BOOK REVIEWS

Book Review Editor: Clifford A. Lipscomb, Greenfield Advisors LLC, Atlanta, GA

Mattias Ruth and Brynhildur Davidsdottir. 2009. *The Dynamics of Regions and Networks in Industrial Ecosystems*. Edward Elgar: Northampton, MA. ISBN-13: 978-1847207425. 238pp. \$115.

Reviewed by *Perry A. Burnett*, University of Southern Indiana

This book is the second in a companion series developed to nurture and explore the young multidisciplinary field of industrial ecology (IE). The focus of this volume is on regional dynamics and the evolution of regional networks. Industrial ecology emphasizes a holistic or biological approach to urban systems opposed to the often mechanical and disjointed perspectives offered by independent disciplines. Urban systems are diverse, interdependent networks of economic, legal, scientific, and social interaction that evolve and transform. The editors offer a paradigm-shift for urban scientists and deliver a clear and structured collection of articles that encourages readers to do likewise.

The book is divided into three sections. The first section provides an overview of the central themes regarding regional dynamics and networks and introduces the reader to the “biological analogy” on which the field leans. The second section focuses on the current state of models regarding regional dynamics and the third section discusses the evolution of regional networks.

The book begins with a brief overview from the editors regarding the basic framework, complexities, and challenges of industrial ecology. Most importantly, they make a case for a multidimensional approach by stating that, due to human action/inaction and information delays leading to non-linear, non-uniform adjustment cycles, changes in urban systems are not transmitted through the system instantaneously and systematically. While brief and focused, it would have been beneficial to have a short review of the companion volume as ideas are introduced, especially in Chapter 2, that are not developed in this volume to avoid some lingering questions.

Chapter 2 provides an in-depth and essential discussion of the “biological analogy.” *Marion R. Chertow* clearly and persuasively transposes contemporary natural ecosystem theory into the industrial framework. Of primary relevance to the remaining chapters is the discussion of the superiority of self-organizing systems (SOS) over planned systems in that the structural characteristics of ecosystems, namely spontaneous creation and efficient adaptability, supersede the functional characteristics of loop-closing and by-product exchange. One of the difficulties of multidisciplinary fields is the separate terminology from each discipline; while Chertow masters this hurdle with exceptional clarity, relating the “biological analogy” to established regional economic concepts such as agglomeration externalities would broaden the appeal.

The second section present models on regional dynamics. It is here that the gap between the current theoretical state of the field and the applied side becomes apparent. This is not said negatively, but opportunistically, as *David L. Rigby* does in Chapter 3 by highlighting the current state while encouraging researchers to fill gaps. He mentions that the ideal IE model would “unpack” commodities down to their energy and elemental level; and while these data are

currently not available, he identifies this as an opportunity for industrial chemists and other specialists and encourages the models to move in this direction.

One of these models, the regional economic input-output life cycle assessment (REIO-LCA), is used by *Gyorgyi Cicas, Chris T. Hendrickson, and H. Scott Matthews* in Chapter 6. Before jumping into model, the editors guide the reader onto a slower, more defined path by exploring the two models upon which the REIO-LCA is based. The LCA is presented by *Shannon M. Lloyd and Robert Ries* in Chapter 4 in the context of evaluating the potential ozone formation of heating water in a residential building in Pittsburgh, Pennsylvania with natural gas. The life cycle model traces the commodity from origin to final destination across space and time. *Blanca Gallego and Manfred Lenzen* develop a method to build regionally-specific input-output model in Chapter 5 to account for regional differences. The two models are combined in Chapter 6 to estimate both the economic and environmental impacts of a reduction in air transportation services in Pennsylvania.

While the above models have relied on imputed human behavior, *Tim Baynes, Jim West, and Graham M. Turner* introduce a greater human element through the design approach to analyze long-term (100 years) impact of policies and planning. While there is a need to analyze the extended effects of policy, the waters of ecosystem spontaneity and adaptability become murky. This state, however, is only temporary as Section 3 begins with a profound introduction to ecosystem evolution by *Peter M. Allen* which clarifies that the purpose of complexity lies not in its “by faith” determinism, but in its open-ended uncertainty that evokes questions and explore possibilities instead of providing answers. It is at this point in the book, however, that the models become somewhat intangible at current article length due to their complexity.

