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Series Standing Order ISBN 978-1-4039-4872-4

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Financial Markets and Organizational Technologies

**System Architectures, Practices and Risks
in the Era of Deregulation**

Edited by

Alexandros-Andreas Kyrtzis

University of Athens, Greece

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Introduction, selection and editorial matter © Alexandros-Andreas Kyrtis 2010
Individual chapters © contributors 2010
Softcover reprint of the hardcover 1st edition 2010 978-0-230-23405-5

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First published 2010 by
PALGRAVE MACMILLAN

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Palgrave Macmillan in the US is a division of St Martin's Press LLC, 175 Fifth Avenue, New York, NY 10010.

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ISBN 978-1-349-31349-5 ISBN 978-0-230-28317-6 (eBook)
DOI 10.1057/9780230283176

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A catalogue record for this book is available from the British Library.

A catalog record for this book is available from the Library of Congress.

10 9 8 7 6 5 4 3 2 1
19 18 17 16 15 14 13 12 11 10

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Preface

From the perspective of historians and sociologists of technology, it is still puzzling that we have no clear ideas about the impact of banking and financial operations on the evolution of information and communications technologies. But also in the reverse – and much more frequently discussed – causal direction, our knowledge rests on rather fragmentary and often insecure evidence. We do not know as much as we think about the significance of ICTs for increased efficiency, for raising productivity and for coping with asymmetric information. There are also topics that remain outside of our cognitive horizon. No doubt, academic knowledge is in many cases lagging behind the immense accumulated experience among managers in the industry. For instance we do not make use of conclusive theoretical compasses that could guide the investigation of the ways ICTs contribute to the shaping of organizational practices and operational risks in finance. And there is not much academic discussion about how approaches to information system development in complex banks have emerged from the specifics of the rapid changes in business models and in product and services management, as well as from changes in trading, marketing and sales operations. From the business planner's and the risk officer's perspective the quest for systematic insights in these directions can have far-reaching practical implications. Codifying tacit, local or highly dispersed knowledge through explicit discourses can significantly contribute to the awareness of the complex techno-organizational landscape of finance at the beginning of the twenty-first century. Creating the ground for better-informed and less abstract dialogues on opportunities and risks among knowledgeable researchers can enrich conceptual inspirations. But most importantly, knowledge on the relevant causal relationships can help us weigh the priorities and the content of both managerial and regulatory action, especially in periods of crises with systemic consequences.

Both the macro- and the micro-historical analysis of the development of information systems of financial organizations can be of great significance in this respect. Understanding the historical context and its institutional intricacies implies also a better understanding of the range and limitations of potential practices. The argument, which will be discussed in the following pages, is that the evolution of the business

of banking, after financial deregulation accelerated in the 1970s, altered the conditions for the adoption, use and reconfiguration of technologies in the organizational contexts of doing business in banking and finance. The changing terms of co-evolution between finance and ICTs have influenced system architectures, practices and risks in ways that cannot be ignored by researchers and practitioners. IT specialists of this deregulated industry are driven to search increasingly for configurations of organizational solution technologies, instead of just looking for hardware–software configurations. This is due, among other things, to the fact that requirements for the mobilization of organizational and network resources make pulling information more significant than just pushing data around. But beyond technological and organizational considerations, it is the business and the institutional environment that matters most. What actually emerged in terms of organizational and technological patterns of action after the abolishment of the Bretton Woods system, couldn't have been possible without radical economic and institutional shifts. The evolution of the culture of risk management and regulatory practices has also immensely influenced the course of developments. Understanding the history of the techno-organizational configurations in banking and finance is impossible without understanding the history of financial deregulation.

The authors of the chapters elaborate on these ideas, each from a different perspective, and cover a wide range of issues. The hope is that this volume will be a valuable companion for everyone who is interested in the interconnection between the difficulty of overcoming the financial risks we are facing and the global webs of uncontrollable organizational and technological complexity.

This book is the outcome of a one-day conference held at the premises of the Historical Archives of the National Bank of Greece in Athens on 29 November 2008. The event was made possible through the generous support of the National Bank of Greece and the assistance offered by the staff of its Historical Archives. The editor of this volume owes a great debt of gratitude to the former Chairman of the Bank, Takis Arapoglou, and to the Head of the Archives Gerasimos Notaras. Many thanks go also to the only non-academic participant of this conference, Hermann-Josef Lamberti, member of the Group Executive Committee of the Deutsche Bank, who delivered the opening address in which he shared the business perspective of one of the most prominent practitioners in the field.

Notes on Contributors

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David Gugerli is a Professor of History of Technology at the Federal Institute of Technology (ETH) in Zurich. He was a guest researcher at the Maison des Sciences de l'Homme in Paris, visiting professor at the Colegio de México in Mexico City, visiting scholar at Stanford University in Palo Alto, visiting fellow at the International Research Center for Cultural Sciences in Vienna, and a fellow at the Institute for Advanced Study in Berlin. His latest book is a socio-historical study of search engines and databases (*Suchmaschinen: Die Welt als Datenbank*, 2009).

Alexandros-Andreas Kyrtis, the editor of this volume, is a Professor of Sociology at the University of Athens, in the Department of Political Science and Public Administration. He has been an academic visitor at MIT, LSE, the University of Edinburgh, and at the Institute of Advanced Studies on Science, Technology and Society in Graz. He has also been an adviser to Greek banks, to the Hellenic Bankers Association, and to IT companies with projects in the financial sector. His latest book, in Greek, is on the evolution of the information systems of the National Bank of Greece and the role of IT and operations managers in the period 1950–2000.

Donald MacKenzie holds a personal chair in Sociology at the University of Edinburgh where he has been working since the 1970s in the field of Science and Technology Studies. His current research, which involves developing a 'material sociology of markets', focuses on financial markets, especially on credit-derivatives, and on new markets for permits for greenhouse-gas emissions. He has also done research in the fields of the sociology and history of computing, of statistics, and of nuclear weapons. His latest books are *Material Markets: How Economic Agents are Constructed* (2009) and *An Engine, Not a Camera: How Financial Models Shape Markets* (2006).

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Susan V. Scott is a Senior Lecturer in the Information Systems and Innovation Group at the Department of Management, London School of Economics and Political Science. Her research focuses on technology, work and organization from a management studies perspective. More specifically, she has developed a major body of research examining the role of information systems in the transformation of work practices within the financial services sector. Among her latest publications is 'Sociomateriality: Challenging the separation of technology, work and organization', *Academy of Management Annals*, 2(1), 2008: 433–74 (with W. J. Orlikowski).