VI. Notes

[1]See comments by David R. Allardice and William Bergman summarized in "The Midwest Economy: Structure and Performance," *Assessing the Midwest Economy Workshop Summary Series*, No. 2, Federal Reserve Bank of Chicago, 1996.

[2]See Kenneth M. Johnson, "Recent Nonmetropolitan Demographic Trends in the Midwest," *Assessing the Midwest Economy Working Paper Series*, No. RE-1, Federal Reserve Bank of Chicago, 1996.

[3]Surprisingly, net migration into the rural Midwest exceeded population gains derived from natural increase, i.e., births minus deaths. Throughout this century, population gains in rural counties have generally been realized through natural increase concurrently with net out-migration of young adults. By the 1990s, the resulting aging of the population, coupled with in-migration, resulted in a notable reversal; in-migration gains were leading those achieved by natural increase in rural counties of the nation and the Midwest.

[4]See Johnson, op. cit.

[5]See Erica L. Groshen and Laura Robertson, "Are the Great Lakes Cities Becoming Service Centers?," *Economic Commentary*, Federal Reserve Bank of Cleveland, June 1, 1993.

[6]For further industry-specific analysis, see William A. Testa, "Producer Services: Trends and Prospects for the Seventh District," *Economic Perspectives*, Federal Reserve Bank of Chicago, Vol. 16, No. 3, May/June 1992, pp. 19–28. Other authors note the further spatial division of labor by size of metro area among industries or facilities characterized by routinized or "back office" operations and those engaged in "command and control" operations, such as corporate headquarters or highly specialized business and legal services. See Robert Atkinson, "Technology and the Future of Metropolitan Economies," *Assessing the Midwest Economy Working Paper Series*, No. MA-4, and "Midwestern Metropolitan Areas: Performance and Policy," *Assessing the Midwest Economy Workshop Summary Series*, No. 1, both Federal Reserve Bank of Chicago, 1996.

[7]Sukkoo Kim, "Changing Structure of U.S. Regions: A Historical Perspective," *Assessing the Midwest Economy Working Paper Series*, No. SP-1, Federal Reserve Bank of Chicago, 1996.

[8]For a discussion of the neoclassical economic view that the Midwest's one-time advantage will not return, see Sherwin Rosen, "The Decline of the Midwest," *Quarterly Review of Economics and Finance*, Vol. 33, No. 1, Spring 1993, pp. 1–14.

[9]See Marie Howland, "Age of Capital and Regional Business Cycles," *Growth and Change*, April 1984, pp. 29–37.

[10]Languishing total dollar volume of exports is somewhat expected in this instance because rising physical quantities of exports may be insufficient to make up for lower dollar prices per physical unit, i.e., the so-called J-curve effect. Of course, other forces, especially changing economic growth of export destinations, also determine export sales.

[11]A more farsighted view of the region is attributed to James E. Annable, "The Midwest Economic Miracle," Internal Research Paper, First National Bank of Chicago, Autumn, 1985, and Diane S. Swonk, "State Winners and Losers," *Economic Backgrounder*, First National Bank of Chicago, May 1991.

[12]For example, Lynn E. Browne, "Can High Tech Save the Great Lakes States?," *New England Review*, Federal Reserve Bank of Boston, 1983, pp. 19–33.

[13]Much of this discussion is drawn from James M. Rubenstein, "The Evolving Geography of Production—Is Manufacturing Activity Moving out of the Midwest? Evidence from the Auto Industry," *Assessing the Midwest Economy Working Paper Series*, No. SP-3, Federal Reserve Bank of Chicago, 1996.

[14]Research completed by Phil Israilevich on defense-related businesses in the metro Chicago economy found that less than 1% of the total output of goods and services in the Chicago economy was related to military procurement expenditures in 1987 (during the height of the military spending boom). Furthermore, electrical machinery, business services, food, and control instruments accounted for 73% of the procurement funds that the metro economy received. These industry groups can serve civilian markets without the difficult transition associated with prime defense contractors such as ship builders, plane manufacturers, or weapons and munitions firms. See Phillip Israilevich and David D. Weiss, "The Effects of Defense Cuts on the Chicago Economy," *Chicago Fed Letter*, Federal Reserve Bank of Chicago, January 1992.

