Automation, Job Losses, and Political Polarization

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Extended Abstract

In recent years, in advanced democracies there has been a wave of electoral successes of populist politicians, supporting extreme messages. The outcome of the Brexit vote and the elections of Donald Trump as a President of the United States came as an unexpected shock to both markets and observers. Populist and extremist parties have been attracting votes in the recent elections in Germany, Greece, Italy, Spain, and France. Far right parties got substantial representation in Austria, Switzerland, and Denmark. Full costs of these electoral successes are yet to be realized.

Journalists and politicians blamed the economic crisis, and associated shocks and uncertainties, for these events. At the same time, populism is not necessarily a rational self-interested response to people’s economic problems and people who support these policies are not the ones that stand to win from populist policies. In fact, it may well make populist voters materially worse off. For example, in UK Brexit agenda got the most support in regions, which were most dependent on EU transfers and have most to lose. What are the causes of the increased popularity of populism during the recent years? Is populism caused by negative economic shocks? If so, what are the mechanisms? What are the individual characteristics and experiences of the voters supporting populism? Does information environment matter for a potential impact of the crisis? How do people stop supporting extremists and/or start fighting against it? These are the questions that we address this paper.

In the first part of the paper, we study how personal employment histories, potentially affected by globalization and technological change, influenced people’s support of Trump during the 2016 general elections. The main hypothesis is that the populist support is a result of an interaction between aggregate-level labor shocks, informational environment, and individual-level predispositions to populist messages. To study these questions, we use a unique database of more than 20 million resumes collected over the period 2010-2016, the largest available repository of resumes of people looking for jobs in the US, which was not used in academic research before. Using various economic shocks together with individual economic experiences and individual predispositions, we can tell how globalization and technological change brought on by automation of manufacturing jobs interact with
individual predispositions and information environment to shape people’s decisions to support a populist politician.

We use data from Burning Glass Technologies, the largest depository of the resumes, available online in the United States. This data combines all resumes posted at any point in time at 40,000 online boards, such as monster.com, LinkedIn, YahooCareers and the like. In particular, we have access to 20 million resumes for the years 2010-2016 coming from 379 out of 388 Metropolitan Statistical Areas in the United States. According to Pew Research Center (Pew 2015), 79% of American job seekers use online resources to find a job. Thus, this dataset covers a majority of people looking for a job in the U.S. during the time period in question. With this unique data, we study several related questions. First, what are particular employment shocks that made people more likely to vote for Trump, be it long unemployment spells, switching away from the industry of primary employment, or moving to a lower-ranked position. Second, which aggregate shocks are the most responsible for Trump support, be it globalization shocks, automation shocks, or oil price shocks. Third, how do these shocks interact with predispositions to support populist politicians, as reflected by the type of education and previous volunteering or social experiences. Finally, how do these shocks interact with information environment, such as having easier access to Fox News or being more exposed to Trump tweets because of having subscribed to politicians with a particular tweeting style in the news feeds in the summer of 2015, before Trump became a candidate?

We combine the resume data with data on three diverse economic shocks: the globalization shock, as proxied by competition with China (as standard in the literature, see e.g. Autor et al. 2013, 2016); the technological change shock, as proxied by local industry composition combined with changes in industry-level automation at the country level (this is a new approach to identification, as this data was mostly used for correlational analysis, e.g. in Acemoglu and Restrepo 2017, Fang and Yildirim, 2017; Presidente 2017); and oil price shocks, combined with local sensitivity to oil prices shocks (papers using this approach to study the impact of shocks on economic outcomes include Acemoglu et al. 2013, Feyrer et al. 2017). We complement this data with Fox News accessibility (Martin and Yurukoglu 2017) and aggregated data from Twitter feeds of followers of politicians in Congress and tweeting styles of these politicians (from Petrova, Sen, and Yildirim 2017). In the end, we can tell what kind of people are more likely to be swayed by populist rhetoric, what is the impact of information environment, and which economic shocks are likely to be the most influential.

More specifically, we first identify negative individual-level economic shocks using resumes. We consider the following variables: the length of unemployment, switching to a lower-ranked position, switching to a new industry. We instrument these individual economic negative experiences with one of three local economic shocks, outlined above: globalization, automation, and oil prices. Then we estimate potential predispositions to populist/extreme messages, such as having high-school education, having university-level education, history of volunteering, military service in the past, and the history of voluntary participation in various organizations. Finally, we match individual-level data with zip code level voting for Trump. We do the baseline estimation at the zip code level, aggregating interactions, computed at the individual level.
Our findings show that it is not the mere levels of unemployment resulting from automation that influences polarization, but the duration and the length of unemployment. More extreme political preferences are observed for individuals whose unemployment periods stretch longer.