

- Payer, Cheryl. 1982. *The World Bank: A Critical Analysis*. New York: Monthly Review Press.
- Schumacher, E. F. 1975. *Small is Beautiful*. New York: Perennial Library.
- Sharpston, M. J. 1972. Uneven geographical distribution of medical care: A Ghanaian case study. *Journal of Development Studies* 8:205-22.
- Shrestha, Nanda R. 1982. A preliminary report on population pressure and land resources in Nepal. *Journal of Developing Areas* 16:197-212.
- Shrestha, Nanda R. 1985. The political economy of external migration and economic underdevelopment in Nepal. *Political Geography Quarterly* 4:289-306.
- Shrestha, Nanda R. 1987. Institutional policies and migration behavior: A selective review. *World Development* 15:329-45.
- Shrestha, Nanda R., and Badri N. Kayastha. 1984. *Midterm Evaluation of the Community Based Integrated Rural Development Project Implemented by Save the Children*. Westport, CT: Save the Children, and Kathmandu: N-F Development Consultants.
- Vaidya, B. N. 1979. *Midterm Health Review 2035*. Kathmandu: His Majesty's Government, Ministry of Health.
- World Bank. 1975. *Health Sector Policy Paper*. Washington, DC: World Bank.
- World Development Forum. 1985. Halving infant deaths 3:22. New York: Hunger Project.
- World Health Organization. 1978. *Primary Health Care: Report on the International Conference on Primary Health Care, Alma-Ata, USSR*. Geneva: World Health Organization.
- Worth, Robert M., and Narayan K. Shah. 1969. *Nepal Health Survey 1965-1966*. Honolulu: University of Hawaii Press.

NANDA R. SHRESTHA (Ph.D., Indiana University) is Assistant Professor of Geography, University of Wisconsin, Whitewater, WI 53190. He is interested in issues related to population and development in Third World countries.

COMMENTARY AND REPLY

Professional Geographer, 40(2), 1988, pp. 214-217
 © Copyright 1988 by Association of American Geographers

Venture Capital's Geography: A Comment on Leinbach and Amrhein*

The recent paper by Leinbach and Amrhein (1987) presents some new and useful information on venture capital. We have been interested in venture capital for some time now—as an aspect of a broader project on new technologies and industrial restructuring (Florida and Kenney 1988a, 1988b; Kenney and Florida 1988). Our brief commentary focuses on two areas: (1) the lack of attention paid to the structure of the venture capital industry; and (2) the geographic analysis itself which is problematic

* The authors would like to thank Gordon Clark, Andy Mair, and the editors for their helpful comments.

because it is based on highly aggregated data and obscures important characteristics of the geography of venture capital.

Leinbach and Amrhein (1987) make two noteworthy contributions. First, using data originally compiled by Venture Economics, the authors provide an original time series on the location of venture capital firms (p. 1, Tables 1 and 2). These data show dramatic increases in the numbers of venture capital firms located in the northeast and west coast regions. Second, the authors present regional flows of funds data which show a highly uneven distribution of venture capital disbursements (p. 1, Tables 3 and 4).

Leinbach and Amrhein do not pay enough attention to the structure of the venture capital industry. Their discussion overestimates the importance of small business investment corporations (SBICs) which typically have not been technology-oriented investors and which have declined in relative importance. They portray informal investors or "angels" as part of the formal venture capital industry, yet little data on "angels" exist and they are certainly not part of the data base which the authors analyze. The authors also neglect the most important industry segment, private limited partnerships, which attract capital from institutional investors, comprise the bulk of industry resources, and account for most of the recent expansion of the venture capital pool.

In addition, the process of venture investing has important implications for the locational calculus of venture capital firms. In order to monitor and assist startups, venture capitalists prefer investments within an approximately 200 mile commuting band (U.S. Congress Joint Economic Committee 1984). Venture capitalists also depend upon localized contact networks to find investments and assist with enterprise formation. Only certain areas possess the technological base and entrepreneurial climate conducive to venture investment. Because of the specialized nature of venture investing and the geographic concentration of potential investments, the location of venture capital is directly affected by the location of investments (Florida and Kenney 1988a).

