

MIT 11.481J, 1.284J, ESD.192J
Spring 2013
Karen R. Polenske
INSTRUCTOR: Feng Fu

ANALYZING AND ACCOUNTING FOR REGIONAL ECONOMIC GROWTH

Last revised on December 27, 2012

Department of Urban Studies and Planning
Massachusetts Institute of Technology
Tuesdays and Thursdays, 9:30-11:00am
First Class: Tuesday, February 5, 2013
Room: 1-371
Credit Units: 3-0-9 H-LEVEL Grad Credit
Prerequisites: Introductory economics class or permission of professor

CLASS DESCRIPTION

In this class, we focus on alternative ways in which the issues of growth, restructuring, innovation, knowledge, learning, and accounting and measurements can be examined, covering both industrialized and emerging countries.

We survey neoclassical as well as some of the latest theories of regional growth, factor mobility, clustering, agglomeration and dispersal economies, industrial and spatial networks, industrial and regional restructuring, globalization, supply chains, learning regions, and regional centers of innovation from a political-economy perspective. For each, we cover the basic conceptual frameworks, main assumptions, and arguments for and against the use by scholars and practitioners. We give special emphasis to recent transformations in regional economies throughout the world and to the implications these changes have for the theories and research methods used in spatial economic analyses.

We examine and evaluate critically the accounting frameworks used to measure regional economic growth and review multipliers, backward and forward linkages, supply chains, and other measures. We discuss how these concepts can be used to assess employment and environmental impacts and infrastructure investments, accounting for measurement problems, such as the underground economy and green accounting. We review price indices, employment and industrial location measures, and shift-share analyses, discussing both U.S. and foreign applications of the theories, accounts, and techniques.

Students are expected to have had a thorough introduction to the relevant microeconomic, macroeconomic, and political economy theories prior to taking this class, and/or to learn them during the semester. Half of the problem sets are short essays or literature reviews on specific regional theories, and the other half cover important quantitative techniques used in the regional planning field.

Readings will relate mainly to the United States, but we cover pertinent material on foreign countries in lectures. In cases where other classes are available in our department that cover the material in more depth, such as project evaluation, benefit-cost analysis, urban economics, and municipal and public finance, we have either covered the topic only briefly here or omitted it entirely. These are important areas of study, and students interested in specializing in regional and urban economics should take an entire class in them.

CLASS REQUIREMENTS

1. **Weekly Readings**--Students are expected to do the required readings listed in the class outline prior to attending a lecture and are urged to raise opposing points of view in class as well as in person with the staff. Required readings are on the class Stellar website. Some of the readings can be skimmed; others should be read with care. Guidance on this will be provided as the semester proceeds. Suggested readings are only for reference; they are not required during the semester. Because many of the suggested readings are intended only for advanced students, they are not available in the reader. Ph.D. students expecting to take general exams in Regional and Urban Economics should refer to the exam syllabus for any additional readings they need to cover.

Students specializing in regional economics may want to buy one or more of the following books (those marked with an * are suggested and can be ordered at the MIT Coop or downloaded from the website provided below).

Ann R. Markusen. 2007. *Reining in the Competition for Capital*. Kalamazoo, MI: WE Upjohn Institute for Employment Research.

<http://www.netLibrary.com/urlapi.asp?action=summary&v=1&bookid=201970>

Albert O. Hirschman. 1988. *The Strategy of Economic Development*. Boulder, CO: Westview Press. (It is currently out-of-print.)

- * Avrom Bendavid-Val. 1991. *Regional and Local Economic Analysis for Practitioners*. New York, NY: Praeger Publishers.

- * Emil E. Malizia and Edward J. Feser. 1999. *Understanding Local Economic Development*. New Brunswick, NJ: Center for Urban Policy Research.

Harry W. Richardson. 1979. *Regional Economics*. Urbana, IL: University of Illinois Press.

Keith S. Goldfeld (ed.). 2007. *The Economic Geography of Megaregions*. Princeton, NJ: The Policy Research Institute for the Region.

<http://www.princeton.edu/research/prior-publications/conference-books/megaregions.pdf>

Ronald E. Miller and Peter D. Blair. 2009. *Input-Output Analysis: Foundations and Extensions (Second Edition)*. Cambridge, England: Cambridge University Press.

Mario Polese. 2009. *The Wealth and Poverty of Regions: Why Cities Matter*. Chicago: The University of Chicago Press.

U.S. Department of Labor, Bureau of Labor Statistics. 2011. *BLS Handbook of Methods*. Washington, DC: U. S. Government Printing Office.

<http://www.bls.gov/opub/hom/homtoc.htm>

- * Walter Isard, Iwan J. Azis, Matthew P. Drennan, Ronald E. Miller, Sidney Saltzman, and Eric Thorbecke. 1998. *Methods of Interregional and Regional Analysis*. Brookfield, VT: Ashgate.

2. **Problem Sets**—Students are required to complete five problem sets. The grade for the class will be based upon the problem set scores (85 points) and upon two short presentations each student will give in class (15 points total). Students will receive up to a total of 85 points for the problem sets: receiving up to 15 points on each of the first four problem sets and 25 points for the last problem set. The first two problem sets will be short essays or book reviews concerning major regional theories. The next two problem sets will involve working with regional-accounting data using EXCEL spreadsheets. For the final problem set, students will divide themselves into several groups. Each group will choose a region and discuss a relevant issue for that region, select a theoretical perspective, and present an analysis to the class.

