

**Jochen Dehio, Roland Dohrn, Rainer Graskamp,  
Klaus Lobbe, Hans Dietrich von Loeffelholz,  
Waike Moos and Michael Rothgang**

# **New Economy**

**The German Perspective**



**Duncker & Humblot • Berlin**

## Contents

<b>Introduction</b>	15
Chapter 1	
<b>Economic Development in Germany and the U.S.</b>	19
1. Long-Term Trends . . . . .	19
2. Labor and Capital Productivity. . . . .	25
3. External Trade and Foreign Direct Investment . . . . .	33
4. Public Finance. . . . .	35
Chapter 2	
<b>ICT and Earlier Technological Revolutions</b>	41
1. Fundamental Technological Revolutions in Historical Perspective. . . . .	42
2. Analysis of Historical Time Series. . . . .	47
3. Historical Trend Growth of the Production Potential. . . . .	52
4. Concluding Remarks. . . . .	55
Chapter 3	
<b>Volume and Growth of the ICT Sector</b>	57
1. Definitions and Data Base. . . . .	57
2. International Comparison. . . . .	59

3.	ICT Sector by Industry. . . . .	64
3.1	United States. . . . .	64
3.2	Germany. . . . .	67
4.	Concluding Remarks. . . . .	72

## Chapter 4

<b>ICT Use</b>		<b>73</b>
1.	Economic Effects of ICT Use. . . . .	74
1.1	Framework for the Analysis. . . . .	74
1.2	Effects on Industry Level Productivity. . . . .	76
1.3	ICT Use in the Service Sectors and Innovative Activity . . . . .	79
2.	ICT Use in Germany. . . . .	81
2.1	General Indicators. . . . .	81
2.2	E-commerce. . . . .	86
2.2.1	Internet Use. . . . .	86
2.2.2	Internet and e-commerce in Light of the Stock Markets . . . . .	87
2.2.3	E-commerce Market . . . . .	90
2.2.3.1	Definition of e-commerce. . . . .	90
2.2.3.2	Effects. . . . .	92
2.2.3.3	Evaluation of Selected Market Studies. . . . .	93
2.2.3.4	Prospects. . . . .	95
2.2.3.5	Overall Economic Effects. . . . .	99
2.2.3.6	Policy Interventions in Germany. . . . .	101
3.	Concluding Remarks. . . . .	103

## Chapter 5

<b>Macroeconomic Consequences of ICT</b>		<b>105</b>
1.	Methodological Approach. . . . .	105
2.	Data Availability. . . . .	108
2.1	Data on ICT Investment and Other Economic Indicators . . . . .	108
2.2	Labor Quality. . . . .	110
3.	Growth Accounting Analysis. . . . .	110
3.1	Calculation Procedure. . . . .	110
3.2	Results. . . . .	112
3.3	Cyclical Effects and Multifactor Productivity Growth. . . . .	114

- 4. Influence of Deflating Methods on Measured Growth . . . . .115
  - 4.1 Initial Situation . . . . .115
  - 4.2 Deflating of GDP. . . . .117
    - 4.2.1 Methodology of the German National Accounting. . . . .117
    - 4.2.2 Using of Fisher-Chain Indices by the BEA. . . . .119
  - 4.3 Quality Effects. . . . .121
    - 4.3.1 Elimination of Quality Effects in German National Accounting . . . . .121
    - 4.3.2 Use of Hedonic Techniques by the BEA . . . . .122
  - 4.4 Software-Hardware Relations. . . . .123
  - 4.5 Macroeconomic Impacts of Methodological Adjustments in Germany. . . . .124
- 5. Trends of Total Factor Productivity and Capital Deepening . . .125
- 6. Concluding Remarks. . . . .129

Chapter 6

- Summary and Conclusions** . . . . .132
  - 1. Issues and Objectives of the Study. . . . .132
  - 2. Economic Development in Germany and the US. . . . .134
  - 3. ICT and Earlier Technical Revolutions. . . . .135
  - 4. ICTSector. . . . .137
  - 5. Sectoral Use of ICT. . . . .139
  - 6. Macroeconomic Consequences of ICT. . . . .141
  - 7. Fields of Activity and Economic-Political Implications. . . . .143

- Bibliography** . . . . .148