[15]Kerry Sutten, "Fiscal Devolution: The Impact on State Budgets," *Northeast–Midwest Institute Review*, Washington, DC, June 1996.

[16]See A. Bournakis, "Energy and Environmental Issues for the Midwest Economy,"*Assessing the Midwest Economy Working Paper Series*, No. SP-5, Federal Reserve Bank of Chicago, 1996.

[17]See Linda M. Aguilar and Mike A. Singer, "Big Emerging Markets and U.S. Trade," *Economic Perspectives*, Federal Reserve Bank of Chicago, Vol. 19, No. 4, July/August 1995, pp. 2–15, and David Walters' comments summarized in "Global Linkages to the Midwest Economy," *Assessing the Midwest Economy Workshop Summary Series*, No. 6, Federal Reserve Bank of Chicago, 1996.

[18]*Workshop Summary Series*, No. 6, comments by David Walters.

[19]The share of production has slipped during 1996. Some analysts attribute part of this slippage to the climbing value of the dollar versus the yen. See Robyn Meredith, "Ford Sales Increase 2.8% while Toyota Soars 55%," *The New York Times*, February 5, 1997, p. C4.

[20]In research conducted for this project, Jack Hervey and William Strauss constructed foreign currency measures against the dollar that are specific to the Midwest's export composition. Their research suggests that the Midwest's export success has run counter to deleterious trends in the exchange currencies of the region's major export destinations. It is more likely that the region's export success derives from a favorable pattern of expansion in foreign markets and from improving productivity. See Hervey and Strauss, "A Regional Export-Weighted Dollar: A Different Way of Looking at Exchange Rate Changes," *Assessing the Midwest Economy Working Paper Series*, No. GL-2, Federal Reserve Bank of Chicago, 1996.

[21]See Thomas Klier, "Structural Change and Technology in the Manufacturing Sector," *Assessing the Midwest Economy Working Paper Series*, No. SP-6, Federal Reserve Bank of Chicago, 1996.

[22]John Baldwin, Brent Diverty, David Sabourin, "Technology Use and Industrial Transformation: Empirical Perspectives," *Statistics Canada*, 1994, and U.S. Department of Commerce, Bureau of the Census, *Current Industrial Reports: Manufacturing Technology: Prevalence and Plans for Use*, 1994.

[23]A popular exposition of this theme with regard to the recent Midwest experience can be found in Diane Swonk, "The Great Lakes Economy Revisited," *Assessing the Midwest Economy Working Paper Series*, No. SP-2, Federal Reserve Bank of Chicago, 1996. For a discussion of the possible effects of one such institutional feature, i.e., right-to-work laws, see Thomas J. Holmes, "The Effects of State Policies on the Location of Industry: Evidence from State Borders," Federal Reserve Bank of Minneapolis, working paper, No. 205, 1995. Also Michael Kendix, "Institutional Rigidities as a Barrier to Growth: A Regional Perspective," Federal Reserve Bank of Chicago, working paper, No. WP-1990-6, 1990.

Notes *(continued)*

[24]Per later discussion, the evidence is consistent but far from conclusive.

[25]Such figures are merely suggestive and not definitive, assuming, for example, the shift between part-time and full-time workers across regions and regional differences in labor force growth do not distort the findings.

[26]The evidence is also consistent with falling wages having resulted from a shrinking economy (and shrinking labor demand). The early period strongly suggests the falling wages were caused by loss of manufacturing and attendant high-paying jobs and by excess supplies of willing workers. Whether lower wages have worked to help revive later investment and employment in the region is, as yet, unclear.

[27]See Bournakis, op. cit.

[28]Recent estimates by analysts at the Federal Reserve Bank of Dallas suggest dramatically lower responses today (less than half of the 1980 response) to potential oil price shocks. See Stephen P.A. Brown and Mine K. Yucel, "Energy Prices and State Economic Performance," *Economic Review*, Federal Reserve Bank of Dallas, No. 2, 1995, pp. 13–21.