The following scores, which will be weighted and averaged for the term, will be given on the problem sets

95-100	A
90-94	A-
85-89	B+
80-84	B
75-79	B-
70-74	C+
65-69	C

Students will be introduced to any special computer techniques prior to their use for a problem set. Problem sets must be submitted on the day specified. Five points will be deducted for each day a problem set is late.

Please note that students are encouraged to work together on thinking about each problem set; however, each member of the group must do a fair share of the work, and for the first four problem sets, each student in the group must submit a separate answer that represents her/his own thinking. The names of the students in the group must be indicated on the answer.

There will be no midterm or final exam.

3. **Disabilities**—If you have a documented disability, or any other problem you think may affect your ability to perform in class, please see us early in the semester so that arrangements may be made to accommodate you.
4. **Academic Misconduct**—Plagiarism and cheating are both academic crimes. Cite others' work or idea appropriately. Never (1) turn in an assignment that you did not write yourself, (2) turn in an assignment for this class that you previously turned in for another class, or (3) cheat on an exam. If you do so, it may result in a failing grade for the class, and possibly even suspension from the college. Please see us if you have any questions about what constitutes plagiarism. Anyone caught cheating on an exam will be reported to the provost in line with recognized university procedures.
5. **Class Evaluation**--Students will be required to fill out a class evaluation during the last day of the class.

Office Hours

<u>Instructor</u>	<u>Room</u>	<u>Phone</u>	<u>E-mail</u>	<u>Days</u>	<u>Hours</u>
Karen R. Polenske	9-535	617-253-6881	krp@mit.edu	Thursday	11:00-12:30
Feng Fu	9-423	617-642-0380	fufeng@mit.edu	By appointment	

Hours other than those listed may be arranged by appointment.

CLASS SCHEDULE

Date	Topic	Reading List Section	Problem Set Due
2/07	Introduction	I	
2/12	Historical View of Regional Economics	I	
REGIONAL ECONOMIC THEORIES			
2/14	Neoclassical Regional Growth and Location Theories, Part I	II.A	
2/19	Neoclassical Regional Growth and Location Theories, Part II	II.A	
2/21	No Class—Monday class held on Tuesday--President's Day—Holiday		
2/26	Alternative Regional Growth and Location Theories	II.B	
2/28	Accounting for the Economic Base of a Region	II.C	
3/05	Influence of Globalization on Factor Mobility	II.D	1 [3/01]
3/07	Deindustrialization and Restructuring	II.E	
3/12	Agglomeration and Dispersal Economies, Part I (Supply chains and Cross-national Sourcing Arrangements)	II.F	
3/14	Agglomeration and Dispersal Economies, Part II (Globalization: Development Opportunity or Hindrance)	II.G	
3/19	Spatial Dispersal of Innovation, (Theories of Information Technology and Communication) Part I	II.H	
3/21	Spatial Dispersal of Innovation (Measurement Issues), Part II	II.I	2
3/26	SPRING VACATION		
3/28	SPRING VACATION		
4/02	Spatial Dispersal of Innovation (Measurement Issues, continued), Part II	II.I	
REGIONAL, INTERREGIONAL, AND MULTIREGIONAL INPUT-OUTPUT ACCOUNTS			
4/04	Overview of Regional Economic Accounting Structures	III.A	
4/09	Regional and Multiregional Accounting Structures, Part I	III.B	
4/11	Regional and Multiregional Accounting Structures, Part II	III.B	
4/15-16 Patriot's Day—holiday			
4/18	Uses of Accounts: Linkage Analyses	III.C	3

CLASS SCHEDULE (Continued)

Date	Topic	Reading List Section	Problem Set Due
4/23	Social Accounting Matrices: Environmental and Social Multipliers	III.D	
4/25	Accounting Issues and Concepts: Boundaries Imputations and Underground Economy	III.E	
4/30	Price Indices and Shift-Share Analyses	III.F; IV.A	
ANALYTICS OF REGIONAL ECONOMICS			
5/02	Determinants of City and Regional Growth	IV.B	4
5/07	Regional Economics and Energy	IV.C	
5/09	Regional Economics Disasters	IV.D	
5/14	Student Presentations		
5/16	Student Presentations LAST DAY OF CLASSES		5

NOTE: on the day of the student presentations, all students are required to attend. Those not presenting will be required to submit a brief critique of the presentations given.

11.481J, 1.284J, ESD.192J OUTLINE AND READINGS

This class provides an extensive survey of the field of regional economic theories, accounts, and techniques. Readings covered in complementary classes are excluded from the list of readings. Required readings and books marked with an * on page 2 are on reserve at Rotch Library. Suggested readings are for your information only.

I. INTRODUCTION—Part I

Required Readings

Andrew M. Isserman. 1993. "State Economic Development Policy and Practice in the United States: A Survey Article," *International Regional Science Review*, 16(1&2): 49-100.

Suggested Readings

Casey J. Dawkins. 2003. "Regional Development Theory: Conceptual Foundations, Classic Works, and Recent Developments," *Journal of Planning Literature*, 18 (2) (November): 131-152 {{note that pages 153-172 are an annotated bibliography and are not required reading}}.

I. INTRODUCTION—Part II

Mario Polese. 2009. "Size and Location," *The Wealth and Poverty of Regions: Why Cities Matter*. Chicago: The University of Chicago Press. pp. 29-66.

Emil E. Malizia and Edward J. Feser. 1999. *Understanding Local Economic Development*. New Brunswick, NJ: Center for Urban Policy Research, pp. 1-48.