In Chapter 9, *Ruud Kempener, Brett Cohen, Lauren Basson, and Jim Petrie* offer a compelling framework for industrial networks focused on information flow and decision-making power. *Igor Nikolic, Gerard P. J. Dijkema, and Koen H. van Dam* continue framework creation in Chapter 10 with application to regional industrial clusters by building on the material-energy links with social networks or socio-technical systems. Chapter 11 by *Paul Bevis, John A. Black, James Lennox, Graham M. Turner, and Stephen J. Moore* demonstrates the exciting potential for knowledge-creation in human-machine interaction in the context of IE future studies of transportation planning. Their approach leads to multiple scenarios which can expand possibilities and enhance strategic decision-making. Chapter 12, by *Matthias Ruth, Clarck Bernier, Alan Meier, and John “Skip” Laitner* further develops human interaction with complex machine-based models though with the attractive simplicity of a game environment. The conclusion of this chapter characterizes one of the main objectives of IE in that the results raise more questions than answers and open the door to further research areas and new methods of data-collection all of which create new choices leading to new futures.

The book appeals to a wide audience. Fringe researchers in related disciplines can gather an understanding of industrial ecology and areas of connection and contribution. Established researchers in industrial ecology can also benefit as the book establishes an expansive foundation for the future of the field.

Mario Cimoli, Giovanni Dosi, and Joseph E. Stiglitz, eds. 2009. *Industrial Policy and Development: The Political Economy of Capabilities Accumulation*. Oxford University Press: New York. ISBN: 978-0-19-923527-8 and 978-0-19-923526-1. 608 pp. \$45 (paperback) \$120 (hardcover).

Reviewed by *Nalitra Thaiprasert*, Ball State University

Industrial Policy and Development is a valuable contribution to the academic and policy debates by offering an updated and rich discussion on industrial policies and development. It provides an excellent historical perspective as well as a comprehensive, in-depth exploration of industrial policies that will be of interest to both academics and policy makers. The book starts with a criticism of the 'Washington Consensus' thinking, which was advocated in the 1990s by Washington, D.C.-based international financial institutions such as the IMF, World Bank, and the US Treasury Department as policy advice prescribed for developing countries. The policy was initially designed for the recovery of Latin America from the economic and financial crises of the 1980s. This advice, based largely on less government, liberalization, privatization, fiscal conservatism, etc., downplayed the role of government in steering the processes of technological learning and economic growth. From different angles, the authors analyze how industrial policy does work when given the right conditions (discussed below). As the empirical evidence shows, most Asian countries that pursued their own industrial policies experienced high economic growth. On the contrary, Latin American countries, which adopted the "Washington Consensus" advice experienced inefficiency and poor economic growth.

The book includes contributions from leading academics and experts in this area; one of the editors is Nobel Prize winner *Joseph Stiglitz*. The book consists of four parts and twenty chapters. The first part, Chapters 1-3, contributed by the editors, *Richard Nelson*, *Carolina Castaldi*, and *Nelson Correa*, provides a general introduction, policy background, and numerical evidence related to industrial policies and development. The authors set the tone of the book as they review the currently accepted realization regarding the failures of the 'Washington Consensus' policies. They argue that industrial policies are the intrinsic fundamental ingredients of all development processes and for 'great industrial transformation.' The notion of industrial policy understood in the book comprises policies affecting infant industry support, trade policies, science and technology policies, public procurement policies affecting foreign direct investments, intellectual property rights, and the allocation of financial resources. As the editors explain, a great transformation entails a major process of accumulation of knowledge and capabilities (not only education, skills development, and technological learning, but also problem-solving knowledge embodied in organizations) at both the individual and organizational levels. These industrial policies come together with processes of 'institutional engineering' shaping the very nature of the economic actors, the market mechanisms and rules under which they operate, and the boundaries between what is governed by market interactions, and what is not.

