

Edna Bonacich, Sociology, UCR

Labor and the Global Logistics Revolution

I am working on a book that focuses on the ports of Los Angeles/Long Beach as a critical node in the global production and distribution system. Each of these ports is the largest container port in the US. Together they are the third largest container port in the world. They serve as a major gateway for the importing of manufactured goods from Asia, especially China. Most of the imported goods are distributed to the rest of the United States intermodally—by a combination of truck and rail.

The book is divided into three sections. Part I examines the logistics revolution, involving a shift from push to pull production, and the development of logistics as a “science” of supply chain management. A concomitant of this revolution has been the increased power of retailers (commercial capital), who now dominate the importing of manufactured goods. This shift in power has implications both for producers/

manufacturers, who are being forced to move offshore in the pressure to lower prices, and for logistics (transportation and warehousing) providers, who have also been forced to rationalize and cut costs. Wal-Mart is a leader in these changes. As the world’s largest corporation in terms of sales, it is also the US’s largest importer, and exercises considerable muscle over processes of production and distribution.

Part II turns to the question of how the freight is moved. I examine the rise of the Southern California ports, as a product of the development of intermodal transportation, so that ships from Asia can discharge cargo on the West Coast, and need not sail to the East, although it is the major center of economic activity in the US. I consider the major steamship lines which transport containers, and the role they play in intermodal freight transportation. I also look at ground transportation, including the port trucking companies, which dray containers to rail heads and warehouses, the railroads, which transport goods to the rest of the country, and TL trucking companies, which increasingly combine with the railroads for national transportation purposes. These transportation industries have all experienced deregulation since the late 1970s, and have undergone major restructuring and consolidation. Finally, I turn to warehousing and distribution centers (DCs) in Southern California, which has become a major center for the transloading of cargo into domestic containers and trailers. The West End of the Inland Empire has developing into a DC powerhouse for many of the US’s largest corporations, including the giant retailers. Some corporations have outsourced their logistics functions to third parties, known as 3PLs, a sector that has grown in recent years. The development of this giant importing complex has created serious problems in terms of congestion and pollution, leading to community rebellions of various kinds.

In Part III we turn to the implications for labor. The logistics revolution has led to a definite decline in logistics costs, in part by increasing efficiency and turn around time. Principles of just-in-time (JIT) are now being applied throughout the system and up to the retailer level. The goal is to have goods constantly in motion. Our question is: how much of the cut in logistics can be accounted for by cutting labor costs, and how much have logistics workers been hurt by these changes? Various groups of workers are considered: seafarers on the container vessels, longshore workers, railroad workers, port truckers, long haul truckers, and warehouse and DC workers. While there is considerable variation among them, with each group facing its own unique circumstances, there has been a

tendency to increase the use of contingent workers, and to weaken the transportation unions. The West Coast longshore workers and their union, the ILWU, remain a stark exception, but efforts have been underway for a period to break their hold on a strategic node in the distribution system.

Finally, we end with the political implications of the study. As a critical gateway for Asian production, the ports of LA/LB (and other Western hemisphere container ports) serve as a bottleneck in the system. Given the need for the timely and continual flow of goods, a vulnerability has become evident. This West Coast ten-day lockout of the ILWU in late 2003 demonstrated the weakness, as it was estimated that the country's businesses lost at least \$1 billion a day. This weakness could be used by labor to develop coalitions between Asian production workers and local distribution workers to place demands for change of the current corporate-dominated system of global production and distribution. A question arises: if we were in a position to rewrite the rules of the game, what would we ask for?

Implications for GIS and Network Analysis

The logistics system is a highly networked phenomenon. Let us take a company like Wal-Mart as an example. They employ hundreds, perhaps thousands of suppliers around the world. These companies produce the goods that Wal-Mart sells, often to Wal-Mart's specifications. Wal-Mart also employs numerous service providers, including transportation and warehousing companies. For example, while they use almost every steamship line, they have a special relationship with Maersk, the largest steamship company in the world which operates Terminal 400 at the Port of LA. They also use the BNSF railroad (as opposed to Union Pacific), and, though they have their own trucking fleet, they have a strong relationship with J.B. Hunt trucking company, and use Schneider. They employ Exel as the 3PL that runs their giant (2.7 million square feet) DC in the Inland Empire. And so on. All of these relationships are contingent. Hardly any involve long-term contracts, so they shift, depending on cost and availability. Any network that one could map would have to be considered as short-term or even momentary. Yet there are undoubtedly some stabler patterns among the shifting sands.

In principle, each container could be tracked, from its origins in Asia to its destination in the U.S. Moreover, if the container is transloaded in the LA basin, as is becoming more common, the goods that are in it could all be tracked. Since every parcel is bar-coded, and since now more companies are instituting RFID (radio frequency identification) under compulsion from Wal-Mart, the entire supply chain is increasingly transparent to the shipper (importer). The shippers are getting to the point where they are able to track everything, and to locate exactly where it is at each moment. Getting access to these kinds of data might well be a GIS expert's dream come true, although the volume of information is overwhelming. The problem is that the information is all proprietary, and the companies are exceedingly secretive. They don't want others to know who their Asian contractors are, let alone what they are producing and how it is being moved. Some information is forced out of them by Customs, and increasingly in the name of national security, but there is still plenty of obfuscation. For example, PIERS, the subsidiary of the Journal of Commerce that collects detailed information on Bills of Lading, and analyzes and sells it for exorbitant fees, is notoriously inaccurate at the firm level because the companies hide their identity behind 3PLs or find other ways not to reveal who is the real shipper. Every year the Journal of Commerce puts out a list of the top 100 importers (and exporters) by number of TEUs, and this requires extensive additional research to come up with even ball-park estimates.

Even the mapping of what comes through the ports is made difficult by the fact that the Customs District is not confined to the ports of LA/LB themselves, but includes all the airports in the district as

well as a couple of nearby smaller ports. The ports themselves collect data, but it is not clear to me whether it is any better than the PIERS data, and again it is proprietary, so they are generally unwilling to share it.

If someone were to get serious about trying to map and develop a network analysis of even a small portion of these data, I think what would be required would be either a close relationship with Customs so that they would be willing to share the data (though it is hard to imagine that they would provide confidential and proprietary information), or a close relationship with a particular company such that it would allow one to look at its data, or cozying up to a logistics consulting firm that might be willing to share data on one of its clients (again, very unlikely), or spending suitcases of money analyzing PIERS data with the full knowledge that it is flawed, or hacking into some company's logistics system. Short of this, I think we can get some bigger picture connections, based on piecing together various sources of information. In following Wal-Mart around a bit, I did discover some information about their logistics providers. But this is a broad brush investigation. They are secretive to the point of paranoia, and I have found it impossible to get a direct interview with one of their logistics people.