Suggested Readings

Albert O. Hirschman. 1958. *The Strategy of Economic Development*. New Haven, CT: Yale University Press, pp. 50-75.

Ann R. Markusen. 2007. *Reining in the Competition for Capital*. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Ann R. Markusen. 1987. *Regions: The Economics and Politics of Territory*. Totowa, NJ: Rowman & Littlefield, Publishers, pp. 249-266.

John R. Meyer. 1968. "Regional Economics: A Survey." In *Regional Analysis*, edited by L. Needleman. Harmondsworth, England: Penguin Books, Ltd., pp. 19-60.

Kenichi Ohmae. 1995. "Putting Global Logic First," *Harvard Business Review*, January-February: 119-125. [note: p. 121 is not part of article.]

Harry W. Richardson. 1978. "The State of Regional Economics: A Survey Article," *International Regional Science Review*, 3 (1) (Fall): 1-48.

II. REGIONAL ECONOMIC THEORIES

II.A. Neoclassical Regional Growth and Orthodox Location Theories—Part I

Required Readings

*Paul Krugman. 1995. *Development, Geography, and Economic Theory*. Cambridge, MA: The MIT Press, pp. 31-59.

J. Vernon Henderson, Zmarak Shalizi, Anthony J. Venables. 2001. Geography and Development, *Journal of Economic Geography*, 1 (1): 81-105.

John B Parr. 2008. "Cities and Regions: Problems and Potentials." *Environment and Planning A*. 40: 3009-3026.

Suggested Readings

William Alonso. 1975. "Location Theory." In *Regional Policy*, edited by John Friedmann and William Alonso. Cambridge, MA: The MIT Press, pp. 35-63.

Glenn Ellison, and Edward L. Glaeser. 1997. "Geographic Concentration in U.S. Manufacturing Industries: A Dartboard Approach," *Journal of Political Economy*, 105 (5): 889-921.

Gillian Hart. 1989. "The Growth Linkages Controversy: Some Lessons from the Muda Case." *The Journal of Development*, 25 (4): 571-575.

E.M. Hoover and F. Giarrantani. 1984. *An Introduction to Regional Economics*. New York: Alfred A. Knopf, pp. 303-345.

Douglass C. North. 1975. "Location Theory and Regional Economic Growth." In *Regional Policy*, edited by John Friedmann and William Alonso. Cambridge, MA: The MIT Press, pp. 332-347.

Karen R. Polenske. 1988. "Growth-Pole Theory and Strategy Reconsidered: Domination, Linkages, and Distribution." In *Regional Economic Development: Essays in Honour of François Perroux*, edited by Benjamin Higgins and Donald J. Savoie. Boston: Unwin-Hyman, pp. 91-111.

II.A Neoclassical Regional Growth and Orthodox Location Theories--Part II

Required Readings

Gilles Duranton and Diego Puga. 2002. "Diversity and Specialization in Cities: Why, Where and When Does It Matter?" In *Industrial Location Economics*, edited by Philip McCann. Edward Elgar, Cheltenham, UK & Northampton MA USA, pp. 151-186.

James Heilbrun and Patrick A. McGuire. 1987. *Urban Economics and Public Policy*. 3rd ed. Chapter 5: The System of Cities and the Urban Hierarchy. New York: St. Martin's Press, pp. 81-106.

Antony Potter and H. Dong Watts. 2010. Evolutionary Agglomeration Theory: Increasing Returns, Diminishing Returns, and the Industry Life Cycle. *Journal of Economic Geography*. 11(2011): 417-455.

Ann R. Markusen. 1999. "National Contexts and the Emergence of Second-Tier Cities." In *Second-Tier Cities: Rapid Growth Beyond the Metropolis*, edited by Ann R. Markusen, Yong-Sook Lee, and Sean DiGiovanna. Minneapolis, MN: University of Minnesota Press, pp. 65-94.

Suggested Readings

John B. Parr. 2002. "The Location of Economic Activity: Central Place Theory and the Wider Urban System." In *Industrial Location Economics*, edited by Philip McCann. Edward Elgar, Cheltenham, UK & Northampton MA USA, pp. 32-82.

John Rees and Howard A. Stafford. 1986. "Theories of Regional Growth and Industrial Location: Their Relevance for Understanding High-Technology Complexes." In *Technology, Regions, and Policy*, edited by John Rees. Totowa, NJ: Rowman & Littlefield, pp. 23-50.

Louis T. Wells, Jr. 1972. "The Product Life Cycle Approach." In *The Product Life Cycle and International Trade*, edited by Louis T. Wells, Jr. Cambridge, MA: Division of Research, Graduate School of Business Administration, Harvard University, pp. 3-33.

Shahid Yusuf and Weiping Wu. 1997. "The Dynamics of Urban Growth: Location, Size, Structure, and Reforms." *The Dynamics of Urban Growth in Three Chinese Cities*. New York: Oxford University Press, pp. 1-17.

II.B. Alternative Regional Growth and Location Theories

Required Readings

Borje Johansson and John M. Quigley. 2004. "Agglomeration and Networks in Spatial Economies." *Papers in Regional Science*, 83 (1): 165-176.

Karen R. Polenske. 2001. "Taking Advantage of a Region's Competitive Assets: An Asset-Based Regional Economic-Development Strategy." In *Entrepreneurship, Firm Growth, and Regional Development in the New Economic Geography*. Trollhättan, Sweden: Uddevalla Symposium 2000, June 15-17, pp. 527-544.

