The Logistics Industry - Quo Vadis?

by

Manfred Keil, Johannes Moenius, and Ivan Kolesnikov[1]

The Logistics industry, consisting of the sectors Transportation and Warehousing, and Wholesale Trade, plays an increasingly large role in the Inland Empire (San Bernardino County, Riverside County). According to *The Economist* magazine, the region has become the Warehouse capital of the world. Using seasonally unadjusted data from the California Employment Development Department (EDD), the industry has added almost 160,000 jobs since 2010, 110,000 alone in Warehousing and Storage. In percentage terms, this means that the logistics industry has grown by almost 125% and the warehousing and storage sector alone by 10,000 or more than 600% over the last 13 years. Total (nonfarm) employment in the Inland Empire went up by roughly 525,000 people – a 46% increase – over the same period. Hence almost one third of all the jobs created in the area since 2010 have been in Logistics. The industry is now the second largest employer in the Inland Empire with one in every six workers, or 16% of all workers, share in total employment, only outranked by Private Education and Health which has some 12,000 more jobs.

This picture is far from what we observe for the state and the nation. For both California and the U.S. the share of the Logistics industry is approximately 8%. Both state and national employment in this industry has increased by 39% and 33%, respectively, since 2010. Both the numbers are far below the Inland Empire's experience: compared to 294,000 jobs created in Logistics in the Rest of California since 2010, the Inland Empire saw a gain of 108,000, or more than a third of that number.

The Logistics industry has also been the poster child of the economic recovery from the Coronavirus recession. From May 2020 to December 2021, the industry provided a total of 69,000 new jobs, equivalent to more than a quarter of all jobs created in the Inland Empire. Out of the 10 most populous Metropolitan Statistical Areas (MSAs) in California, the Inland Empire had the largest employment increase (in percent) during that time period. By comparison, Silicon Valley saw a gain of 114,000 workers (11%).

Given these record-breaking developments, it would seem that there is little to worry about for the Logistics industry. Unfortunately that is not true. The industry has experienced employment

[1] Keil: Chief Economist, Inland Empire Economic Partnership, Associate Director, Lowe Institute of Political Economy, Robert Day School of Economics and Finance, Claremont McKenna College; Moenius, Inland Empire Economic Council, Director, Institute for Spatial Economic Analysis, University of Redlands School of Business and Society; Kolesnikov: Senior Research Analyst, Lowe Institute of Political Economy

losses of over 20,000 jobs (7.1%) since December 2021. This significant decline is both worrisome and puzzling as it is unique to the Inland Empire: our adjacent coastal counties (Los Angeles County, Orange County) and the U.S. overall saw growth in this industry during that time. There are three candidates that could explain this phenomenon - each one being sufficiently different to require distinctive policy responses. The cause could be (i) *cyclical*, or related to the national business cycle, or (ii) *structural*, as in the flow of goods through transportation undergoing a dramatic change everywhere, or (iii) *automation*, which results in labor saving techniques, with workers being replaced by machines.

Let's elaborate on the three points. Demand for logistics depends on the level of economic activity or, more specifically, the amount of goods produced that need to be shipped. In addition, you have to consider its spatial organization, meaning you have to consider where the products are made and how far they need to be shipped. If we produce or import fewer manufacturing goods, we need fewer logistics services. If we buy more services and fewer goods, specifically online, we need fewer logistic services. And finally, if we provide logistics services more efficiently, we may see fewer logistics jobs.

This suggests examining major influencing factors for the Inland Empire, namely: changes in imports through the ports of Long Beach and Los Angeles, changes in manufacturing output, changes in retail sales, specifically online, whether logistics jobs moved to our county neighbors, and finally automation of logistics jobs.

First, container traffic at the ports. Container imports have indeed fallen by about 10% since the decline in logistics jobs began - clearly more than the decline in logistics jobs in the Inland Empire. However, the massive growth in logistics jobs happened while imports at the ports were flat. Even if imports were able to explain the recent decline, whatever drove the growth before must have also stopped growing right at the same time. The threat of a railway strike and the threat of strikes at the ports may have resulted in companies diverting imported goods to other harbors, although that is not trivial given the current problems facing the Panama Canal with the drought in the area surrounding the inner lake.

Next, retail sales: if U.S. data is a guide, retail sales have gone up by more than 5% since the logistics labor decline in the Inland Empire began. Moreover, the share of retail sales made online increased from 14.5% to 15.4% - roughly a 6% climb. Therefore logistics employment should have increased, even if we take a one percentage point shift towards spending on services into account.

There is also the possibility of logistics jobs in the Inland Empire having moved to our neighbors in adjacent counties. Some of them might have - when the Inland Empire saw much of its logistics job numbers decline, logistics jobs were still increasing in our neighboring counties.

However, given the relative size of the industry in those counties as compared to the Inland Empire, this does not seem to explain a substantial amount, if any.

Manufacturing provides no clear indication either as there was no significant change in manufacturing employment since the decline in logistics jobs started. So we are left with automation. Upfront, it is highly unlikely that the introduction of ChatGPT could have triggered a massive automation wave in the Inland Empire. It affects commuters more likely, and these are not counted in the Inland Empire establishment survey employment numbers. While logistics companies did report efficiency-improving organizational changes, technology implementation takes time as it requires planning, setting up machines and robots, and then training them. Moreover, such automation would have to be equally prevalent in our neighboring counties, which we do not see in the data.

The bottom line: lower imports likely contributed to some of the slowdown, but much of that should have been compensated by increased retail sales, specifically online. We are therefore stuck with a mystery, but one that may have a simple alternative explanation – over-hiring due to labor hoarding: in a tight job-market, logistics companies may have tried to secure additional staff to be prepared, expecting the rapid historical expansion to continue. When this demand increase in logistics services did not materialize, they may have adjusted their hiring thus contributing to an easing in the labor market. Combined with increased uncertainty about the onset of a recession and lower hiring needs due to the implemented organizational efficiencies, these three factors combined signaled that there was less need for labor hoarding anymore, triggering a self-fulfilling prophecy. As a consequence, we may only see this recent decline as a necessary adjustment to new economic realities, and this may be a good thing. As new data will become available, we will have a better idea about whether this conjecture is true.