

University of Groningen

## Monetary and fiscal integration in Europe

Gilbert, Niels

DOI:  
[10.33612/diss.96884377](https://doi.org/10.33612/diss.96884377)

**IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.**

*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2019

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*  
Gilbert, N. (2019). *Monetary and fiscal integration in Europe*. [Groningen]: University of Groningen, SOM research school. <https://doi.org/10.33612/diss.96884377>

### Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

### Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

*Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.*

# **Monetary and fiscal integration in Europe**

**Niels Daniël Gilbert**

Publisher: University of Groningen, Groningen, The Netherlands

Printed by: Ipskamp Drukkers  
P.O. Box 333  
7500 AH Enschede  
The Netherlands

ISBN: 978-94-034-1847-6 / 978-94-034-1846-9 (ebook)

© 2019 N.D. Gilbert

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system of any nature, or transmitted in any form or by any means, electronic, mechanical, now known or hereafter invented, including photocopying or recording, without prior written permission of the publisher.



**university of  
 groningen**

# **Monetary and fiscal integration in Europe**

**PhD Thesis**

to obtain the degree of PhD at the  
University of Groningen  
on the authority of the  
Rector Magnificus Prof. C. Wijmenga  
and in accordance with  
the decision by the College of Deans.

This thesis will be defended in public on  
Thursday 10 October 2019 at 16:15 hours

by

**Niels Daniël Gilbert**

born on 30 January 1988  
in 's Gravenhage, The Netherlands

**Supervisors**

Prof. J. de Haan

Prof. J.H. Garretsen

**Assessment committee**

Prof. S.C.W. Eijffinger

Prof. L.H. Hoogduin

Prof. N. Potrafke

# Acknowledgements

When I joined DNB, the eurozone was about to enter an existential crisis. For a young policy economist, times of crisis offer many opportunities, and plans to join a full-time PhD program were quickly shelved. Thankfully, DNB offered a way to combine policy and research. Jakob de Haan, Willem Heeringa, Job Swank and Peter Wierdsma encouraged me to pursue a part-time PhD; Peter van Els and Christiaan Pattipeilohy granted me the time to complete it.

Combining policy and research is a privilege and a challenge, and the successful completion of this thesis owes a lot to my supervisors and co-authors. Jakob de Haan combined eternal optimism and the eye of an experienced editor with a knack for knowing when (not) to push me forward. Harry Garretsen complemented this with sharply targeted yet pragmatic comments and suggestions. While working with Jasper de Jong, Friday afternoons were more productive than (and at least as much fun as) the folksy music and table football sessions may have suggested. Sebastiaan Pool was my indispensable guardian during a brief detour into the world of economic modeling. He also set a bar in terms of combining work, exercise and beer consumption that has always remained unattainable to me.

Many other people at DNB have contributed to this thesis in one way or the other. Data collection has benefited from assistance by Martin Admiraal, Peter Keus and Minke van der Heijden. Special thanks are also due to my two long-term officemates at DNB, Jorien Freriks and Jeroen Hessel, proofreader-in-chief Stephen Kho, and chief critic Mark Mink. This

thesis owes an intellectual debt to many of our discussions on everything (un)related to economics as well as to plenty of coffees.

I would like to express my gratitude to the members of the assessment committee, Sylvester Eijffinger, Lex Hoogduin and Niklas Potrafke, for having taken the time to read and comment on my manuscript.

Less direct, but at least as valuable, has been the contribution by my family. I'd like to thank my parents, for having raised me in a stable and loving environment, Julia, for being her one-of-a-kind self as well as for the occasional push forward, and Lieuwe, for the final push forward and the many smiles put on my face.