R. D. Norton and J. Rees. 1979. "The Product Cycle and the Spatial Decentralization of American Manufacturing." *Regional Studies*, 13 (2): 141-151.

Suggested Readings

Börje Johansson and Lars Westin. 1994. "Affinities and Frictions of Trade Networks." *The Annals of Regional Science*, 28 (3): 243-261.

Doreen Massey. 1979. "A Critical Evaluation of Industrial Location Theory." In *Spatial Analysis, Industry, and the Industrial Environment*, edited by R.E. Ian Hamilton and G.J.R. Linge. Vol. I New York: John Wiley & Sons, pp. 57-72.

Michael Storper and Richard Walker. 1989. *The Capitalist Imperative: Territory, Technology, and Industrial Growth*. Oxford, UK: Basil Blackwell, pp. 70-124.

II.C. Accounting for the Economic Base of a Region

Required Readings

*Avrom Bendavid-Val. 1991. 4th Ed. *Regional and Local Economic Analysis for Practitioners*. New York, NY: Praeger Publishers, pp. 67-85.

James Heilbrun and Patrick A. McGuire. 1987. *Urban Economics and Public Policy*. 3rd Ed. Chapter 7: The Urban Economic Base and Economic Policy. New York: St. Martin's Press, pp. 139-171.

Gordon F. Mulligan. 2008. "A New Shortcut Method for Estimating Economic Base Multipliers." *Regional Science Policy and Practice*, 1(1): 67-84.

Suggested Readings

*Walter Isard. 1998. "Location Analysis for Industry and Service Trades: Comparative Cost and Other Approaches." In *Methods of Interregional and Regional Analysis*, edited by Walter Isard, Iwan J. Aziz, Matthew P. Drennan, Ronald E. Miller, Sidney Saltzman, and Erik Thorbecke. Brookfield, VT: Ashgate Publishing Company, pp. 7-39.

Ann R. Markusen, Helzi Noponen, and Karl Dreissen. 1991. "International Trade, Productivity, and U.S. Regional Job Growth: A Shift-Share Interpretation," *International Regional Science Review*, 14 (1): 15-40.

Oleg Smirnov and Alena Smirnova, 2000. *An Assessment of the Economic Base of Distressed and Near-Distressed Counties in Appalachia: A Report to the Appalachian Regional Commission*.

Benjamin H. Stevens and Craig L. Moore. 1980. "A Critical Review of the Literature on Shift-Share as a Forecasting Technique," *Journal of Regional Science*, 20 (4): 419-437.

II.D. Influence of Globalization on Factor Mobility

Required Readings

Ann Markusen and Katherine Nesse. 2007. "Institutional and Political Determinants of Incentive Competition. In *Reining in the Competition for Capital*, edited by Ann R. Markusen. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, pp. 1-53.

John R. Harris and Michael P. Todaro. 1970. "Migration, Unemployment, and Development: A Two-Sector Analysis," *American Economic Review*, 60 (1) (March): 126-142.

Karen R. Polenske and Geoffrey J.D. Hewings. 2004. "Trade and Spatial Economic Interdependence" *Papers in Regional Science: Journal of the Regional Science Association International*, 83 (1): 269-289.

Richard Florida and Jim Goodnight. July-August 2005. "Managing for Creativity," *Harvard Business Review*. www.hbr.org

Dariusz Wojcik. 2011. Securitization and Its Footprint: the Rise of the US Securities Industry Centers 1998-2007. *Journal of Economic Geography*. 11(2011): 925-947.

Suggested Readings

George J. Borjas. 2005. "Native Internal Migration and the Labor Market Impact of Immigration." Working Paper No. 11610. Cambridge, MA: National Bureau of Economic Analysis, pp. 1-64.

Helmuth Cremer and Pierre Pestieau. 2003. "Factor Mobility and Redistribution: a Survey," in *Handbook of Urban and Regional Economics*, Volume 4, J. V. Henderson and J. F. Thisse, eds.

Michael J. Greenwood. 1975. "Research on Internal Migration in the U.S.: A Survey." *Journal of Economic Literature*, 13 (1): 397-433.

Yutaka Horiba and Richard Kirkpatrick. 1981. "Factor Endowments, Factor Proportions, and the Allocative Efficiency of U.S. Interregional Trade," *The Review of Economics and Statistics*, 63 (2) (May): 178-187.

Richard Florida. 2005. "The World Is Spiky," *The Atlantic Monthly*, pp. 48-51.

*Paul Krugman. 1991. *Geography and Trade*. Cambridge, MA: The MIT Press, pp. 1-34.

J. Moroney and James M. Walker. 1966. "A Regional Test of the Heckscher-Ohlin Hypothesis," *Journal of Political Economy*, 74 (6) (December): 573-586.

Saskia Sassen. 1988. *The Mobility of Labor and Capital: A Study in International Investment and Labor Flows*. Cambridge, England: Cambridge University Press, pp. 12-25.

Michael P. Todaro. 1997. 6th Ed. *Economic Development*. Reading: Addison-Wesley, pp. 419-457.
[NOTE: THIS READING WILL BE AVAILABLE IN ROTCH.]

II.E. Deindustrialization and Restructuring

Required Readings

Barry Bluestone and Bennett Harrison. 1982. *The Deindustrialization of America*. New York: Basic Books, pp. 25-48.

Manuel Castells. 2009. *Communication Power*. New York, NY: Oxford University Press. Chapter 2: Communication in the Digital Age, pp.54-136.

