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Developmental Network States in the Global Economy  
Sean O'Riain  
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## *The Politics of High-Tech Growth*

### Developmental Network States in the Global Economy

This book provides a new account of the sources of industrial development in the “Celtic Tiger”, the booming economy in the Republic of Ireland since the 1990s. Drawing on extensive research in the software industry and in state industrial development agencies, the book argues that a system of regional innovation was forged out of the global ties of the Irish economy by an alliance between state agencies and local technical communities. The book provides a detailed study of the institutions and political conditions which promoted this regional innovation. It also explores how this alliance was governed through a decentralized set of state institutions, drawing on “global” and “local” economic and political resources. Challenging the conventional focus on the primary role of foreign investment in industrial development, the book develops the concept of the “Developmental Network State” in order to account for the role of state agencies in shaping the growth of Ireland’s high-tech cluster and the emergence of an international network of “global high-tech regions” from Silicon Valley to Ireland, Taiwan, and Israel. Ultimately the analysis points to an emerging political choice between neo-liberal policies which attack these social and political institutions and social democratic policies which sustain the social embedding of the global information economy.

**Seán Ó Riain** is Professor of Sociology, National University of Ireland, Maynooth.

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CAMBRIDGE  
UNIVERSITY PRESS

Shaftesbury Road, Cambridge CB2 8EA, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi – 110025, India

103 Penang Road, #05–06/07, Visioncrest Commercial, Singapore 238467

Cambridge University Press is part of Cambridge University Press & Assessment,  
 a department of the University of Cambridge.

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 education, learning and research at the highest international levels of excellence.

[www.cambridge.org](http://www.cambridge.org)

Information on this title: [www.cambridge.org/9780521711876](http://www.cambridge.org/9780521711876)

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First published 2004

First paperback edition 2007

*A catalogue record for this publication is available from the British Library*

*Library of Congress Cataloging-in-Publication data*

Ó Riain, S. (Seán)

Developmental network states: the politics of the global informational  
 economy / Seán Ó Riain.

p. cm. — (Structural analysis in the social sciences)

Includes bibliographical references and index.

ISBN 0-521-83073-7

1. Information technology — Economic aspects — Ireland.

2. Economic development — Social aspects — Ireland.

3. Industrial policy — Social aspect — Ireland. 4. Technological innovations —

Government policy — Ireland 5. Computer software industry — Ireland.

I. Title: Global information economy. II. Title. III. Series.

HC260.5.Z91556 2004

338.9417'06 — dc21 2003053299

ISBN 978-0-521-83073-7 Hardback

ISBN 978-0-521-71187-6 Paperback

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ABBREVIATIONS

ABT	An Bord Tráchtála
BDCC	Buyer-Driven Commodity Chain
BIRD	Bi-National Industrial R&D
CBT	Computer-Based Training
CS	Computer Science
CSE	Center for Software Engineering
CSO	Central Statistics Office
DBS	Developmental Bureaucratic State
DCU	Dublin City University
DNS	Developmental Network State
EC	Electronic Commerce
EDB	Economic Development Board
EDP	Enterprise Development Program
EEC	European Economic Community
EI	Enterprise Ireland
ELI	Export Led Industrialization
EPTR	Export Profit Tax Relief
EPZ	Export-Processing Zone
ERSO	Electronics Research and Service Organization
ESRI	Economic and Social Research Institute
EU	European Union
FÁS	Forás Áiseanna Saothair (labor-market services agency)
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
HEA	Higher Education Authority
HSIP	Hsinschu Science-Based Industrial Park (Taiwan)
IBEC	Irish Business and Employers Confederation
IC	Irish Computer
ICSA	Irish Computer Services Association (currently ISA)