[29]Fiscal capacity measures of a state, for example, are constructed by comparing a state's per capita tax base to the nation's, aggregated across all commonly used tax bases, e.g., sales, income, and property value. See Advisory Commission on Intergovernmental Relations, *Measuring State Fiscal Capacity and Effort 1987*, Washington, DC, 1989.

[30]See Richard H. Mattoon and William A. Testa, "State and Local Governments' Reaction to Recession," *Economic Perspectives*, Federal Reserve Bank of Chicago, Vol. 16, No. 2, March/April 1992, pp. 19–27.

[31]See Randall Eberts, "Highway Infrastructure: Policy Issues for Regions," *Assessing the Midwest Economy Working Paper Series*, No. SL-2, Federal Reserve Bank of Chicago, 1996; Jay Helms, "The Effect of State and Local Taxes on Economic Growth: A Time Series–Cross Section Approach," *Review of Economics and Statistics*, Vol. 67, 1985, pp. 574–582; T.R. Plaut and J.E. Pluta, "Business Climate, Taxes and Expenditures, and State Industrial Growth in the U.S.," *Southern Economic Journal*, Vol. 50, 1983, pp. 99–119.

[32]See Rosabeth Moss Kantor, *World Class*, New York: Simon and Schuster, 1995. The hypothesis that long-developed regions will necessarily have an advantage in sustaining growth during a period of adversity or shock remains contentious. For an opposing hypothesis, see Michael Kendix, op. cit. For a wide-ranging discussion of the role of such institutions in economic development, see Charles F. Bonser, ed., *Proceedings: The Role of NGOs in Economic Development*, Bloomington, IN: Institute for Development Strategies, Indiana University, 1995. For a discussion of state and local government development initiatives and concepts in the 1980s, see Peter K. Eisinger, *The Rise of the Entrepreneurial State*, Madison, WI: University of Wisconsin Press, 1988.

[33]Examples include: statewide chambers of commerce in each of the five states; state research institutions, such as the Institute of Government and Public Affairs and the Great Cities Program (University of Illinois at Chicago), the LaFollete Institute (University of Wisconsin–Madison), the State and Local Policy Program and the Humphrey Institute of Public Affairs (University of Minnesota), the Institute for Development Strategies (Indiana University), the Heinz School of Public Policy at Carnegie Mellon, and the College of Urban Affairs at Cleveland State University; private organizations and firms, such as the Upjohn Institute for Employment Research, the Civic Committee of the Commercial Club of Chicago, the MacArthur (Chicago) and Mott (Detroit) foundations, First Chicago NBD Corporation, Ameritech; utilities, such as Detroit Edison; and public and quasi-public bodies, such as the Council of Great Lakes Governors (Chicago), the Council of Great Lakes Industries (Chicago), The Great Lakes Commission (Ann Arbor, MI), the Indiana Economic Development Council, and the Northeast–Midwest Institute (Washington, DC).

[34]See Ameritrust Corporation, "Choosing a Future for MidAmerica, Strategies for Revitalizing the Midwestern Economy," Detroit, 1994; *Wisconsin Strategic Development Commission, The Final Report*, Madison, 1985; Iowa Business Council and Federal Reserve Bank of Chicago, *The Iowa Economy Dimensions of Change*, Federal Reserve Bank of Chicago, 1987; and Commercial Club of Chicago, *Make No Little Plans: Jobs for Metropolitan Chicago*, Commercial Club of Chicago, 1984.

[35]For purposes of understanding and complying with urban ozone regulations, the Lake Michigan Air Directors Consortium has been studying region-wide atmospheric chemistry. See Stephen L. Gerritson, "The Status of the Modeling of Ozone Formation and Geographic Movement in the Midwest," *Cost Effective Control of Urban Smog*, Federal Reserve Bank of Chicago, 1993.