Frank Giarratani, Gene Gruver and Randall Jackson. 2006. "Plant Location and the Advent of Slab Casting by U.S. Steel Minimills: An Observation-based Analysis." *Economic Geography*, 82(4): 401-419.

Shelley McDonough Kimelberg and Lauren A. Nicoll. 2012. Business Location Decisions in the Medical Device Industry: Evidence from Massachusetts. *Economic Development Quarterly*. 26(1): 34-49.

Suggested Readings

Michael H. Best. 2001. "Five Models of Technology Management." Chapter 2, *The New Competitive Advantage: The Renewal of American Industry*. Oxford, England: Oxford University Press, pp. 1-26.

Manuel Castells. 1996. *The Rise of the Network Society*. Malden MA: Blackwell Publishers, Chapter 2, pp. 66-67; 92-147.

Florida, Richard. 1996. "Regional Creative Destruction: Production Organization, Globalization, and the Economic Transformation of the Midwest." *Economic Geography*. 72 (3): 314-333.

Bennett Harrison and Barry Bluestone. 1988. *The Great U-Turn: Corporate Restructuring and the Polarizing of America*. New York: Basic Books, pp. 21-75.

Michael Piore and Charles Sabel. 1984. *The Second Industrial Divide*. New York, NY: Basic Books, pp. 165-193.

Karen R. Polenske. 2004. "Competition, Collaboration, and Cooperation: an Uneasy Triangle in Networks of Firms and Regions." *Regional Studies*. 38 (9): 1029-1043.

Charles F. Sabel. 1989. "Flexible Specialization and the Re-emergence of Regional Economies." In *Reversing Industrial Decline?* edited by Paul Hirst and Jonathan Zeitlin. Oxford, UK: Berg, pp. 17-69.

F. Tödtling and M. Trippel. 2004. "Like Phoenix from the Ashes? The Renewal of Clusters in Old Industrial Areas." *Urban Studies*, 41: 1175–1195.

II.F Agglomeration and Dispersal Economies, Part I

Required Readings

Giulio Cainelli. 2008. "Industrial Districts: Theoretical and Empirical Insights", In *Handbook of Research on Cluster Theory*, Edited by Charlie Karlsson, Edward Elgar, pp. 189-202.

Michael Porter. 2001. "Regions and the New Economics of Competition," In *Global City-Regions*, edited by Allen J. Scott. New York: Oxford University Press, pp. 139-157.

Timothy Sturgeon, Johannes Van Biesebroeck and Gary Gereffi. 2008. "Value Chains, Networks and Clusters: Reframing the Global Automotive Industry." *Journal of Economic Geography*. 8: 297–321.

Suggested Readings

Lisa M. Ellram. 1991. "Supply-Chain Management: The Industrial Organization Perspective." *International Journal of Physical Distribution & Logistics Management*, 21 (1): 13-22.

Amy K. Glasmeier and Jeff Kibler. 1996. "Power Shift: The Rising Control of Distributors and Retailers in the Supply Chain for Manufacturing Goods." *Urban Geography*, 17 (8): 740-757.

Bennett Harrison. 1994. *Lean and Mean: The Changing Landscape for Corporate Power in the Age of Flexibility*. New York: Basic Books, Inc.

Bernard Fingleton, Danilo Iglori, Barry Moore, and Raakhi Odreda. 2007. "Employment Growth and Cluster Dynamics of Creative Industries in Great Britain," In Ch. 4, *The Economic Geography of Innovation*, edited by Karen R. Polenske, Cambridge, UK: Cambridge University Press.

Karen R. Polenske. 2001. "Competitive Advantage of Regional Internal and External Supply Chains." In *Regional Science Perspectives in Economic Analysis*, Benjamin H. Stevens, edited by Michael L. Lahr and Ronald E. Miller, Amsterdam, The Netherlands: Elsevier Science, BV, pp. 259-284.

Charles F. Sabel. 1997. "Constitutional Orders: Trust Building and Response to Change." *Contemporary Capitalism: The Embeddedness of Institutions*, edited by J. Rogers Hollingsworth and Robert Boyer. Cambridge: Cambridge University Press, pp. 154-188.

II.G. Agglomeration and Dispersal Economies, Part II

Required Readings

Ann Markusen. 1996. "Sticky Places in Slippery Space: A Typology of Industrial Districts." *Economic Geography*, 72(3): 293-313.

Meric S. Gertler. 1995. "Being There: Proximity, Organization, and Culture in the Development and Adoption of Advanced Manufacturing Technologies," *Economic Geography*, 71 (1): 1-26.

Richard E. Baldwin and Philippe Martin. 2003. "Agglomeration and Regional Growth," in *Handbook of Urban and Regional Economics*, Vol. 4, J. V. Henderson and J. F. Thisse, eds., pp. 1-39.

Ron Martin. 2010. "Roepke Lecture in Economic Geography - Rethinking Regional Path Dependence: Beyond Lock-in to Evolution," *Economic Geography*, 86(1): 1-27.

Suggested Readings

Bjørn T. Asheim. 2001. "Learning Regions as Development Coalitions: Partnership as Governance in European Workfare States?" *Concepts and Transformation. International Journal of Action Research and Organizational Renewal*, 6 (1)

Meric S. Gertler. 2007. "Tacit Knowledge in Production Systems: How Important Is Geography?" In Ch. 5, *The Economic Geography of Innovation*, edited by Karen R. Polenske, Cambridge, UK: Cambridge University Press.

