

CONTENTS

List of Figures	vii
List of Tables	ix
List of Contributors	xiii
PREFACE AND ACKNOWLEDGEMENTS	
<i>By Christian Le Bas</i>	xv
INTRODUCTION	
<i>By William Latham and Christian Le Bas</i>	xix
CHAPTER 1. PERSISTENCE IN INNOVATION: DEFINITIONS AND CURRENT DEVELOPMENT OF THE FIELD	
<i>By Christian Le Bas and William Latham</i>	1
CHAPTER 2. DETERMINANTS OF PERSISTENCE IN INNOVATION: A STUDY OF FRENCH PATENTING.	
<i>By Alexandre Cabagnols, Claudine Gay and Christian Le Bas</i>	19
CHAPTER 3. FACTORS OF ENTRY AND PERSISTENCE IN INNOVATION: A COMPETENCE-BASED APPROACH	
<i>By Alexandre Cabagnols</i>	41
CHAPTER 4. CHARACTERISTICS OF PERSISTENT INVENTORS AS REVEALED IN PATENT DATA	
<i>By William Latham, Christian Le Bas and Karim Touach</i>	101
CHAPTER 5. COMPARING INNOVATIVE PERSISTENCE ACROSS COUNTRIES: A COX-MODEL OF PATENTING IN THE UK AND FRANCE	
<i>By Alexandre Cabagnols</i>	119
CHAPTER 6. PERSISTENT ADOPTION OF TIME-SAVING PROCESS INNOVATIONS	
<i>By Nilotpal Das and James G. Mulligan</i>	167
CHAPTER 7. TOWARDS AN EVOLUTIONARY THEORY OF PERSISTENCE IN INNOVATION	
<i>By Christian Le Bas and William Latham</i>	209
CHAPTER 8. PRINCIPAL FINDINGS, POLICY IMPLICATIONS AND RESEARCH AGENDA	233
<i>By Christian Le Bas and William Latham</i>	
INDEX	245

LIST OF FIGURES

CHAPTER 1

Figure 1. Firm Innovative Behavior in Two Periods: Four Cases.....	2
Figure 2. Firm Innovative Behavior in Two Periods in Technological Field j: Four Cases	4

CHAPTER 2

Figure 1. Kaplan-Meier survival estimates.	28
Figure 2. Kaplan-Meier survival estimates, by nbvdp	29

CHAPTER 3

Figure 1: Illustration of the inter-industrial heterogeneity of opportunity conditions and competences	55
--	----

CHAPTER 7

Figure 1 : The determinants of firm competitive performance	216
Figure 2. Illustration of Equilibria with Weak Learning in Innovative Activities .	223
Figure 3. Illustration of Equilibria with Strong Learning in Innovative Activities .	224

LIST OF TABLES

CHAPTER 2

Table 1. Distribution of patenting spell lengths and maximum spell lengths by firm for 3347 firms, 1969-85	23
Table 2. Descriptive statistics for 3902 patenting spells in 3347 firms, 1969-198	24
Table 3. A taxonomy of regimes of patenting behavior	27
Table 4. Results of Weibull regressions of patenting spells.....	33

CHAPTER 3

Table 1: Classification of the Competences Depending on Their Impact on the Probability of Entry and Persistence in Innovation	43
Table 2: Transition Matrix Between Innovative Behaviors	45
Table 3: Transition Matrix Between Innovative Behaviors with Distinction Between Profiles of Product, Process and Product & Process Innovators.....	46
Table 4: Distribution of the Firms by Type of Innovative Behavior in Different Surveys.....	49
Table 5 : Transition Matrix Between Types of Technological Behaviors in [1994-1996] and [1998-2000].	49
Table 6: Distribution of the Firms by Type of Transition (Entry/Exit/Persistence)	50
Table 7: Interpretation of the 15 Principal Components	54
Table 8: Results From the Estimation of Model 1 with the Initial Variables.....	57
Table 9: Results From the Estimation of Model 1 with Variables Transformed by PCA	59
Table 10: Results From the Estimation of Model 2-A with the Initial Variables Centered By Sectoral Means	64
Table 11: Results From the Estimation of Model 2-A with Variables Transformed By PCA ..	66
Table 12: Results From the Estimation of Model 2-B with the Initial Variables Centered by Sectoral Means.....	72
Table 13: Results From the Estimation of Model 2-B with Variables Transformed by PCA ..	74
Table 14: Classification of the Competences Depending on their Delayed Impact on the Probability of Entry and Persistence in Innovation.....	76
Table 15: Classification of the Competences Depending on Their Delayed Impact on the Probability of Entry and Persistence in Innovation.....	78
Table 16: Proportion of Firms That Exit Innovation in 6 French Surveys Over the Period [1986-2000]	84
Table 17: Types of Innovative Behaviors and Mean Level of Competence In Different Industrial Sectors (NES Level 2) in the Competence Survey over the Period [1994-98].....	89
Table 18: Mean Levels of Competence of External Interface in Different Industrial Sectors (NES Level 2) in the Competence Survey Over the Period [1994-98]	90
Table 19: Mean Levels of Absorptive Capacity in Different Industrial Sectors (NES Level 2) in the Competence Survey Over the Period [1994-98].....	91
Table 20: Mean Levels of Competence of External Interface In Different Industrial Sectors (NES Level 2) In The Competence Survey Over The Period [1994-98].....	92