# Contents

<b>Acknowledgements</b>	<b>i</b>
<b>1 Introduction</b>	<b>1</b>
1.1 Outline . . . . .	6
<b>2 Sectoral allocation and macroeconomic imbalances in EMU</b>	<b>11</b>
2.1 Introduction . . . . .	11
2.2 Stylized facts . . . . .	15
2.3 The model . . . . .	19
2.3.1 Households . . . . .	20
2.3.2 Firms . . . . .	22
2.3.3 Market equilibrium conditions . . . . .	24
2.3.4 Calibration . . . . .	26
2.4 Model simulations . . . . .	27
2.4.1 Two-region model . . . . .	27
2.4.2 Including the Rest of the World . . . . .	31
2.5 Empirical analysis . . . . .	32
2.5.1 Methodology and data . . . . .	32
2.5.2 Empirical results . . . . .	36
2.6 Policy options and discussion . . . . .	38
2.6.1 Increasing competition in the nontradable sector . . . . .	39
2.6.2 Deepening the internal market . . . . .	40
2.7 Conclusion . . . . .	41
Appendix A: Data . . . . .	43



Appendix B: Model . . . . .	46
Appendix C: Sensitivity and policy experiments . . . . .	53
<b>3 Do European fiscal rules induce a bias in fiscal forecasts?</b>	<b>57</b>
3.1 Introduction . . . . .	57
3.2 Related literature and hypotheses . . . . .	60
3.2.1 The Stability and Growth Pact . . . . .	60
3.2.2 Fiscal forecasts and the SGP . . . . .	64
3.2.3 Related literature . . . . .	66
3.3 Data description . . . . .	68
3.3.1 Sources and definitions . . . . .	68
3.3.2 Statistical properties . . . . .	71
3.4 Estimation methodology . . . . .	74
3.4.1 Identification . . . . .	74
3.4.2 Estimation procedure . . . . .	76
3.4.3 Instrument selection . . . . .	79
3.5 Results . . . . .	80
3.5.1 Main results . . . . .	80
3.5.2 The role of fiscal councils . . . . .	82
3.5.3 Robustness . . . . .	83
3.6 Concluding remarks . . . . .	86
Appendix . . . . .	88
<b>4 Testing the effectiveness of the Excessive Deficit Procedure</b>	<b>97</b>
4.1 Introduction . . . . .	97
4.2 Literature review and hypotheses . . . . .	101
4.2.1 The Stability and Growth Pact . . . . .	101
4.2.2 Council recommendations and fiscal behavior . . . . .	102
4.2.3 Related literature . . . . .	106
4.3 Data description and empirical approach . . . . .	109
4.3.1 Fiscal forecasts and realizations . . . . .	109
4.3.2 Database of EDP recommendations . . . . .	111
4.3.3 Empirical approach . . . . .	115

4.4	Results . . . . .	117
4.4.1	First results . . . . .	117
4.4.2	Financial support . . . . .	119
4.4.3	Controlling for market pressure . . . . .	122
4.4.4	Kink in the fiscal reaction function . . . . .	123
4.4.5	Robustness . . . . .	126
4.4.6	Size of the recommendation . . . . .	128
4.5	Concluding remarks . . . . .	130
	Appendix A: Model . . . . .	132
	Appendix B: Tables . . . . .	134
<b>5</b>	<b>Euro area sovereign risk spillovers before and after the OMT</b>	<b>147</b>
5.1	Introduction . . . . .	147
5.2	OMT and spillovers . . . . .	150
5.2.1	The vulnerability of euro area sovereigns . . . . .	150
5.2.2	OMT and hypotheses . . . . .	153
5.3	Empirical literature . . . . .	154
5.4	Method and data . . . . .	156
5.4.1	Identification of domestic interest rate shocks . . . . .	157
5.4.2	Other data . . . . .	161
5.4.3	Local projections . . . . .	162
5.5	Results . . . . .	167
5.5.1	Spain . . . . .	167
5.5.2	Italy . . . . .	172
5.5.3	Response of pan-European variables . . . . .	172
5.5.4	External effects . . . . .	177
5.6	Sensitivity . . . . .	178
5.6.1	Shorter and symmetric intervals around OMT . . . . .	178
5.6.2	Specification of the LP model . . . . .	180
5.6.3	Including leads and lags of instruments . . . . .	181
5.6.4	Instrument validity . . . . .	182
5.7	Concluding remarks . . . . .	183

Appendix A: Outliers . . . . .	185
Appendix B: Summary statistics . . . . .	186
Appendix C: Sensitivity . . . . .	187
<b>6 Conclusion</b>	<b>201</b>
6.1 Summary . . . . .	201
6.2 Way forward . . . . .	203
<b>References</b>	<b>229</b>
<b>Nederlandse samenvatting (summary in Dutch)</b>	<b>231</b>

