Contents

Acknowledgements vii

Financing Constraints and the Adjustment Dynamics of Enterprises – A Roadmap 1

Chapter 1 – Financial constraints for investors and the speed of adaptation: Are innovators special? 9

1 Introduction 11

2 Optimal investment under financial constraints 16

3 The data 19

4 Estimation and results 23

4.1 Estimation strategy 23

4.2 Results 28

5 Conclusions 34

Appendix A: Optimal capacity adjustment under financial constraints 36

Appendix B: Deriving the basic error correction specification 53

Appendix C: The sample 56

Tables 59

Chapter 2 – Financial Constraints and Capacity Adjustment: Evidence from a Large Panel of Survey Data 69

1 Introduction 71

2 Identifying the effects of financial constraints 73

3 The data set 78

4 Investigating the link: financial constraints and capacity restrictions 81

4.1 Association analysis for capacity restrictions and financial constraints 82

4.2 The design of the duration analysis 83

4.3 Kaplan Maier survival curves 85

4.4 A proportional hazard (Cox) model of duration 91

5 Conclusion and Outlook 97

Appendix: A maximum likelihood estimator for the proportional hazard model with censored grouped panel data 99

Tables 103

Chapter 3: Panel estimation of state dependent adjustment when the target is unobserved 111

1 Introduction 113

2 A regime-specific adjustment process 115

3 Two non-linear moment conditions based on quasi-differencing 118

4 Two moment conditions based on linear transformations 125

4.1 Forward differences and generalised differences 125

4.2 Testing the validity of the length of memory 129

4.3 Moment restrictions for the equation in levels 130

5 Implementing and simulating the estimators 134

5.1 Setting up the simulation 134

5.2 Simulation results 138

5.3 Comparing the estimators 145

Tables 147

Appendix A: A state dependent error correction model 151

Appendix B: Nonlinear GMM estimation using the Gauss-Newton Method 153

Chapter 4 – Financing constraints, micro adjustment of capital demand and aggregate implications 157

1 Introduction 159

2 Financing constraints and investment dynamics 161

3 State dependent adjustment dynamics with unobserved targets 163

3.1 The estimation problem 164

3.2 A non-linear transformation 165

4 Empirical strategy 167

5 Descriptive statistics and estimation results 171

6 Aggregate implications of adjustment heterogeneity 176

Tables 179

References 185