

Japan's Network Economy: Structure, Persistence, and Change. By James R. Lincoln and Michael L. Gerlach. xx + 409 pp. New York: Cambridge University Press, 2004. Index, notes, bibliography, figures, tables. Cloth, \$80.00. ISBN: 0-521-45304-6.

Reviewed by W. Mark Fruin

James Lincoln and Michael Gerlach apply two kinds of network analysis, graph theoretic measures and blockmodel techniques, to conduct the most detailed structural analysis of Japanese business groups ever attempted, cramming sixty-five figures and tables into four hundred pages. They examine 259 of Japan's largest firms from 1980 to 1997, during which time the economy boomed and went bust.

Their goals appear to be threefold: first, to assess the degree to which Japan's postwar economy is distinguished by network forms of organization; second, to analyze the strength and cohesion of the so-called Big Six business groups; and third, to ascertain whether network forms of organization in Japan are waxing or waning in the twenty-first century.

Unfortunately, the book falls short of these goals. First, it fails to characterize the degree to which Japan's economy is "networked," because it does not develop or offer tools for measuring networking, either in Japan or cross-nationally. Instead it offers anecdotal, nonsystematic information about the pervasiveness of networking in Japan.

To meet the second goal, they examine the six large federations of firms in postwar Japan that make up what is known as the Big Six: three legacy or namesake groups (Mitsubishi, Mitsui, and Sumitomo), which have their origins in *zaibatsu* founded in the nineteenth century or earlier; and three nonlegacy groups (DKB, Fuyo, and Sanwa), which are composed of *shinko*, or "new," *zaibatsu* founded in the twentieth century. *Zaibatsu* were groups of diversified firms that appeared in the late nineteenth century following the sale of previously government-owned enterprises to private parties. Ownership in *zaibatsu* companies was closely held by families or family-controlled holding companies. DKB, Fuyo, and Sanwa were composed of new *zaibatsu* and other capital-intensive businesses that were organized around newly established city banks in the postwar period.

Lincoln and Gerlach measure the strength of network ties in the Big Six according to their success in four areas: lending, trade, shareholding, and director dispatch. They conclude that legacy groups are more cohesive than nonlegacy groups, but their data show the differences to be small. Differences are most apparent when individual firms fall into difficulty; during lean years, bankruptcy risk was more attenuated, and lending to support problematic operations was more apparent in legacy groups. In part, these results echo the earlier research of Iwao Nakatani and Takeo Hoshi, Anil Kashyap, and David Scharfstein.

That legacy groups are more cohesive is not surprising, given that they survived more or less intact from the prewar era. (The book does not plumb this issue, because it does not take up the history of the *zaibatsu*.) What is surprising is how small the differences are. For example, if buying and selling among Mitsubishi group firms amounted to between 16 and 18 percent of total sales in 1990, buying and selling among Fuyo or DKB group firms for the same year were only a few percentage points lower (see my book *The Japanese Enterprise System: Competitive Strategies and Cooperative Structures* [1994], 53–54, for a discussion of such figures and their meanings).

The authors decline to elaborate on this surprising relative lack of difference between legacy and nonlegacy groups, which is undoubtedly their most important finding, and they do not draw on four conceptual distinctions that could help to explain it.

First, the book does not discuss how numbers of firms in comparison groups affect results. (All else being equal, the larger the number of firms in a group, the more diversified the group will be. The more diversified the group, the lower its average profits and the higher its intragroup lending and perhaps more frequent its dispatch of directors will be.) Perhaps some feature of blockmodel analysis makes this less of a problem than I think it is.

Second, the book does not discuss how the composition of a business group by industry or sector affects either the group's behavior or the behavior of individual firms within a group. Since firms in nonlegacy groups were founded in the twentieth century, they are more likely than members of the legacy group to be more capital intensive and characterized by more scale, scope, and rapid throughput in their operations.

Third, the book contains no references to the burgeoning literature on business groups in emerging economies that first appeared in the mid-1990s. The literature argues that business groups compensate for market and government failures in emerging economies by cooperating with each other. Japan's business groups are likely to be similar in origin and function to business groups in today's emerging economies. This casts an entirely different light on Japanese business groups than the perspective offered by Lincoln and Gerlach, who characterize them as non-Western, culturally and/or perhaps regionally distinctive.

Fourth, the book fails to maintain a distinction between two very different kinds of business groups. All members of the Big Six are intermarket groups, called *kigyo shudan* or *kigyo gurupu* in Japan. That is, each group is composed of firms offering banking, trading, logistical support, engineering, and other specialized services to each other. (Such groups are sometimes called "horizontal groups," or "horizontal *keiretsu*" as Lincoln and Gerlach refer to them, but such phrases are misleading, because "horizontal" has specific meanings in the context of diversification strategies and antitrust law.) The other kind of group, called *keiretsu* in Japan, is based on vertical integration in production and distribution. Outputs of certain firms in a group are the inputs of others, as exemplified by Toyota Motor and its suppliers.

Intermarket and vertical groups are very different in structure, function, and market role. Although the book defines and distinguishes them early on, thereafter the book calls both sorts of groups *keiretsu* and lumps them together analytically. Separating the two might well yield different results and the failure to do so is a significant error in research design.

As to the last goal—determining whether networks are waxing or waning in twenty-first century Japan—the book is inconclusive. After dozens of pages discussing the apparent unraveling of nonlegacy groups in recent years, the book closes with a passage describing Professor Ronald Dore's insistence that the impact of late development and the role of goodwill in societies characterized by networking are critical for understanding Japan. In short, *Japan's Network Economy* has lofty goals and a detailed structural analysis, but it leaves its most pressing distinctions unmade and its

most tantalizing questions unanswered. For these, readers will have to await the next work from these obviously talented scholars.

*W. Mark Fruin is professor of strategy at the College of Business, San José State University, California. He is author of Knowledge Works: Managing Intellectual Capital at Toshiba (1997), and editor, with Jeffrey Liker and Paul Adler, of Remade in America: Transplanting and Transforming Japanese Production Systems (1999). His chapter "Business Groups and Interfirm Networks" will appear in the forthcoming Handbook of Business History, edited by Geoffrey Jones and Jonathan Zeitlin.*