# List of Tables

2.1	Calibrated parameters	26
2.2	Classification	44
2.3	Descriptive statistics	45
2.4	Quarterly data tradable and nontradable definition	45
2.5	Calibrated parameters - RoW	52
3.1	Summary statistics, EU27, 2001-2012	71
3.2	Forecast properties	74
3.3	Main results	81
3.4	Predicting excessive deficits - probit	89
3.5	Predicting excessive deficits - probit, lagged instruments	90
3.6	Role of independent fiscal councils	91
3.7	Pre- vs. post-crisis effects SGP	92
3.8	Main results, sensitivity to outliers	93
3.9	Geographical sensitivity	94
3.10	Final realizations	95
4.1	Homogeneous EDP coefficient	118
4.2	Differentiating w.r.t. financial support programs	120
4.3	Controlling for market pressure	124
4.4	Kink in the reaction function	125
4.5	Descriptive statistics	134
4.6	Only EA12	136
4.7	Constant samples	137

4.8	Excl. GIIPS and Cyprus . . . . .	138
4.9	Whole European Union . . . . .	139
4.10	Pre-crisis versus post-crisis . . . . .	140
4.11	Initial recommendations . . . . .	141
4.12	Including year dummies . . . . .	142
4.13	Only recommendations defined in terms of structural budget balance . . . . .	143
4.14	Size of the recommendations . . . . .	144
4.15	Size of the recommendations (excl. ESM observations) . . . . .	145
5.1	Instrument relevance: pre- and post-OMT . . . . .	164
5.2	Yield spillovers from Spain . . . . .	170
5.3	Yield spillovers from Italy . . . . .	174
5.4	Summary statistics . . . . .	186

# List of Figures

2.1	Interest rates and macroeconomic imbalances . . . . .	16
2.2	Nontradable sector growth and as percentage of GDP . . . . .	17
2.3	Consequences of monetary integration . . . . .	28
2.4	Consequences of monetary integration: effects of including the RoW . . . . .	31
2.5	Real interest rate shock for sample period 1996Q3-2017Q3 . . . . .	37
2.6	Real interest rate shock for sample period 1996Q3-2008Q3 . . . . .	38
2.7	Product market reform in South, transition path . . . . .	40
2.8	Deepening the EA internal market, transition path . . . . .	41
2.9	Share of value added from domestic demand in the euro area . . . . .	43
2.10	Impact of monetary integration on relative sectoral sizes in South, for different values of the NT markup in South . . . . .	53
2.11	Reaction to a sudden increase in the elasticity of interest rates to debt levels . . . . .	54
2.12	Product market reform in North, transition path . . . . .	55
3.1	Average forecast errors, 2001-2012 . . . . .	72
3.2	Distribution of forecast errors, 2001-2012 . . . . .	73
4.1	A government's response to EDP recommendations . . . . .	105
4.2	EDP recommendations over time . . . . .	113
4.3	Distribution of EDP recommendations, EMU member states, by forecast vintage . . . . .	114
4.4	Response to EDP recommendations . . . . .	129

---

5.1	Events . . . . .	160
5.2	Yield spillovers from Spain . . . . .	169
5.3	Yield spillovers from Italy . . . . .	173
5.4	Response of pan-European variables . . . . .	176
5.5	External effects . . . . .	179
5.6	Yield spillovers from Spain - two year interval around OMT announcement . . . . .	188
5.7	Yield spillovers from Italy - two year interval around OMT announcement . . . . .	189
5.8	Yield spillovers from Spain - one year interval around OMT announcement . . . . .	190
5.9	Yield spillovers from Italy - one year interval around OMT announcement . . . . .	191
5.10	Yield spillovers from Spain - full set of controls . . . . .	192
5.11	Yield spillovers from Italy - full set of controls . . . . .	193
5.12	Yield spillovers from Spain - no control variables . . . . .	194
5.13	Yield spillovers from Italy - no control variables . . . . .	195
5.14	Yield spillovers from Spain - including leads and lags of the instruments . . . . .	196
5.15	Yield spillovers from Italy - including leads and lags of the instruments . . . . .	197
5.16	Yield spillovers from Spain - excluding overnight events . . .	198
5.17	Yield spillovers from Italy - excluding overnight events . . . .	199