[36]The Council of Great Lakes Governors has been active in shaping the new environmental guidance for protecting water quality. See DRI/McGraw Hill, *The Great Lakes Water Quality Initiative: Cost Effective Measures To Enhance Environmental Quality and Regional Competitiveness*, Chicago, IL, 1993.

[37]For a review of such efforts, see Timothy McNulty, "Joint Initiatives in the States and Provinces," in *The Great Lakes Economy Looking North and South*, William A. Testa (ed.), Federal Reserve Bank of Chicago, 1991.

[38]See Sherwin Rosen, "The Decline of the Midwest," *The Quarterly Review of Economics and Finance*, Vol. 33, No. 1, Spring 1993, pp 1–14.

[39]See *Workshop Summary Series*, No. 2.

[40]For example, plant productivity for the steel industry improved dramatically. Martin Kenney and Richard Florida report that from 1985 through the first quarter of 1991 productivity improved from 4.2 man-hours per ton of steel shipped to 2.8 in the National Steel's Great Lakes Works integrated steel mill (*Beyond Mass Production*, Oxford University Press, 1993, p. 176).

At the same time, the spatial distribution of the industry changed dramatically, with the regional distribution of ore-based capacity shifting away from the Pittsburgh–Youngstown region to the Great Lakes region. Capacity in the minimill segment grew most dramatically in the South, where it more than tripled. See Patricia Beeson and Frank Giarratani, *Spatial Aspects of Capacity Change by Integrated Steel Producers in the United States Steel Industry*, University of Pittsburgh, November 1995. Also, Florida and Kenney, "Restructuring in Place: Japanese Investment, Production Organization, and the Geography of Steel," *Economic Geography*, Vol. 68, No. 2, 1992.

[41]Kim, op. cit.

[42]See Baldwin et al., op. cit., and U.S. Department of Commerce, op. cit.

[43]Figure 30 presents evidence on three of the 17 technologies surveyed. For more detail, see Klier, op. cit.

[44]For a look at regional technology diffusion using the Survey of Manufacturing Technology data, see Jane Sneddon Little and Robert K. Triest, *Technology Diffusion in U.S. Manufacturing: The Geographic Dimension*, Federal Reserve Bank of Boston, 1996. The authors find that geography does make a difference to the speed of adoption of advanced technologies. Even taking into account industry and plant characteristics, they find proximity to other users of technology to be associated with higher rates of adoption.

[45]See Martin Bailey and Hans Gersbach, "Efficiency in Manufacturing and the Need for Global Competition," *Brookings Papers on Economic Activity*, *Microeconomics*, Washington, DC, 1995.

Notes *(continued)*

[46]See Rubenstein, op. cit.

[47]See Thomas Klier, "The Geography of Lean Manufacturing: Recent Evidence from the U.S. Auto Industry," *Economic Perspectives*, Federal Reserve Bank of Chicago, Vol. 19, No. 6, November/December 1995, pp. 2–16.

[48]A recent study by MIT's International Vehicle Program showed how the productivity of auto assembly plants changed between 1989 and 1993/94. Apparently, the best North American plants of U.S. auto assemblers have nearly caught up with the best Japanese plants. However, the data also show that *best practice* is a moving target; the plants with the most improved productivity were Japanese plants in North America. See Diana Kurylko, "Assembly-Hour Gap Closing," *Automotive News*, March 4, 1996, p. 1.

[49]See *Workshop Summary Series*, No. 6.

[50]See Michael Singer and Chris Barfels, "The Food Processing Industry in the Midwest," *Assessing the Midwest Economy Working Paper Series*, No. RE-6, Federal Reserve Bank of Chicago, 1996.

[51]Early *dynamic modeling* suggests that all three countries will realize augmented growth from NAFTA. The dynamic model suggests greater potential gains than previously indicated by static models, partly owing to the ability to account for capital flows, capital accumulation, and other endogenous elements of growing economies.