A second set of problems relates to the authors' geographic analysis. The authors' time series on the location of venture capital firms shows trends in the number of firms located in four broad regions (i.e., northeast, northcentral, south, and west). Such a high level of aggregation makes it impossible, for example, to determine how much of the change in the northeast region is accounted for by venture capital firms in New York versus Boston. This distinction is particularly relevant since New York and Boston comprise two of the leading centers of venture capital, and because Boston venture capital is an integral part of the Route 128 innovation complex, while New York has no similar linkage.

The data also leave the impression that Northeast venture capital, especially New York, is as important as West Coast venture capital. A comparison of the spatial distribution of venture capital resources leads to a different conclusion, however. Here California is clearly on top, controlling \$7.2 billion or 30% of the venture capital pool. Venture capital in the Northeast is split between three self-contained centers, New York (\$5.2 billion), Massachusetts (\$3.2 billion), and Connecticut (\$1.3 billion).

Simply looking at where venture capital firms are headquartered creates additional difficulties. Take the issue of firm size. The Northeast in general and New York City in particular have more small venture capital firms and SBICs than northern California. A related issue involves multiple branch offices. New York City venture firms are establishing branch offices in northern California and Boston, while few California or Boston venture capitalists are opening New York City branches. The move toward branch offices located around "markets" for venture capital investments certainly merits further exploration.

The data on regional flows of funds also suffer from too high a level of aggregation.

The venture economics data that the authors use group individual centers of venture capital activity (e.g. New York, Boston, California) into broad regional categories. Thus it is virtually impossible to identify where venture capitalists in those centers are investing. In order to surmount this problem, we developed a firm level data base of investments for venture capital firms in major centers. Florida and Kenney (1988a) present preliminary findings from that data base.

More significantly, Leinbach and Amrhein overlook the spatial differentiation of the industry—i.e., how the organization and function of venture capital differs by place. Relying solely on the Venture Economics data, they contend that both California/Southwest and New York/New Jersey have the most “spatially extensive” investment patterns—a statement which obscures basic differences between these two important centers of venture capital. We have developed a typology of major venture capital complexes that demonstrates the differences between the various centers of venture capital. Finance-oriented venture capital complexes, like New York and Chicago, are located around concentrations of financial institutions and export much of their capital. Technology-oriented complexes, like northern California, are clustered around concentrations of technology-intensive enterprise, assume a local investment focus, and attract outside capital. The remaining complexes, most notably Boston, can be considered hybrids combining elements of both financial and technology-oriented venturing (Florida and Kenney 1988c).

Another important issue for the geography of venture capital is the process of coinvestment (Bygrave and Timmons 1986). More than 90% of venture investments take place in syndicates involving two or more venture capital firms. Syndication is the primary way that venture capital gets from financial centers like Chicago or New York to high technology centers such as Silicon Valley and Route 128. It involves at least one “lead investor” located within commuting distance of the portfolio company, who provides technical assistance and safeguards the interests of other investors. Coinvesting enables venture capitalists to diversify their portfolios and share risk.

Whereas Leinbach and Amrhein’s presentation may leave the impression that venture capital is characterized by a great deal of “long distance” investing, most venture capital investments are initiated locally and later “farmed out” to more distant investors. Coinvesting “loosens” but does not eliminate the spatial constraints on venture capital investing (Florida and Kenney 1988a). It creates a symbiotic relationship between venture capital firms in technology-oriented and financial complexes. The former typically initiate and service investments, while the latter provide needed infusions of capital.