Martin Hart-Landsberg. 1998. "Contradictions of Capitalist Industrialization in East Asia: A Critique of 'Flying Geese' Theories of Development," *Economic Geography*, 74 (2): 87-110.

Philip McCann and D. Shefer. 2005. "Agglomeration, Economic Geography and Regional Growth." *Papers in Regional Science*, Vol. 83, No.1: 177-196

Rui Baptista and Peter Swann. 1998, "Do Firms in Clusters Innovate More?" *Research Policy*, 27 (5): 525-540.

Alfred Chandler, Jr., Peter Hagström, and Örjan Sölvell, eds. 1998, *The Dynamic Firm: The Role of Technology, Strategy, Organization, and Regions*. New York: Oxford University Press

Herbert Schmitz. 1989. "Flexible Specialization: A New Paradigm of Small-Scale Industrialization?" Brighton, England: University of Sussex, Institute of Development Studies.

II.H. Spatial Dispersal of Innovation, (Theories of Information Technology and Communication) Part I

Required Readings

Bengt-Åke Lundvall, Esben Sloth Andersen, Bent Dalum, and Björn Johnson. 2007. "National Systems of Production, Innovation, and Competence Building." In Ch. 10, *The Economic Geography of Innovation*, edited by Karen R. Polenske, Cambridge, UK: Cambridge University Press.

Mario A. Maggioni, Mario Nosvelli and Trodora Erika Uberti. 2007. "Space versus Networks in the Geography of Innovation: A European Analysis." *Papers in Regional Science*, Vol. 86, 3: 471-493.

Pierre-Philippe Combes, Thierry Mayer & Jacques-François Thisse. 2008. "Spatial Inequalities: A Brief Historical Overview." In Ch.1, *Economic Geography: The Integration of Regions and Nations*, Princeton, NJ: Princeton University Press. pp. 1-25.

Suggested Readings

Bjørn T. Asheim and Arne Isaksen. 2002. "Regional Innovation Systems: The Integration of 'Sticky' and Global 'Ubiquitous' Knowledge." *Journal of Technology Transfer* 27 (1): 77-86.

David B. Audretsch and Maryann P. Feldman. 2003. "Knowledge Spillovers and the Geography of Innovation," in *Handbook of Urban and Regional Economics*, Vol. 4, J.V. Henderson and J.F. Thisse, eds., pp. 1-41.

Elinor Ostrom. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge, UK: Cambridge University Press, Chapter 2, pp. 29-55.

John H. Dunning. 2000. "Regions, Globalization, and the Knowledge Economy: The Issues Stated," In *Regions, Globalization, and the Knowledge-Based Economy*," edited by John H. Dunning. New York: Oxford University Press, pp. 7-41.

Karen R. Polenske. 2006. "Clustering in Space Versus Dispersing Over Space," In *the Emerging Digital Economy: Entrepreneurship, Clusters, and Policy*, edited by Börje Johansson, Charlie Karlsson and Roger Stough. Springer Berlin Heidelberg, pp. 35-54.

Dani Rodrik 1997. *Has Globalization Gone Too Far?* Washington, DC: Institute for International Economics, pp. 1-48.

Michael Storper. 1997. *The Regional World*. New York, NY: The Guilford Press, pp. 26-56.

II.I. Spatial Dispersal of Innovation (Measurement Issues), Part II

Required Readings

Apiwat Ratanawaraha and Karen R. Polenske. 2007. "Measuring Geographies of Innovation: A Literature Review," In Ch. 3, *The Economic Geography of Innovation*, edited by Karen R. Polenske, Cambridge, UK: Cambridge University Press.

Charlie Karlsson and Rolf Nilsson. 2002. "Agglomeration, Economics of Scale, and Dynamic Specialization in a Central Place System." In *Regional Policies and Comparative Advantage*, edited by Borje Johansson, Charlie Karlsson and Roger R. Stough. Edward Elgar, Cheltenham, UK & Northampton MA USA, pp. 25-48.

Pierre-Philippe Combes, Thierry Mayer, and Jacques-François Thisse. 2008. "Measuring Spatial Concentration." In *Economic Geography: The Integration of Regions and Nations*, Princeton, NJ: Princeton University Press, Ch.10, pp. 255-275.

Yu Li and Karen R. Polenske. 2004. "Measuring Dispersal Economies." In *Entrepreneurship, Spatial Industrial Clusters and Inter-Firm Networks*. Trollhättén, Sweden: Universities of Trollhättén,/Uddevalla (Papers from Symposium 2003), pp. 615-633.

Suggested Readings

Andrew Reamer, Larry Icerman, and Jan Youtie. 2003. "Chapter 3: Geographic Patterns and Impacts of Innovation." In *Technology Transfer and Commercialization: Their Role in Economic Development*, Washington, D.C: U.S. Economic Development Administration, U.S. Department of Commerce. pp. 51-110.

III REGIONAL, INTERREGIONAL, AND MULTIREGIONAL INPUT-OUTPUT ACCOUNTS

III.A. Overview of Economic Accounts

Required Readings

Karen R. Polenske and Stephen Fournier. 1993. "INTRO-IO: Introduction to Input-Output Accounting and Modeling ." In *Spreadsheet Models for Urban and Regional Analysis*, edited by Richard E. Klosterman and Richard K. Brail. New Brunswick, NJ: Center for Urban Policy Research, pp. 205-228.