Evidence from the U.S.–Canada FTA indicates the two countries have been able to shift production toward their apparent areas of comparative advantage; Canada's share of its own market has decreased—from 71% in 1980 to 50% in 1994—and its share of the U.S. market has increased—from 2% in 1980 to 2.9% in 1994. The U.S. share of Canada's market has increased (in manufacturing)—from 21% in 1980 to 36% in 1994—while its share of its own market has declined—from 92% in 1980 to 84% in 1994. Bilateral trade surpluses and deficits show a similar pattern. Thus, by lowering barriers to trade, both nations are able to specialize and trade more, realizing greater wealth through consumption and investment. See comments by Michael Kouparitsas, Gary Scott, and Little summarized in *Workshop Summary Series*, No. 6.

[52]Ibid., comments by Edward Malecki; also Asim Erdilek and Milton Wolf, "R&D Activities and Innovativeness of Foreign-Owned Firms in Ohio," *Assessing the Midwest Economy Working Paper Series*, No. GL-6, Federal Reserve Bank of Chicago, 1996.

[53]*Workshop Summary Series*, No. 6, comments by Peter Kresl.

[54]Ibid., comments by Arnold Weber.

[55]Ibid., comments by Peter Kresl.

[56]Ibid., comments by Geoff Hewings. Hewings also suggested that intraregional shipments of goods far exceed exports from the region. The export numbers compare to total U.S. goods exported of $585 billion for the year 1995, of which $127 billion went to Canada, $46 billion to Mexico, and $411 billion to the rest of the world.

[57]For more examples, see Federal Reserve Bank of Chicago, *Shaping the Great Lakes Economy*, 1992 conference proceedings, p. 49.

[58]"Work Force Developments: Issues for the Midwest Economy," *Assessing the Midwest Economy Workshop Summary Series*, No. 4, Federal Reserve Bank of Chicago, 1996.

[59]Kim, op. cit.

[60]*Workshop Summary Series*, No. 4, comments by Harry Holzer.

[61]"Designing State–Local Fiscal Policy for Growth and Development," *Assessing the Midwest Economy Workshop Summary Series*, No. 5, Federal Reserve Bank of Chicago, 1996, comments by Rick Mattoon.

[62]*Workshop Summary Series*, No. 4, comments by Rebecca Blank and Toby Herr. Herr, director of the Project Match for the Erikson Institute, described what has been learned about the process of moving from welfare to work based on a project underway in Chicago's Cabrini-Green neighborhood since 1985.

[63]*Workshop Summary Series*, No. 4, comments by Rebecca Blank.

[64]The Gini coefficient is a widely used measure of income inequality. A Gini coefficient of 0 would indicate perfect equality, i.e., all households would have the same income; a rating of 1 would reflect perfect inequality, with one household receiving all income.

[65]Jamie Partridge, Mark Partridge, and Dan Rickman, "Midwest Family Income Inequality: Is it More Cultural or Can State and Local Policy Affect It?," *Assessing the Midwest Economy Working Paper Series*, No. WF-1, Federal Reserve Bank of Chicago, 1996.

[66]*Workshop Summary Series*, No. 4, comments by Kevin Murphy.

[67]Thomas A. Downes and William A. Testa (eds.), *Midwest Approaches to School Reform*, Federal Reserve Bank of Chicago, 1994.

[68]"The Changing Rural Economy of the Midwest," *Assessing the Midwest Economy Workshop Summary Series*, No. 3, Federal Reserve Bank of Chicago, 1996, comments by David A. McGranahan and Fred Gale.

[69]See Jeff Crump and Norman Walzer, "Producer–Service Workers in the Nonmetropolitan Midwest," *Assessing the Midwest Economy Working Paper Series*, No. RE-2, Federal Reserve Bank of Chicago, 1996.

[70]See Thomas Pogue and James Maxey, "The Quality of Rural Education in the Midwest," *Assessing the Midwest Economy Working Paper Series*, No. RE-5, Federal Reserve Bank of Chicago, 1996.

[71]For more information, see *Workshop Summary Series*, No. 3.

[72]Ibid., comments by Bernat.

[73]Ibid., comments by McGranahan; also Crump and Walzer, op. cit.

[74]*Workshop Summary Series*, No. 3, comments by McGranahan.

