Causal Inference - Paper Review

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In the paper *The Impact of the Mariel Boatlift on the Miami Labor Market*, David Card did a study on the impact of a sudden increase of less-skilled labor supply of Cuban immigrants on Miami's labor market during and after the Mariel Boatlift event in 1980, especially the influences on the wage level and unemployment rate of different groups of people in Miami. Specifically, the large influx of Cuban immigrants has increased Miami's workforce by nearly 7% at that time. This change should pose a threat to the labor market, but in Miami, neither local native workers nor low-skilled workers, nor even former Cuban immigrant workers, have been affected significantly. The author confirmed the occurrence of this phenomenon through many comparative and research methods, such as Difference-in-Differences (DID), and further discussed the possible causes of this phenomenon.

Firstly, for this paper, the causal parameter that the author tried to estimate is the Average Treatment Effect on the Treated (ATT), that is the average causal effect of the Cuban immigrants from Mariel Boatlift on the wages and unemployment rates among workers of different groups in Miami, especially the low-skilled workers, if the parallel trends assumption holds. The author's primary focus was on estimating whether the influx of low-skilled Cuban workers caused a decline in wages or an increase in unemployment rate for this demographic. This causal parameter is pretty important for the policy to address the broader question of whether immigration depresses labor market outcomes for native workers, which is a contentious part of immigration policy debates for many years. So, focusing on low-skilled workers, the study engaged with one of the most vulnerable groups in labor markets. In addition, another causal

parameter of estimating the effects of immigrants on other labor groups, such as high-skilled workers or non-Cuban minorities, would provide a more comprehensive view of immigration's impact on labor market. And if the impact of immigration on the local labor market in more cities can be studied, we can also draw conclusions and policies that are more applicable to most regions, which will be very beneficial to the national and global economy for a long time. The author's interpretation of the causal parameter presented in the paper about impacts of Cuban immigration on Miami's labor market is clear and well-supported by many data analysis. Although the data used in the study are not strict panel data that covers the same individual units repeatedly across different time periods, the "individual micro-data for 1979-85 from the merged outgoing rotation group samples of the Current Population Survey (CPS)" could approximate the analysis of panel data for Difference-in-Differences (DID). So, CPS provided large samples for the Miami metropolitan area in different years, allowing for the comparisons before and after the event. The study also emphasized on the Miami labor market's flexible nature and prior history with large immigrant flows, improving the contextual credibility of the interpretation.

Secondly, the author identified the parameter through employing the Difference-in-Differences (DID) methodology. He compared the similar data between Miami and four control cities (Atlanta, Houston, Los Angeles, and Tampa-St. Petersburg) over time, focusing on groups of whites, blacks, and Hispanics. The key assumption is the parallel trends assumption, which means that if there was no Mariel Boatlift event or no such an increase of Cuban immigrants in Miami, Miami's labor market would have evolved the same way as those of the control cities. There are four ways to consider whether parallel trends assumptions make sense here. In the paper, the author indicated that these four control cities were selected mainly because of their pattern of economic growth similar to that in Miami over the late 1970s and early 1980s. Based

on established data, the comparison of employment growth rates suggested that economic conditions were very similar in Miami and the average of the four comparison cities between 1976 and 1984. So, the treated (Miami) and the untreated (control cities) groups were fundamentally similar in characteristics relevant to labor markets. Then the Mariel Boatlift was considered random in the context of the study because of its unauthorized nature and little precise information about this immigration plan and was not influenced by labor market conditions or other economic factors in Miami. So, Miami's selection as the treated group in this study was unlikely caused by preexisting reasons. Next, the event was sudden and unanticipated, since all the employers, workers, and policymakers in Miami could not have foreseen and prepared for the sudden increase of immigrants, meaning that there was no time for them to make strategic behavior to affect the labor market conditions prior to the Boatlift. Moreover, the data statistics in Table 3 and Table 4 in the paper also pointed out that the wage and unemployment trends for Miami and the control cities before the treatment showed similar trajectories, indicating that these cities were evolving parallel before the Mariel Boatlift. The recession during 1980s in U.S. further bolstered the assumption, as Miami and the control cities were all exposed to the same macroeconomic context. Therefore, the author tested these assumptions by comparing real data of different population groups and cities to make them more convincing.

Finally, based on these assumptions, the author evaluated specific subgroups, including non-Cuban Hispanics, Black workers, and White workers, to determine whether the influx affected different segments of the labor market or not. Using DID, the labor market outcomes were compared before and after the Mariel Boatlift to capture the potential effects of the Mariel immigrants entering the Miami labor market. The treatment effect of the difference in the

changes in the wages and unemployment rates between the Miami and the control cities was calculated with DID. The author found no significant declines in wages or increases in unemployment rates for low-skilled workers in Miami relative to the control cities, which is a key finding that supports the conclusion that Miami's labor market absorbed the immigrant influx successfully. To evaluate the degree of confidence we should have in the estimates and to do the statistical inference of the paper, we can consider about some potential errors. The author used repeated data from CPS over time, which may cause serial autocorrelation in the treatment and control groups, leading to underestimated standard errors and inaccurate statistical significance of the results. We may use clustered standard errors at the city level account for that autocorrelation, but there is no a large number of clusters in the study of the paper. So maybe we can study on more different cities or on a larger level of clusters by this way or apply robust standard errors. Similarly, the issue of intra-group correlations still exists. Since Miami was treated as one aggregate unit and the individuals within the labor market shared a common economic condition, they were very likely correlated. This may have affected the precision of the study's estimates. The author can do inference by a permutation test to evaluate the significance of estimates through comparing the actual treatment effect to a distribution of many simulations generated by randomly assigning treatment to other groups. This can help to increase the confidence of the statistical inference of the study.

In conclusion, the study of the Mariel Boatlift in the paper provides compelling evidence to conclude that a sudden influx of low-skilled immigrants actually did not harm the wages or employment of the workers in Miami labor market. And the use of DID method also provided a great example for analyzing similar natural experiments. Although some assumptions and statistical inference still have some challenges, and the context of the study may not appropriate

for all conditions, the study's findings remain influential and helpful for many immigration

policy debates.