Shrinking and shouting: the political revolt of the declining middle in times of employment polarization

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Abstract
Automation, digitalization and smart software fundamentally reshape the employment structure of post-industrial societies. The share of routine jobs is constantly shrinking while non-routine jobs at both ends of the skill distribution tend to grow. We contend that the existing political science literature has not sufficiently connected the distributive implications of technological change with contemporary political disruptions. The fact that disadvantages are strongly concentrated among blue- and white-collar routine workers in the lower middle class is of crucial importance. Routine workers are a large and electorally relevant group with all the necessary means for political participation. Increasingly bleak prospects in the labor markets of tomorrow create a demand for social, cultural, and economic protectionism. Socially conservative parties in general and right-wing populist parties in particular have recognized the electoral potential of disaffected routine workers and skillfully address and acknowledge their anxieties. We conclude that a lower middle class no longer protected from the vagaries of economic modernization is a potential electoral game changer.

Keywords
Technological change, employment polarization, middle class, routine work, radical right, populism, digitalization

Technological change profoundly transforms the world of work and creates substantial uncertainty about workers’ fortunes in the labor markets of tomorrow. This paper argues that the very particular distributive consequences of technological change have considerable political implications. In contrast to other structural economic developments like deindustrialization or globalization that have been shown to primarily hit the lowest skilled workers, the adverse effects of new technologies first and foremost affect routine workers in the middle of the earnings- and skill distribution. Employment polarization puts unprecedented strain on a politically relevant part of society that has long benefited from economic stability and the prospect of upward mobility: the lower middle class. In this paper, as well as in the whole special issue, we contend that this “shrinking and shouting” middle is a core driver behind the political turmoil observed in many post-industrial societies.

A lack of analysis of the political consequences of technological change
The current debate about the future of work features quite distinct perspectives on the labor market of tomorrow. While tech optimists point to a long history of misdirected fears of “the end of work” and technological unemployment, pessimists argue that historical evidence is of limited value because the pace of innovation is unprecedented with advances in technology affecting jobs more brutally than ever before. We take as a point of departure what might be the smallest common denominator between both perspectives: at least temporarily, automation and digitalization create a period of major adjustment and displacement on labor markets. New jobs emerge and old jobs disappear, what separates optimists from pessimists is their perception of how well, how smoothly and how quickly societies get over this period of transition (Kessler, 2017). Yet, we contend that such a period of profound economic adjustment creates...
politically relevant grievances no matter whether the optimistic or pessimistic tale will prevail in the long-term.

Rapid advances in automation and computerization push us into a new era where many existing skills and competencies become increasingly redundant. Evidence shows that technology is the most important driving force behind current changing employment structure and tends to outperform international trade as an explanation of the rise in inequality and job polarization observed in recent years (Autor, 2015; Goos et al., 2014). However, while a broad literature examines political implications of other recent economic transformations such as globalization and international trade (Autor et al., 2016; Colantone and Stanig, 2018; Margalit, 2011), empirical evidence on the political consequences of technological change is relatively scarce (notable exceptions are Thewissen and Rueda, 2017; Frey et al., 2018).

There are comprehensible reasons for a lack of an explicit discussion of the political consequences of technological change among politicians and political scientists alike. For politicians and governments, discussing workplace automation is an unrewarding task because the remedies against its adverse effects are not obvious. In contrast to immigration or trade, for which walls and tariffs provide intuitive or at least media-effective answers, the political response to technological progress is tricky. Technological change only gradually alters the employment structure. Jobs are eliminated over a long period of time, usually without highly visible events like a plant closing that lend themselves for a headline or tweet (Davenport, 2017). Furthermore, straightforward policy reactions seem in direct conflict with governments’ economic goals of growth and rising productivity. For example, the recently debated tax on robots is associated with a fairly hostile attitude toward innovation and business. This makes government parties rather unlikely advocates of such policies. As Davenport (2017) writes: “[A]utomation usually comes with corporate investment rather than cutbacks. [...] Who wants to criticize that?” Without the capacity to offer comprehensive solutions, political actors might prefer not to confront the issue all too actively.

The gradual nature of technology-induced occupational change and the complexity of its underlying distributive processes also hamper scientific analyses of political repercussions. Employment polarization happens slowly over cohorts or even generations (Cortes, 2016; Kurer and Gallego, 2019). This implies that a systematic analysis of the political consequences of technological change needs to very carefully examine the actual occupational transitions that underlie the aggregate pattern of employment polarization. While “import shocks” from international trade have attractive properties for the empirical identification of economic (Autor et al., 2013) and political outcomes (Colantone and Stanig, 2018), the slow but momentous impact of technological change is more difficult to capture. If jobs are gradually eliminated over time and a significant proportion of affected workers manages to “survive” in an occupational environment of structural decline, the usual measures of economic hardship might not suffice to capture grievances among the disadvantaged (Kurer, 2017). The study of the political consequences of technological change thus demands innovation and precision on both the conceptual and the empirical front, which might explain the scarcity of existing work on the subject.