The second part of the book, Chapters 4-7, contributed by *Erik S. Reinert*, *Michele Di Maio*, *Yilmaz Akyüz*, and *Wilson Peres*, reviews the historical perspective of industrial policies of both past and presently developing countries. Taking a centennial perspective, in Chapter 4 *Reinert* identifies a kind of invariance in the inspiring principle for successful catching-up policies, namely a philosophy of emulation vis-à-vis world technological leaders, irrespective of revealed comparative advantages. The absorptive capabilities are the important factors for activities of emulation as past achievement in knowledge accumulation influences future

learning potential. What I find very interesting from this part of the book is the discussion about the role and effects of international trade and industrial tariffs on development in Chapter 6 by *Akyüz*. The author discusses the importance of trade policies for local industrial development and assesses the consequences of the newly introduced constraints in their current use, stemming from the WTO regime of international exchanges.

After providing the historical perspective in the second part of the book, the third part is concerned with the national and regional experiences of adopting industrial policies. The first half of this part of the book, Chapters 8-12 by *José Gabriel Palma, Bernado Kosacoff, Adrián Ramos, Antonio Barros de Castro, Ajit Singh, and Carl Dahlman*, discusses the experiences of Argentina, Brazil, India, China, East Asia, and Latin America. Chapters 9, 10, and 11 reconstruct the role of both macroeconomic and industrial policies along the history of individual country's developments. This discussion is book-ended by Chapters 8 and 12, which contain a comparison of different countries or regions and examines their performances while trying to identify the role of policies underlying the different patterns of specialization and growth. I personally find Chapter 8, "Flying Geese and Waddling Ducks: The Different Capabilities of East Asia and Latin America to "Demand-Adapt" and "Supply-Upgrade" their Export Productive Capacity" by *Palma*, to be very engaging for its extensive evidence and great discussion on how East Asia achieved high growth while Latin America lagged behind. The author also provides an interesting discussion on the role of Japan as a strong goose leader compared with the U.S., which seems to fly in reverse.

Also of interest in this third part of the book are the deliberately controversial two chapters, in which the authors, *Singh and Dahlman*, have quite different viewpoints on the industrial and economic development process of India. Many chapters in this part emphasize that successes in industrialization require compatible macro policies, including exchange rates, taxation, fiscal policies, public investment, governance of the labor market, and income distribution, but excluding policies which are bound to suffocate industrial development, such as those applied by the "Washington Consensus."

The second half of the third part, Chapters 13-19, concentrates on experiences in terms of the roles of institutions, such as political regimes, universities, firm ownership, financial institutions, and entrepreneurship in industrial and economic development. Chapter 13 by *Mushtaq Khan and Stephanie Blankenburg* discusses the political economy of industrialization. The authors argue that the process would be successful if there were a compatibility of technological and organizational strategies with the political constraints arising from the distribution of power among social groups. This involves the political ability to allocate "developmental rents" to the actors of the "great industrial transformation" which will spur the "developmental compulsion" and give the momentum to imitation, productivity growth, production expansion, and eventually innovation. Chapter 14 by *Roberto Mazzoleni and Richard Nelson* explains that the knowledge accumulation process, besides occurring to a good extent within the business firms, should be supported and nurtured by the activities of applied research, training, consultancy, and adaptation of technologies to local conditions undertaken by universities and public laboratories.

Alice Amsden argues in Chapter 15 that most often the accumulation of technological and managerial capabilities has historically occurred within domestic firms rather than within subsidiaries of foreign-owned firms because multi-national corporations often carry a relatively limited technology transfer and keep the most tacit forms of knowledge and a good deal of R&D

activities in developed countries. In Chapter 16, about the financial institutions, *Colin Mayer* argues that one of the crucial points for institutional engineering in developing countries is the development of institutional arrangements to foster relations of trust in equity intermediation since technological learning requires, besides investment in physical equipment and intangibles, the mobilization of financial resources and their transfer to industry.

In Chapter 17, *Mario Possas and Heloisa Borges* discuss competition policy and industrial development. They explain that competition policies should be seen as the set of measures providing the incentives as well as the sticks that foster innovative behaviors. They argue the industrial policies—such as performance-related allocation of finance, subsidies, and diverse taxation—have typically been introduced in all of the then “catching-up” countries like the U.S., Germany, and Japan. In addition, historical experiences show that the potential conflict between competition policies and industrial policies tends to fade away as catch-up proceeds, turning into nearly complimentary. The authors suggest the competition policies should become an important ingredient of industrial policies when there are negligible trade-offs between them.

