Figures

1.1 Inter-firm technology transactions on the MfTI 7
1.2 Scope of the study and related research fields 13
2.1 Conceptual framework 22
2.2 Research strategy 30
3.1 Transactions along the innovation process involving TMI 48
3.2 Systematization of the forms of technology exploitation 53
3.3 Distribution channels for technologies 54
3.4 Extended framework incorporating exploitation channels 55
3.5 External technology deployment process model 56
3.6 External technology commercialization process model 58
4.1 The transaction nature without / with TMI involvement 74
5.1 Schematic view of a generic auction process 84
6.1 Types of carriers for technological information 99
6.2 Patent portfolio value distribution and recommended actions 112
6.3 The value of European patents across macro-technology classes 114
7.1 Continuum of transaction governance structure types 127
7.2 Matching governance structures with commercial transactions 131
7.3 Transaction costs and asset specificity of governance structures 133
8.1 Conceptual framework of the quantitative study 149
8.2 Sensitivity analysis of value ranges 162
9.1 Technology auction process structure 176
9.2 Phases and distinguishing events in the auction process 181
9.3 Six standardization elements of technology auctions 207
9.4 Profit and cost comparison of bargaining negotiations / auctions 221
10.1 Transactions closed at different occasions of the auction process 229
10.2 Alternative measures for technological uncertainty 235
10.3 Conceptual model for regression analyses 261
11.1 Suspected u-shaped relationship of technological uncertainty and sales price 296
11.2 Firms’ decision sequence in technology market transactions 303
11.3 Transaction costs of auctions and bargaining negotiations 306
11.4 Dynamic TC as reason for disintegration / reintegration phases 308
11.5 Alternation of disintegration and reintegration phases 309