . . . . .	156
5.5	Conclusion . . . . .	161
5.A	Standard dynamic probit model . . . . .	164
5.A.1	Standard dynamic probit estimation results . . . . .	165
	<b>Bibliography</b>	<b>169</b>
	<b>Nederlandse samenvatting</b>	<b>187</b>
	<b>Curriculum Vitae</b>	<b>197</b>



# List of Tables

2.1	Descriptive statistics, 2012-2014 . . . . .	31
2.2	Probit and bivariate probit (IV) estimates for crime among men and women . . . . .	39
2.3	Probit and bivariate probit (IV) estimates for financially-motivated crime among men and women . . . . .	40
2.4	Probit and bivariate probit (IV) estimates for crime among low-educated men and low-educated women . . . . .	41
2.5	Probit and bivariate probit (IV) estimates for financially-motivated crime among low-educated men and low-educated women . . . . .	42
2.6	Welfare spending per prevented offense . . . . .	43
2.7	IV estimates with different bandwidths and functional forms, men . . . . .	46
2.8	IV estimates with different bandwidths and functional forms, women . . . . .	47
2.9	IV estimates with different bandwidths and functional forms, low-educated men . . . . .	48
2.10	IV estimates with different bandwidths and functional forms, low-educated women . . . . .	49
2.11	Ordinary least squares estimates for crime . . . . .	53
2.12	Two-stage least squares estimates for crime . . . . .	53
2.13	Ordinary least squares estimates for financially-motivated crime . . . . .	54
2.14	Two-stage least squares estimates for financially-motivated crime . . . . .	54
2.15	Testing for a discontinuity in employment at the policy threshold . . . . .	55
2.16	Extended instrumental variable estimation results for the effect of welfare receipt on crime among men . . . . .	56

2.17	Extended instrumental variable estimation results for the effect of welfare receipt on crime among men, including quadratic age terms . . . . .	57
2.18	Extended instrumental variable estimation results for the effect of welfare receipt on financially-motivated crime among men . . . . .	58
2.19	Extended instrumental variable estimation results for the effect of welfare receipt on financially-motivated crime among men, including quadratic age terms . . . . .	59
2.20	Extended instrumental variable estimation results for the effect of welfare receipt on crime among women . . . . .	60
2.21	Extended instrumental variable estimation results for the effect of welfare receipt on crime among women, including quadratic age terms . . . . .	61
2.22	Extended instrumental variable estimation results for the effect of welfare receipt on financially-motivated crime among women . . . . .	62
2.23	Extended instrumental variable estimation results for the effect of welfare receipt on financially-motivated crime among women, including quadratic age terms . . . . .	63
2.24	Extended instrumental variable estimation results for the effect of welfare receipt on crime among low-educated men . . . . .	64
2.25	Extended instrumental variable estimation results for the effect of welfare receipt on crime among low-educated men, including quadratic age terms . . . . .	65
2.26	Extended instrumental variable estimation results for the effect of welfare receipt on financially-motivated crime among low-educated men . . . . .	66
2.27	Extended instrumental variable estimation results for the effect of welfare receipt on financially-motivated crime among low-educated men, including quadratic age terms . . . . .	67
2.28	Extended instrumental variable estimation results for the effect of welfare receipt on crime among low-educated women . . . . .	68
2.29	Extended instrumental variable estimation results for the effect of welfare receipt on crime among low-educated women, including quadratic age terms . . . . .	69
2.30	Extended instrumental variable estimation results for the effect of welfare receipt on financially-motivated crime among low-educated women . . . . .	70
2.31	Extended instrumental variable estimation results for the effect of welfare receipt on financially-motivated crime among low-educated women, including quadratic age terms . . . . .	71

---

3.1	Descriptive statistics, July 2010-December 2011 . . . . .	84
3.2	Baseline probit estimates for crime . . . . .	94
3.3	Baseline probit estimates for work-learn offer status . . . . .	95
3.4	Baseline OLS estimates for log-transformed income . . . . .	96
3.5	Baseline biprobit estimates for weekday and weekend crime . . . . .	97
3.6	Crime estimates with different bandwidths and functional forms . . . . .	100
3.7	Work-learn offer status estimates with different bandwidths and functional forms . . . . .	101
3.8	Log-transformed income estimates with different bandwidths and functional forms . . . . .	102
3.9	Weekday versus weekend crime estimates with different bandwidths and functional forms for non-natives . . . . .	103
3.10	Baseline probit estimates for employment status . . . . .	109
3.11	Employment status estimates with different bandwidths and functional forms . . . . .	110
4.1	Data coverage per included municipality . . . . .	119
4.2	Descriptive statistics, 2005-2017 . . . . .	123
4.3	Baseline days-since-payment index estimates, full sample . . . . .	130
4.4	Fixed effects higher-order days-since-payment index estimates, full sample . . . . .	132
4.5	Fixed effects days-since-payment index indicator estimates, full sample . . . . .	134
4.6	Fixed effects days-since-payment index estimates, multiple samples . . . . .	137
4.7	Fixed effects days-since-payment index estimates, rent and healthcare benefits exclusion, full sample . . . . .	139
5.1	Descriptive statistics, 2006-2017 . . . . .	152
5.2	Correlated random effects bivariate probit estimates for financially-motivated crime . . . . .	159
5.3	Correlated random effects bivariate probit estimates for other crime . . . . .	160
5.4	Correlated random effects probit estimates for financially-motivated crime . . . . .	166
5.5	Correlated random effects probit estimates for other crime . . . . .	167



# List of Figures

2.1	Welfare dependency rates across age among men (a) and women (b) . . . . .	33
2.2	Crime rates across age among men (a) and women (b) . . . . .	34
2.3	Employment rates across age among men (a) and women (b) . . . . .	35
3.1	Crime rates across age among men (a), women (b) and non-natives (c) . . . . .	87
3.2	Work-learn offer rates across age among men (a), women (b) and non-natives (c) . . . . .	88
3.3	Log-transformed income across age among men (a), women (b) and non-natives (c) . . . . .	89
3.4	Weekday crime rates across age among men (a), women (b) and non-natives (c) . . . . .	90
3.5	Weekend crime rates across age among men (a), women (b) and non-natives (c) . . . . .	91
3.6	Employment rates across age among men (a), women (b) and non-natives (c) . . . . .	108
4.1	Payout day distribution . . . . .	120
4.2	Crime rates over days since payment . . . . .	125