Mike Hobday and Fernando Perini, in Chapter 18, analyze the role of entrepreneurship in the development process, arguing the types of entrepreneurial and managerial abilities required in the catch-up process are the devotion to manipulate and improve the products and production technologies as well as the ability to implement them. On one hand, the easiness of emulation/imitation is modulated by the degrees of “appropriability” of the various technologies; on the other hand, the appropriability conditions are also affected by the regimes of Intellectual Property Rights (IPR). As the issue is discussed in Chapter 19 by *Mario Cimoli, Benjamin Coriat, and Annalisa Primi*, some tighter IPR enforcements could affect the imitation/catching-up process in a harmful way, even at the cost of world moral outrage.

The editors conclude in the last chapter, and fourth part, that the threats from globalization to the late-comers or ‘frontier’ countries add to the demand for the governance of the political economy of industrial development. As has already happened, all the countries that are nowadays developed undertook relatively high degrees of intervention to support the accumulation of technological capabilities and the transformation of their organization of production, especially in the early period of industrialization. Historically, the magic bullet that drives industrialization seems to be the process of accumulation of technological and organizational capabilities that are matched by a congruent macroeconomic management and political economy, which offers incentive structures conducive to learning-based rent seeking and curbing it at the same time.

After the book begins with the reference to the ‘Washington Consensus,’ declaring that it is over and buried by the weight of its economic failures, it tries to build on a different diagnosis of the obstacles to and drivers of development. The editors propose a novel international consensus—a *new pact*—that contains a plea for an alternative view of governance of international economic relations, involving four major elements. First, there ought to be much greater provision for ‘managed trade’ in order to allow “infant nurturing” with time limits and under transparent conditions. Second, there ought to be a stop on the anti-developmental bias of agricultural trade policies in all developed countries. Third, there ought to be a reform of IPR regimes, at the international level and domestically within developed countries, towards a reduction of IPR protection in terms of domains of patentability and patent scope. Fourth, the *new pact* should try to correct the widening gap between productivity and wages in both developed and developing countries. This allows for the possibility of developed countries to

require that their imports originate from countries where standards concerning child labor, work conditions and working hours, the right to unionize, and environmental respect are fulfilled. In fact, these proposals would make a major contribution to redress a worldwide tendency toward ever-growing income inequalities, within a larger pro-development international deal fostering knowledge accumulation and industrialization in catching-up countries.

To conclude, *Industrial Policy and Development* is well-organized, well-written, well-edited, and I highly recommend it to both policy makers and scholars. It provides an important step in furthering discussions about the current organization of international economic relations.

H.S. Geyer, ed. 2009. *International Handbook of Urban Policy, Volume 2: Issues in the Developed World*. Edward Elgar: Cheltenham, UK, and Northampton, MA, USA. ISBN: 978-1-84720-459-2. 326pp. \$175

Reviewed by *Peter L. Stenberg*, Economic Research Service, U.S. Dept. of Agriculture

Since the onset of the new century, cities and their hinterlands have been undergoing a historic transformation as rapid economic growth has come to major developing countries and new technologies and environmental challenges have been impacting all the world's cities. Developing countries' cities have been growing so rapidly that the world's urban population is now greater than the rural population. Into this milieu, H.S. (Manie) Geyer and his contributors have been putting forth a three-volume handbook on urban policy that provides discussion of globally contentious urban policy issues from a fairly wide variety of perspectives. The topics cover a wide spectrum of the urban policy issues that determine the economic growth and vitality of cities.

The book reviewed here, the second volume, covers cities in the developed world (mostly the cities of the European Union and to a lesser extent the United States) and contains four overlapping parts about the issues affecting urban sustainability: (1) the urban policy context; (2) trends in regional, national, and international urban system evolution; (3) forces of urban economic change; and (4) the changing urban demographic landscape. The urban development topics are diverse as the discussion encompasses the role of the information and communication technology (ICT) sector, migration, population aging, global warming, and social economics.