Table 21: Eigenvalues Of The Correlation Matrix	94
Table 22: Coordinate Of The Competences On Each Principal Component	95
Table 23: Contribution Of The Competences To Each Principal Component	96
Table 24: Cos^2 Of The Competences On Each Principal Component	97

CHAPTER 4

Table 1. Percentage Distribution Of Inventors By Number Of Patents By Country	105
Table 2. Number And Proportion Of Patents Including A Prolific Inventor By Country	105
Table 3. Variables Used In The Regression	106
Table 4a. Estimation Results: Equation Statistics	109
Table 4b. Estimation Results: Equation Statistics	110
Table 5. Distribution Of Patenting Spell Lengths And Maximum Spell Lengths For 337 Inventors	111

CHAPTER 5

Table 1: Main Characteristics Of The Dataset Used To Compare France And UK	128
Table 2: Kaplan-Meier Estimate Of The Survival Functions In France And UK (Spell Interruption After One Year Exactly Or More Without Patent; $\text{Lag} \geq 1$)	129
Table 3: Separate Estimations Of The Spell Length In France And UK	133
Table 4: Log Likelihood Of The Model 1 Depending On The Value of δ	141
Table 5: Results From The Estimation Of A Cox Model With Time Varying Covariates (Model 1)	143
Table 6: Results From The Estimation Of A Cox Model With Time Varying Covariates (Model 2)	144
Table 7a. Kaplan-Meier Estimates Of The Survivor Function For Different Values Of The Number Of Patents At The Start Of The Spell In The UK: One Patent Exactly At The Start Of The Spell (Pat1)*	153
Table 7b. Kaplan-Meier Estimates Of The Survivor Function For Different Values Of The Number Of Patents At The Start Of The Spell In The UK: Two Patents Exactly At The Start Of The Spell (Pat2)*	153
Table 7c. Kaplan-Meier Estimates Of The Survivor Function For Different Values Of The Number Of Patents At The Start Of The Spell In The UK: Three Patents Exactly At The Start Of The Spell (Pat3)*	154
Table 7d. Kaplan-Meier Estimates Of The Survivor Function For Different Values Of The Number Of Patents At The Start Of The Spell In The UK: Four Patents Exactly At The Start Of The Spell (Pat4)*	154
Table 7e. Kaplan-Meier Estimates Of The Survivor Function For Different Values Of The Number Of Patents At The Start Of The Spell In The UK: Five Patents Exactly At The Start Of The Spell (Pat5)*	155
Table 8a. Evolution Of K_t During Spells Of Length 1- 5	156
Table 8b. Evolution Of K_t During Spells Of Length 6- 10	157

Table 8c. Evolution Of Kt During Spells Of Length 11-14.....	158
Table 9: Results From The Estimation Of A Cox Model With Time Varying Covariates And Stratification By Main Field Of Technological Activity (France Only)	159
Table 10: Distribution Of The Spells By Rank	160
Table 11: Estimation Of The Model 1 For Different Rank Of The Spell	161
Table 12: Test Of The Impact Of The Rank Of The Spell On The Estimated Coefficients	162

CHAPTER 6

Table 1. Ski Areas With High-Speed Chairlifts By State	192
Table 2: Cross-Tabulation Of High-Speed Quads And Six-Pack. *High-Speed Six-Packs	193
Table 3: Proportion Of High-Speed Chairlifts By Region	194
Table 4: Number Of Chair-Weighted Lifts Per Ski Resort By Region	196
Table 5: Ols Regression With And Without Year Of First Adoption (Dependent Variable: Proportion Of High-Speed Chairlifts)	197
Table 6: Ols Regressions (Proportion Of High-Speed Chairlifts As Dependent Variable)	199