[75]See Sam Cordes, "Health Care Services and the Rural Economy," *Assessing the Midwest Economy Working Paper Series*, No. RE-3, Federal Reserve Bank of Chicago, 1996.

[76]*Workshop Summary Series*, No. 3, comments by John Fraser Hart.

[77]For more information on this topic, see *Workshop Summary Series*, No. 1.

[78]See Kim, op. cit.

[79]See Richard Mattoon, "Issues in Governance Structure for Metropolitan Areas," *Assessing the Midwest Economy Working Paper Series*, No. MA-5, Federal Reserve Bank of Chicago, 1996.

[80]For example, in the central city–suburban context, changing information technology has encouraged movement of business service industries to the suburbs. See Atkinson, op. cit. Services in which information is digitized and transmitted via computer and fiber optics are the best prospects for moving to the suburbs. As evidence, the concentration of data-processing jobs has shifted dramatically to the suburbs. Suburban locations have an advantage when it comes to accommodating the needs of digitized services. It is easier to outfit new buildings with *smart* technologies than to retrofit existing urban structures.

[81]*Workshop Summary Series*, No. 4, comments by Rebecca Blank.

Notes *(continued)*

[82]See Elmer Johnson, "The Coming Collision of Cities and Cars: Transportation Policy for the Twenty-First Century," in *Cost Effective Control of Urban Smog*, Richard Kosobud, William A. Testa, and Donald Hanson (eds.), Federal Reserve Bank of Chicago, 1993, pp 116–120.

[83]See Ziona Austrian and Thomas Bier, "Great Lakes Central Counties: Is the Era of Greenfield Development Coming to an End?," *Assessing the Midwest Economy Working Paper Series*, No. MA-1, Federal Reserve Bank of Chicago, 1996.

[84]See Charles Bartsch, "Brownfield Policy in the Midwest," *Assessing the Midwest Economy Working Paper Series*, No. MA-3, Federal Reserve Bank of Chicago.

[85]Daniel McGrath, *An Investigation into the Impact of Hazardous Waste Contamination Liability on Urban Industrial Land Redevelopment in the City of Chicago*, Chicago: Great Cities Institute, University of Illinois at Chicago, 1995.

[86]For a discussion of issues concerning optimal size for general purpose governments, see Jeffrey S. Zax, "The Effects of Jurisdiction Types and Numbers on Local Public Finance," in *Fiscal Federalism: Quantitative Studies*, Harvey Rosen (ed.), Chicago: University of Chicago Press, 1988, pp. 79–103, and Randall W. Eberts and Timothy J. Gronberg, "Structure, Conduct and Performance in the Local Public Sector," *National Tax Journal*, Vol. 43, No. 2, June 1990, pp. 165–173. With regard to cost and productivity of elementary and secondary educational services provided by public school districts, see Caroline M. Hoxby, "Does Competition among Public Schools Benefit Students and Taxpayers?," National Bureau of Economic Research, working paper, No. 4979, December 1994.

[87]See Donald Haider, Irving Rein, and Philip Kotler, *Marketing Places: Attracting Investment, Industry, and Tourism to Cities, States, and Nations*, New York: Free Press, 1993.

[88]See William Oakland and William A. Testa, "Community Development-Fiscal Interactions: Theory and Evidence from the Chicago Area," Federal Reserve Bank of Chicago, working paper, No. WP-95-7, 1995.

[89]See *Workshop Summary Series*, No. 5.

[90]See James A. Papke, "Where We Stand 1996: Business Tax Competitiveness among the Great Lakes States," *Assessing the Midwest Economy Working Paper Series*, No. SL-3, Federal Reserve Bank of Chicago, 1996.

[91]See Melvin Burstein and Arthur Rolnick, "Congress Should End the Economic War among the States," *The Region*, Federal Reserve Bank of Minneapolis, Special Issue, Vol. 9, No. 1, March 1995.

[92]*Workshop Summary Series*, No. 5, comments by Graham Toft and Tim Bartik.