Michael Pacione begins the volume by setting up the policy context of urbanization. Specifically he observes the role of urban planning in the United Kingdom and United States and the trend toward sustainable development. He argues that the greatest challenge for urban policy concerns lies in the household income distribution impacts resulting from urban restructuring. He notes, despite the varying ideological dispositions of urban residents, that the successful restructuring of urban space (particularly in the revitalization of declining cities) requires capital investment from the private sector.

Ellie Heikkilä and Helena Kaskinoro provide a historical view and discuss future trends of urbanization, especially within some of Europe's regions. Improvements in competitiveness as well as social and territorial cohesion have been laid down as key European policy goals in strengthening cities and regions. They found that a holistic strategy for urban planning has been the most effective approach in achieving sustainability.

Patricia van Hemert, Marina van Geenhuizen, and Peter Nijkamp's chapter changes the book's narrative path by addressing the role within large urban economies of knowledge and ICT

that has so rapidly altered the speed and dimensions of knowledge diffusion in recent years. Cities are believed to be the engines of innovation and economic growth; and the authors believe this is likely to continue in the future. In addition, investments in knowledge and capital appear essential in the evolving global economy. Europe has experienced a growth in the number of knowledge jobs, but seems not to have effectively invested in knowledge that would unleash greater economic benefits. They suggest a number of policy measures to improve Europe's place in the evolving global economy, including infrastructure and governance measures.

The next chapters look at general urban structures. *Peter J. Taylor* examines the global hierarchy of cities, the cities' territorial cohesion (their hinterland made up of smaller urban and rural places), and what it means for economic development. He argues that in formulating urban policy the urban-rural network and their concomitant competition or cooperation need to be clear. In the following chapter D. Urban provides a simple exposition of the new economic geography. *Paul Cheshire and Wouter Vermeulen*, in their chapter, discuss the economic impacts resulting from urban planning.

H. S. (Manie) Geyer, in a most interesting chapter, attempts to bridge (or present fairly) the two diametrically opposed sides in the urban development debate - urban sprawl versus urban compactness - with all the complexities in definitions, underlying market forces, externalities, and myriad of policy proposals. He argues that if an "ideal urban model" could ever be attained it would have to accommodate the realistic needs of everyone.

Frank Moulaert and Abid Mehmood follow Geyer with a discussion of Williamson's transaction cost theory in planning. While Williamson has successfully brought economic exchange contractual elements back into planning theory, Moulaert and Mehmood argue that it should not hold a central analytical place. In the following chapter *Frank Moulaert and Jacques Nussbaumer* discuss the social aspects of European city economies.

David Carter brings back the theme of ICT impacting the development of cities with an urban regeneration case study of Manchester in the United Kingdom. He describes the Manchester city council's 2007 plans to transform the city-region into a "next generation digital city."

The next two chapters describe international migration. *Tanja El-Cherkeh* discusses the labor migration within the European Union with the migrations' inherent cultural implications for recipient countries. Given current demographic trends, European countries will increasingly rely on immigration to supply their labor markets. *David A. Plane and Lawrence Hoffman* discuss immigration in United States history, which brings the current U.S. policy debate on this issue into context for the reader. Like the European Union, a growing labor scarcity in the U.S. is a major political issue, though the degree of expected labor scarcity is less. Unlike the European Union, large waves of immigration are not unprecedented in the U.S. In the final chapter, H. S. Geyer endeavors to bring together the book's disparate issues into a discussion that compares urban development in the United States to the European Union.

The book achieves its primary goal—to highlight the developed world's urban policy issues in the early 21st century. As is often the case with an edited book, the quality of the contributions varies broadly and some of the chapters are challenging to read. Nevertheless, the general practitioner, students, and policymakers of local development will find many useful elements within the discussion. The book has a good demographic and developmental focus and

covers urban policy issues that should have a fairly wide appeal among a readership interested in population studies, urban planning, geography, regional science, history, and political science.

The book presents a good general overview and best practice case examples. The editor has also effectively avoided shying away from politically sensitive issues as contributions have been included that reflect distinct differences of opinion on politically sensitive issues.