Ronald E. Miller. 1998. "Regional and Interregional Input-Output Analysis." In *Methods of Interregional and Regional Analysis*, edited by Walter Isard, Iwan J. Aziz, Matthew P. Drennan, Ronald E. Miller, Sidney Saltzman, and Erik Thorbecke. Brookfield, VT: Ashgate Publishing Company, pp. 41-133.

Denise DiPasquale and William C. Wheaton. 1996. *Urban Economics and Real Estate Markets*. Englewood Cliffs, NJ: Prentice Hall, pp. 149-181.

Suggested Readings

Charles L. Leven. 1964. "Regional and Interregional Accounts in Perspective," *Papers in Regional Science*, Vol. 13: 127-144.

Stan Czamanski. 1973. *Regional and Interregional Social Accounting*. Lexington, MA: D.C. Heath and Company, Lexington Books, Chapters 1-3.

Geoffrey J.D. Hewings. 1985. *Regional Input-Output Analysis*. Beverly Hills, CA: Sage Publications, pp. 9-37.

William A. Schaffer. 1998. *A Survey of Regional Economic Models*. Atlanta, GA: Georgia Institute of Technology, pp. 48-83. <http://www.rri.wvu.edu/WebBook/Schaffer/chap03.html#Heading25>

III.B. Regional and Multiregional Accounting Structures: Parts I and II

Required Readings

Avrom Bendavid-Val. 1991. 4th Ed. *Regional and Local Economic Analysis for Practitioners*. New York, NY: Praeger Publishers, pp. 41-52.

Jan Oosterhaven and Karen R. Polenske. 2009. "Modern Regional Input-Output and Impact Analysis." In *Handbook of Regional Growth and Development Theories*, edited by Roberto Capello and Peter Nijkamp. Edward Elgar, Chapter 21.

Karen R. Polenske. 1995. "Leontief's Spatial Economic Analyses." *Structural Change and Economic Dynamics*, 6 (3): 309-318.

Suggested Readings

Leon N. Moses. 1955. "The Stability of Interregional Trading Patterns and Input-Output Analysis," *American Economic Review*, 45 (5) (December): 803-832.

Harry Richardson. 1977. *Regional Economics*. Urbana, IL: University of Illinois Press, pp. 179-184.

Ronald E. Miller and Peter D. Blair. 2009. *Input-Output Analysis: Foundations and Extensions*. 2nd ed. Chapter 3: Input-Output Models at the Regional Level. Englewood Cliffs, NJ: Prentice Hall, Inc., pp. 69-115.

III.C. Uses of Accounts: Linkage Analyses and Forecasting

Required Readings

Albert O. Hirschman. 1958. *The Strategy of Economic Development*. New Haven, CT: Yale University Press, pp. 98-119.

Karen R. Polenske and Petros Sivitanides. 1990. "Linkages in the Construction Sector." *The Annals of Regional Science*, 24 (2): 147-161.

Ronald E. Miller. 1998. "Regional and Interregional Input-Output Analysis." In *Methods of Interregional and Regional Analysis*, edited by Walter Isard, Iwan J. Aziz, Matthew P. Drennan, Ronald E. Miller, Sidney Saltzman, and Erik Thorbecke. Brookfield, VT: Ashgate Publishing Company, pp. 41-133.

Suggested Readings

Victor Bulmer-Thomas. 1982. *Input-Output Analysis in Developing Countries*. New York: John Wiley & Sons Ltd, pp. 190-202.

III.D Uses of Accounts: Social Accounting Matrices, Social and Environmental Multipliers

Required Readings

Clemens Breisinger, Marcelle Thomas, and James Thurlow. 2009. *Social Accounting Matrices and Multiplier Analysis: An Introduction with Exercises*. International Food Policy Research Institute (IFPRI).

Joy E. Hecht. 2007. "National Environmental Accounting: A Practical Introduction." *International Review of Environmental and Resource Economics*. 2007(1): 3-66.

Karl M. Rich, Alex Winter-Nelson, and Gerald C. Nelson. 1997. "Political Feasibility of Structural Adjustment in Africa: An Application of SAMs Mixed Multipliers." *World Development*, 25 (12): 2105-2114.

Suggested Readings

Erik Thorbecke. 1998. "Social Accounting Matrices and Social Accounting Analysis." In *Methods of Interregional and Regional Analysis*, edited by Walter Isard, Iwan J. Aziz, Matthew P. Drennan, Ronald E. Miller, Sidney Saltzman, and Erik Thorbecke. Brookfield, VT: Ashgate Publishing Company, pp. 281-331.

Joy E. Hecht. 2005. Chapters 4 & 5. *National Environmental Accounting: Bridging the Gap between Ecology and Economy*. Washington, DC: Resources for the Future, pp. 53-89.

Benjamin B. King. 1985. "What is a SAM?" In *Social Accounting Matrices: A Basis for Planning*, edited by Graham Pyatt and Jeffery I. Round. Washington, DC: The World Bank, pp. 17-51.

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Ronald E. Kutscher. 1991. New BLS Projections: Findings and Implications, *Monthly Labor Review* (November), pp. 3-12.

Henry M. Peskin and Ernst Lutz. 1990. *A Survey of Resource and Environmental Accounting in Industrialized Countries*. Environment Working Paper No.37. Washington, DC: The World Bank, pp.1-26.

III.E. Accounting Issues and Boundaries: Imputations and Underground Economy

Required Readings

Colin C. Williams. 2010. "Re-Theorizing the Informal Economy in Western Nations: Some Lessons from Rural England." *The Open Area Studies Journal*, 2010(3): 1-11.