xiv	<i>Abbreviations</i>
ICSTI	Irish Council for Science, Technology, and Innovation
ICT	Information and Communication Technologies
IDA	Industrial Development Authority
IEP	Irish Pounds (unit of currency)
IMF	International Monetary Fund
ISA	Irish Software Association (formerly ICSA)
ISI	Import Substitution Industrialization
IT	Information Technology
ITRI	Industrial Technology Research Institute (Taiwan)
LRC	Localization Resources Center
LSM	Labor Settlement Movement (Israel)
MAC	(National) Microelectronics Application Center
MNE	Multinational Enterprise
MTI	Multimedia Technologies Ireland
NBST	National Board for Science and Technology
NESC	National Economic and Social Council
NESF	National Economic and Social Forum
NIHE	National Institutes for Higher Education
NMRC	National Microelectronics Research Center
NSC	National Software Center
NSD	National Software Directorate
OCS	Office of the Chief Scientist (Israel)
ODM	Original Design Manufacturing
OECD	Organization for Economic Cooperation and Development
OEM	Original Equipment Manufacturing
OTP	Office of Technology Policy (Israel)
PAT	Program in Advanced Technologies
RTC	Regional Technical College
PAP	People's Action Party (Malaysia)
PDCC	Producer-Driven Commodity Chain
PRC	People's Republic of China
R&D	Research and Development
SLIG	Software Localization Interest Group
SME	Small/Medium Sized Enterprise
SSISI	Statistical and Social Inquiry Society of Ireland
STAG	Science and Technology Advisory Group
STIAC	Science, Technology, and Innovation Advisory Council
TDCC	Technology-Driven Commodity Chain
TFP	Total Factor Productivity
TNC	Transnational Corporation
UCD	University College Dublin
UL	University of Limerick
VEC	Vocational Education Committee
WAIPA	World Association of Investment Promotion Agencies

## PREFACE

In 1992, I took the path followed by many young Irish people at that time and emigrated to the United States. In my case, I left Dublin for Berkeley, California, to get a Ph.D. in sociology and, within a year or two, I found myself beginning to study the Irish software industry from 6,000 miles away in Silicon Valley. Over the next ten years or so, I followed the social ties within the industry – at first through the transnational ties that connected Silicon Valley and Ireland, then within a software development team in a Silicon Valley company in Dublin, and on through interviews in corporate and state offices, as well as with software developers themselves.

Ultimately, this project took me far from where I had expected to travel in the course of my sociological journey. I had begun my research as an investigation into the underdevelopment of the Irish economy and the accompanying mass unemployment and emigration of the 1980s. My initial research, however, revealed a more complex picture with glimmers of industrial revival – an impression confirmed by my early visits to Irish software firms. To my surprise, I found myself walking through the cubicles of youthful software developers as I met the managers that I was interviewing, and I discovered a world of vibrant social spaces and commercial entities that turned my project on its head. The ethnographic moment of those interviews challenged what I felt I knew about the inevitability of industrial underdevelopment in Ireland and defined the puzzle for my research: how to reconcile the development that I observed around me, which soon became central to the “Celtic Tiger” boom, with the empirical reality and sociological theorization of overpowering global forces. This book is an attempt to grapple with the ambiguities of this situation and to provide a way to think through its dilemmas and possibilities.

However, if this research took me to unexpected sociological destinations, it also took me to social destinations more familiar than I had expected. I had expected to face the ethical and political dilemmas of “studying down” – a male, middle-class researcher eliciting stories of exclusion in the kitchens of the high-unemployment

regions around Dublin. Instead, I found myself sitting in comfortable offices and the bars of affluent Dublin, getting to know a world parallel to that in which I had grown up – a world dominated by middle-class men.

By the time I carried out my research in Ireland, I had made many of the connections and followed many of the transnational career paths that were such a big part of my coworkers' experience. My own life in the social sciences had mirrored the experiences of many of those I met in my research – educated on different sides of the same college campuses; working at home and abroad on emerging meanings and logics; one foot in the local culture, the other in the global economy. Software had seemed like a distant world, only for ethnography to reveal the many aspects already familiar to me from life in the Irish knowledge-worker diaspora.

To my surprise, I was “studying up” and even “across” in socially familiar and politically uncertain territories. The dilemmas of this research were challenging – trying to maintain political heterodoxy without breaching the assumed trust that comes with social similarity; respecting the abilities and insights of participants in the high-technology world of the Celtic Tiger, while maintaining an analytical distance from the assumptions of that world; and attempting to fashion an argument that might bridge the worlds of high technology and progressive political change. This social separation also made me less comfortable in the worlds of sociology and progressive politics because there have been few clear-cut political projects to which I could connect the findings of my research. This book is an attempt – written from a place of social familiarity and sociological ambiguity – to make some of those connections among the global information economy, its social conditions and consequences, and the political choices and possibilities contained within them.

Individual projects are always profoundly shaped by their barely hidden foundation of institutional and, more importantly, social supports – both the research in this book and the trajectory of the project itself have confirmed this for me. Financial support for this research was provided by the Graduate Division, University of California, Berkeley; the Department of Sociology, University of California, Berkeley; the John L. Simpson Fellowship of the Institute for International Studies, University of California, Berkeley; the Economic and Social Research Institute (ESRI), Dublin; Forfás and Forbairt, Dublin; the Joint Committee on Western Europe of the American Council of Learned Societies and the Social Science Research Council, with funds provided by the Ford and Mellon Foundations; the Academic Senate, University of California, Davis; Institute for Governmental Affairs, University of California, Davis; and the Institute for Labor and Employment, University of California.