[93]Alan Peters and Peter Fisher of the University of Iowa have begun to examine industrial incentives and the pattern of competition among U.S. states and cities. The purpose of their work is to see whether evidence is available to suggest that the spatial pattern of industrial incentives and competition among cities and states does in fact lead to a redistribution of jobs to distressed areas. If the competition to offer the best incentives can create new opportunities for local residents with low reservation wages in high unemployment areas, this should support the contention that the practice of incentives may be a positive-sum game. Their initial results suggest that after at least a decade and a half of intense competition for investment and jobs, the state and local system of taxes and incentives has provided no clear inducement for firms to invest in high unemployment areas.

[94]See William Oakland and William A. Testa, "The Benefits Approach to Business Taxation," *Economic Perspectives*, Federal Reserve Bank of Chicago, Vol. 21, No.1, January/February 1996, pp. 2–19.

[95]Looking at the competitive tax climate features of current state–local systems, Oakland and Testa compared current business taxes by state in relation to each state's value added. They found that business taxes as a percent of value added would result in much more modest tax rates—in the range of 2.5% to 3.5%. If business taxes were reduced to levels commensurate with costs of public services provided, these rates would be even more modest—in the range of 1.5% to 2.5% of value added. Any remaining differences among states in tax levels would reflect conscious choices to provide different levels and mixes of public services. Accordingly, one could expect constructive dialogue between the business sector and its government in fashioning and financing critical government services. The current hodge-podge of business taxation could be replaced by a single business tax levied at a uniform rate on the value added by origin of business. Such a tax would have several advantages. First, if businesses were taxed in proportion to their value added, the taxes paid would closely vary according to the size of the firm and the attendant public services consumed. Second, taxing by origin would mean that taxes were levied in proportion to the geographic location of business activity (i.e., production). Since public services are presumably consumed by locally producing firms, this system would accord with the benefit principle. Last, a tax on value added is neutral with respect to each firm's choice of method of production. Unlike the current accumulation of state–local business taxes, a uniform tax on value added would neither discriminate against capital-intensive firms nor favor the ever-growing service sector.

[96]See Eberts, op. cit.

[97]While labor is somewhat mobile in response to job opportunities, cultural/climate preferences also make workers somewhat reluctant to relocate. Popular press accounts suggest that these preferences are important. See, for example, Glenn Burkins' article on Michigan employers' mostly unsuccessful attempts to woo workers from California, "Technical Problems: Good Jobs Go Unfilled amid Some Shortages of Skilled Workers," *The Wall Street Journal*, Nov. 27, 1996, p. A1. In contrast, a rigorous statistical study finds evidence consistent with California's recent out-migration as responding to economic variables, especially unemployment conditions (rather than deterioration in amenities). See Stuart A. Gabriel, Joe P. Mattey, and William L. Wascher, "The Demise of California Reconsidered: Interstate Migration over the Economic Cycle," *Economic Review*, Federal Reserve Bank of San Francisco, No. 2, 1995, pp. 30–45.

[98]See Sean P. McAlinden, Brett C. Smith, and David E. Cole, *Driving America's Renaissance*, Office for the Study of Automotive Transportation, University of Michigan, 1995. The study further suggests that only about 15% of these positions will not be filled.

[99]Downes and Testa, op cit.

[100]An example of environmental policy of this type includes the Great Lakes Water Quality Guidance. See Allegra Cangelosi, "The GLI: A Major Skirmish in the Environmental Wars of the 104th Congress," *Northeast–Midwest Economic Review*, May 1995, pp. 9–12. In addition, the amendments to the Clean Air Act of 1990 allow regional approaches to compliance with certain air quality standards such as urban smog; see Hanson, Kosobud, and Testa, op. cit.

[101]If this is the case, central cities would seem to have an inherent advantage; they can internalize the wider job and tax revenue benefits in their development activities. However, this advantage may be offset by the fiscal disadvantage that central cities (and potential urban businesses) bear because they must provide public services to low-income households.

[102]See Richard Gibson, "IBP To Cut Iowa Pork Processing, Cites Drop in Hogs," *The Wall Street Journal*, February 2, 1997, p. A8.