Ewald Nowotny, Peter Mooslechner, and Doris Ritzberger-Grünwald, eds. 2009. *The Integration of European Labor Markets*. Edward Elgar Publishing Limited: Cheltenham, ISBN: 978-1-84844-761-5. 301 pp.

Reviewed by *George W. Hammond*, West Virginia University

At first glance, the integration of European labor markets might not seem like a topic that would interest a regional scientist. However, as I sat down to read this valuable collection of papers from a 2008 conference organized by the Österreichische Nationalbank (Austrian Central Bank), I was pleasantly surprised. I found a nice mix of topics and analytical approaches dealing with a wide range of issues, including migration, labor supply/demand, and trade in Europe during the past decade. In particular, many of the essays address the economic adjustment of the long-term members of the European Union to the addition of new members from Central and Eastern Europe.

In the end, I found that I was interested in the integration of European labor markets, not only because this collection informed me of current issues in Europe, but also because it spurred my thinking about regional change and adjustment in the U.S. I also appreciated the authors' efforts to bring their work up to date by providing their impressions of how the recent global downturn may impact the trade, migration, and wages in the European Union.

The book is divided into three parts. The first addresses the effects of migration on labor markets. The four chapters in this section range from an op-ed piece dealing with the adjustment of Spanish labor markets to an influx of immigrants to an entirely theoretical contribution by *Gabriel Felbermayr and Wilhelm Kohler* in which the authors contrast standard results on the Pareto optimality of gains from trade in goods (and capital) with gains from migration.

Felbermayr and Kohler argue that the standard results, which suggest that trade in goods (and capital) can be made Pareto optimal through the use of an appropriate tax/subsidy system, do not translate to the migration of people. In particular, the gains from migration cannot be made Pareto optimal without a discriminatory tax/subsidy scheme, which in this case means one that treats immigrants differently than natives. The authors conclude with a very nice statement of the issues at hand, which suggest that it may be time to consider implementing discriminatory tax/subsidy systems in order to further capitalize on large economic gains available through increased migration.

The first section begins with a dense introduction to the current issues facing Europe and ends with an empirical essay dealing with the impact of immigration policies on foreign direct investment in Europe. The authors (*Peter Egger and Doina Maria Radulescu*) find that more liberal institutional settings are positively correlated with inward foreign direct investment, an interesting result.

The second section takes on European international migration after European Union enlargement and constitutes the “heavy lifting” part of the collection. In particular, there is a nice chapter by *Katarzyna B. Budnik* on the rationality of migration (using the experience of recent Polish immigrants in the EU) that presents a detailed theoretical model and a clearly explained (though complex) empirical strategy that capitalizes on micro-data. The results highlight the importance of non-monetary factors driving (or hindering) immigration.

Other chapters in this section deal with the labor reallocation set off by European Union enlargement in 2004, the impact of recent immigration on wages in the U.K. (using occupation data to control for skill levels), the impact of emigration on the labor markets of new member states (a nice change of perspective here), and international migration and remittances in the Balkans since enlargement.

The third section addresses trade integration and its impact on labor markets in the European Union. It contains an interesting empirical chapter by *Giuseppe Bertola* that examines the impact of European Monetary Union (EMU) on national labor market policies. The author argues that, in theory, economic and monetary integration increases the desirability of labor market regulation at the same time that it decreases the ability of national governments to effectively do so. The author’s empirical evidence suggests that EMU has reduced the effectiveness of national labor market policies and that EMU has also contributed to at least some deregulation of member labor markets.

Also included in this section is a theoretical and empirical chapter on the impact of outsourcing in Europe, which shows that outsourcing need not result in job losses in the outsourcing industry. The chapter ends with a well justified warning that current economic events may tempt policymakers to restrict trade and that macro and trade economists should resist these efforts. The book concludes with two chapters on the wage impacts of economic integration. The results suggest that there are significant impacts, although direction and magnitude of the effect varies by industry and by country.

Overall, I can recommend this volume to a regional scientist with an interest in current European issues, particularly those related to the economic impacts of trade integration and migration. The book stimulated my thinking and reminded me that research results from the European Monetary Union can provide insights for the U.S. and vice versa.