I received helpful comments at presentations of parts of this research at the ESRI, Dublin; Conference on “Ireland, Europe, and the Global Information Society,” Dublin; the Center for Western European Studies, University of California, Berkeley; the Center for Work, Technology, and Organizing, Stanford University; Braverman Memorial Conference on the Labor Process, SUNY-Binghamton; the Sloan Foundation Globalization Workshop for Junior Scholars, Duke University;

*Preface*

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and Departments of Sociology at Queens College, City University of New York; Indiana University, Bloomington; University of California, Davis; Stanford University; University of California, Berkeley; Northwestern University; and the University of Arizona.

Invaluable research assistance was provided by Brooke Bennett, Matt Keller, Niall Moran, Dina Biscotti, and Julie Collins. Alia Winters has been a wonderfully patient and supportive editor. I received detailed and very constructive comments from two referees, Lars Mjose and Neil Fligstein. And I give special thanks to Mark Granovetter, who believed in this book when it was a very raw dissertation – Mark's calm encouragement and wry sense of humor have helped me to keep going over the past few years.

The ESRI provided invaluable support to me during the past ten years, above and beyond the call of duty. Special thanks go to Damian Hannan, Kieran Kennedy, Brendan Whelan, and Chris Whelan. A special word of appreciation goes to John Sterne, without his dedicated and insightful journalism during the past twenty-five years, a great deal of the analysis in this study would not have been possible. He has been extremely generous with time, encouragement, comments, and access to back issues.

Vicki Smith, Fred Block, Patrick Carroll, Ryken Grattet, Laura Grindstaff, Diane Wolf, and Ming Cheng Lo were the best colleagues and friends that I could have hoped for at University of California, Davis, where I had many wonderful colleagues. Damian Hannan showed me the passion of the sociological imagination in action. Rory O'Donnell's intellectual openness and political imagination have been a continual inspiration. Steve Lopez has been a stimulating colleague and a wonderful friend. Thanks also to Duncan Temple Lang for long hours of technical education, encouragement, and emigrant friendship. Seán Ó Foghlú has been a personally supportive and intellectually challenging friend. Peter Evans provided incisive comments and great encouragement along the way. Anno Saxenian has been a great guide through the world of high-technology regions and a supportive mentor and encouraging friend. Michael Burawoy's contribution to this book has been immense – as a dedicated, insightful, and provocative dissertation advisor and friend and by creating a remarkable intellectual community of critical sociologists at Berkeley and beyond. I cannot thank these friends enough.

Many thanks to the several friends and colleagues who provided valuable information, advice, and encouragement through the long process that led to this book: Kilmacud Crokes Junior Hurling Champions (1992), Brian Nolan, Tim Callan, Alan Barrett, Maura Rohan, Breda McCabe, Tony Fahey, James Williams, Claire Collins, Philip O'Connell, Bernice Clancy, Maeve O'Reilly, Annette Moran, Gerard Garbutt, Séamus Gallen, Marcus Breathnach, Rhona Dempsey, Dermot O'Doherty, Proinsias Breathnach, James Wickham, Peter Murray, Kathleen Schwartzmann, Ted Egan, Balaji Parthasarathy, Gerald Autler, Matt Zook, Joe Blum, Teresa Gowan, Lynne Haney, Sheba George, Millie Thayer, Zsuzsa Gille, Maren Klawiter, Amy Schalet, Jim Skalla, Hilary Tovey, Eddie Hyland, Denis O'Hearn, Andrew Schrank, Neil Brenner, Nicole Biggart, David Kyle, John Hall,

John Walton, Michael Peter Smith, Frank Hirtz, Mike Hout, Hugh King, JoAnn King, Debbie Burns, Bob Burns, Art O'Connor, and the Starry Plough soccer team.

Thanks for everything to my family in Dublin, especially for letting me come and go around the world without guilt or dispute. Thanks to Eimer, Gearóid, and Ciarán for being great brothers and sister. All my love and thanks to my parents, Seán and Brighdín, who always tried to give us a broad-minded view on life, a curiosity about the world, and a sense of justice – values that I hope run throughout this book. I dedicate this book to you both. Thanks also for invaluable indexing and proofreading!

Aidan and Aisling – thanks for regularly interrupting the work on this book and sorry for the time it has cost you. Finally, all my love and thanks to my fantastic wife, Rebecca King. You have been great – the demands of listening to job talks over and over look easy now compared to raising children and writing books . . . it would hardly have been possible without you, but it certainly wouldn't have been nearly as much fun.