The venture capital industry is distinguished by one, overwhelming spatial characteristic—agglomeration. Venture capital firms are tightly clustered in a few locations. In fact, one office complex in Palo Alto, California, houses dozens of venture capitalists with resources totaling in excess of \$1.5 billion. Recent research by Green and McNaughton (1987; McNaughton and Green 1986) conceptualizes venture capital in terms of Thorngren’s notion of “planning networks” which increase access to information, decrease uncertainty, and reduce investment risk. We view venture capital agglomerations differently, emphasizing the information intensive nature of venture investing, the networks and linkages upon which such investing is premised, and the opportunity costs associated with it. We also believe important insights can be gained by exploring venture capital agglomerations in light of industrial geography concepts like vertical disintegration (Scott 1986) and spatially sensitive transaction costs (Scott and Storper 1987), as well as the broader notion of flexible production complexes (Piore and Sabel 1984; Storper and Christopherson 1987; Storper and Scott 1988).

Literature Cited

- Bygrave, William, and Jeffry Timmons. 1986. Networking among venture capital firms. In *Frontiers of Entrepreneurship Research*, ed. Robert Ronstadt. Wellesley, MA: Babson College.
- Florida, Richard, and Martin Kenney. 1988a. Venture capital, high technology and regional development. *Regional Studies* 22:33-48.
- Florida, Richard, and Martin Kenney. 1988b. Venture capital-financed innovation and technological change in the U.S. *Research Policy* (forthcoming).
- Florida, Richard, and Martin Kenney. 1988c. Venture capital and high technology entrepreneurship: Technology, financial-oriented and hybrid complexes. *Journal of Business Venturing* (forthcoming).
- Green, Milford, and Rod McNaughton. 1987. Interurban variation in venture capital investment characteristics. Ontario: University of Western Ontario, Department of Geography.
- Kenney, Martin, and Richard Florida. 1988. Beyond mass production: Production and the labor process in Japan. *Politics and Society* (forthcoming).
- Leinbach, Thomas, and Carl Amrhein. 1987. A geography of the venture capital industry in the U.S. *The Professional Geographer* 39:146-58.
- McNaughton, Rod, and Milford Green. 1986. Patterns of venture capital investment in the United States. Ontario: University of Western Ontario, Department of Geography. Typescript.
- Piore, Michael, and Charles Sabel. 1984. *The Second Industrial Divide*. New York: Basic Books.
- Scott, Allen J. 1986. Industrial organization and location: The division of labor, the firm, and spatial process. *Economic Geography* 62:215-31.
- Scott, Allen J., and Michael Storper. 1987. High technology industry and regional development: A theoretical critique and reconstruction. *International Social Science Review* 112:215-32.
- Storper, Michael, and Susan Christopherson. 1987. Flexible specialization and regional industrial agglomerations: The case of the U.S. motion picture industry. *Annals of the Association of American Geographers* 77:103-17.
- Storper, Michael, and Allen J. Scott. 1988. The geographical foundations and social regulation of flexible production complexes. In *Territory and Social Reproduction*, ed. Jennifer Wolch and Michael Dear. Boston: Allen and Unwin.
- U.S. Congress Joint Economic Committee. 1984. *Venture Capital and Innovation*. Washington, DC: U.S. Government Printing Office.

* The authors would like to thank Gordon Clark, Andy Mair, and the editors for their helpful comments.

Professional Geographer, 40(2), 1988, pp. 217-218
 © Copyright 1988 by Association of American Geographers

Response to Florida and Kenney's Comment on "A Geography of the Venture Capital Industry in the U.S."

We appreciate the comment by Professors Florida and Kenney on our venture capital article and the opportunity to reply. Two primary concerns are raised: (1) lack of attention to the structure of the venture capital industry and (2) the geographic analysis which is based on highly aggregated data. We wish to reply with two points. First, the piece had the overriding objective of presenting within a limited space a broad treatment of the venture capital industry. As one of the first articles focusing on the venture capital theme in geography, we were encouraged to emphasize the historical development of the industry. This focus necessarily limited the extent to which we

Copyright of Professional Geographer is the property of Blackwell Publishing Limited and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.