John W. Kendrick. 1979. "Expanded Imputed Values in the National Income and Product Accounts," *Review of Income and Wealth*, 25 (4) (December): 349-363.

Norman V. Loayza. 1997. "The Economics of the Informal Sector: A Simple Model and Some Empirical Evidence from Latin America." *World Bank Working Paper Series*, 1727.

Suggested Readings

Edgar L. Feige. 1990. "Defining and Estimating Underground and Informal Economies: The New Institutional Economics Approach." *World Development*, 8 (7): 989-1002.

Carol Carson. 1984. "The Underground Economy: An Introduction," *Survey of Current Business*, 64 (5) (May): 21-37.

Steven Landefeld and Barbara M. Fraumeni. 2001. "Measuring the New Economy" *Survey of Current Business*, March 2001, pp. 23-40.

III.F. Price Indices

Required Readings

Jerry A. Hausman. 1998. "New Products and Price Indexes." *NBER Reporter*, (Fall), pp. 10-12.

Mark A. Wynne and Fiona D. Sigalla. 1994. "The Consumer Price Index." *Economic Review: Federal Reserve Board of Dallas*. 2nd Quarter (Summer), pp. 1-22.

Thomas H. Wonnacott and Ronald J. Wonnacott. 1990. *Introductory Statistics for Business and Economics*. 4th Ed. New York: John Wiley and Sons, pp. 664-677.

U.S. Department of Labor, Bureau of Labor Statistics. 2011. Chapter 17: "Consumer Price Index", in *BLS Handbook of Methods*. Washington, DC: U.S. Government Printing Office.
<http://www.bls.gov/opub/hom/pdf/homch17.pdf>

Suggested Readings

Charles Mason and Clifford Butler. 1987. "New Basket of Goods and Services being Priced in Revised CPI," *Monthly Labor Review*, 110 (1): 3-22.

IV. ANALYTICS OF REGIONAL ECONOMICS

IV.A. Shift-Share Analysis

Required Readings

Benjamin H. Stevens and Craig L. Moore. 1980. "A Critical Review of the Literature on Shift-Share as a Forecasting Technique," *Journal of Regional Science*, 20 (4): 419-437.

Daniel J. Graham and Nigel Spence. 2000. "Manufacturing Employment Change, Output Demand, and Labor Productivity in the Regions of Britain," *International Regional Science Review* 23 (2): 172–200.

Suggested Readings

Richard E. Klosterman, and Yichun Xie. 1993. "Shift-Share: Local Employment Projection." In *Spreadsheet Models for Urban and Regional Analysis*, edited by Richard E. Klosterman and Richard K. Brail. New Brunswick, NJ: Center for Urban Policy Research, pp. 183-204.

Ann R. Markusen, Helzi Noponen, and Karl Dreissen. 1991. "International Trade, Productivity, and U.S. Regional Job Growth: A Shift-Share Interpretation," *International Regional Science Review*, 14 (1): 15-40.

IV.B. Determinants of City and Regional Growth

Required Readings

D. da Mata, U. Deichmann, J.V. Henderson, S.V. Lall, and H.G. Wang. 2007. "Determinants of City Growth in Brazil." *Journal of Urban Economics*, 62(2007): 252-272.

Edward L. Glaeser, José A. Sheinkman, and Andrei Shleifer. 1995. "Economic Growth in a Cross-Section of Cities," *Journal of Monetary Economics*, 36: 117-144.

Suggested Readings

A. Alesina, and D. Rodrik. 1994. "Distribution Politics and Economic Growth," *The Quarterly Journal of Economics*, 109, 456-490.

P. Beeson, D. DeJong, and W. Troesken. 2001. "Population Growth in U.S. Counties, 1840-1990," *Regional Science and Urban Economics*, 31: 669-699.

Kelvin M. Pollard. 2005. *Population Growth and Distribution in Appalachia: New Realities*. Washington, DC: Appalachian Regional Commission.

IV.C. Regional Economics and Energy

Required Readings

Hua Liao, Ying Fan, and Yi-Ming Wei. 2007. "What Induced China's Energy Intensity to Fluctuate: 1997-2006?" *Energy Policy*. 35(9): 4640-4649.

Karen R. Polenske and Francis C. McMichael. 2002. "A Chinese Cokemaking Process-Flow Model for Energy and Environmental Analyses," *Energy Policy*. 30 (10): 865-883.

Patrick Canning, Ainsley Charles, Sonya Huang, Karen R. Polenske and Arnold Waters. 2010. "Energy Use in the U.S. Food System", Economic Research Report, Number 94. US Dept. of Agriculture.

Suggested Readings

Karen Fisher-Vanden, Gary Jefferson, H. Liu, and Q. Tao. 2004. "What is Driving China's Decline in Energy Intensity?" *Resource and Energy Economics* 26(1): 77-97.

IV.D. Regional Economic Disasters

Required Readings

Yasuhide Okuyama, J.D. Hewings, and M.Sonis. 2004. "Measuring Economic Impacts of Disasters: Interregional Input-Output Analysis Using Sequential Interindustry Model" in *Modeling Spatial and Economic Impacts of Disasters*, edited by Yasuhide Okuyama and S.E. Chang, Springer-Verlag. New York. pp. 77-101.

George Horwich. 2000. "Economic Lessons of the Kobe Earthquake", *Economic Development and Cultural Change*, Vol. 48, No.3: 521-542.