**Distributional implications of job polarization**

We argue that political scientists should have a keen interest in the under-explored relationship between technological change and the political turmoil that has recently disrupted many post-industrial democracies. We do not believe that Brexit, Trump, or the alarming success of radical right parties in almost all European countries should be interpreted as mere “electoral accidents.” Instead, we suggest that the current destructuring of political systems is connected to the profound transformation of labor markets in times of automation. Our core argument is that the specific distributive effects of current technological innovations are key to understanding their political implications: while other structural transformations, first of all globalization, primarily hit low-skilled workers, the adverse consequences of technological change strike right in the middle of society.

The literature on the distributional implications of globalization emphasizes that in advanced economies, exporting capital-intensive goods, low-skilled workers are “unambiguously worse off” as a result of trade liberalization (Rodrik, 2018; see also, e.g., Conconi et al., 2018). In contrast, studying the distributive implications of technological innovation, Autor et al. (2003) established that computers are particularly powerful in replacing routine jobs characterized by tasks that follow explicit, clearly defined rules. At the same time, non-routine jobs, even those with limited skill requirements, are complemented rather than substituted by new technology. The disadvantages of new technologies at the workplace are thus strongly concentrated among middle-skilled routine workers (both in the manufacturing and service sectors) who prove susceptible to automation. In its pure form, this pattern of routine-biased technological change results in employment polarization, characterized by a strong decline in routine jobs and growing opportunities in non-routine jobs at both ends of the skill- and earnings distribution. Figure 1 shows relative changes in employment since the 1990s. For country-specific patterns, see Figure 1 in the Supplemental Material. Distinct institutional set-ups obviously create different shapes of the employment structure, leading to more or less pronounced patterns of polarization (Fernandez-Macias,
However, the “hollowing of the middle” is strikingly consistent all across Europe. Therefore, even if we do not observe perfectly balanced growth in both kinds of non-routine work, we think that polarization is an appropriate term to describe recent trends in post-industrial labor markets.

Job polarization as driver of economic, social and political change

From a political science perspective, this disproportionate strain on routine workers is of crucial importance. Technology-induced employment polarization does not only affect mid-skilled blue-collar routine jobs in production, e.g., machine operators, but also seriously threatens many routine jobs in back offices and administration, e.g., secretaries or bank tellers (Peugny, 2019). Such white-collar occupations have faced much less pressure from international trade and offshoring. A large part of routine jobs are occupations “at the fringes of the lower-middle class” that require certain skills and training, used to secure middle-range wages and thus provided for a relatively comfortable standard of living (Oesch, 2015). But in the face of rapid technological change, the experience of “collective ascent” (Mau, 2015) for the lower middle class increasingly appears as a thing of the past.

Automation and digitalization jeopardize upward mobility for moderately skilled routine workers. Peugny (2019) shows that expanding occupations in the lower skilled (service) sector, evident alternatives in the face of shrinking opportunities in routine work, are on average not only low-pay jobs but also low-quality jobs: precarious working conditions are widespread in non-routine manual or interpersonal work. Furthermore, technological change tends to complicate trade union organization (Meyer and Biegert, 2019). Increasingly bleak prospects in mid-skilled routine jobs in combination with even less attractive alternatives highlight the delicate situation of the lower middle class in times of automation.

That said, while fears of falling down the social scale are certainly well-founded, many routine workers actually manage to avoid the experience of economic hardship. Routine work often disappears through “natural turnover,” that is lower entry and higher exit rates, and only a minority effectively ends up unemployed (Cortes, 2016). Although “survivors” in routine work face economic stagnation compared with highly skilled and highly specialized non-routine workers who benefit from technological complementaries (Kurer and Gallego, 2019), they have and keep the traits of (former) labor market insiders with salaries above the lowest ones and with permanent job contracts. This aspect makes political repercussions highly likely. Routine workers are a large and electorally relevant group with the capacity to actively voice dissatisfaction in the political arena. A lower middle class no longer protected from the vagaries of economic modernization and in fear of losing its acquired position in society is a potential electoral game changer.

We contend that the existing political science literature has not sufficiently and systematically connected the distributive implications of technological change with contemporary changes in the political landscapes of many advanced capitalist democracies. Standard approaches to examine political reactions to structural economic transformations are likely to fall short of providing encompassing answers given the unusual position of the losers in the (lower) middle. Although threatened by work automation, the large majority of routine workers is doing relatively well in absolute terms and does not suffer from poverty or acute economic hardship. A focus on the usual indicators of economic disadvantage, e.g., low income, unemployment, or precarious working conditions, will not fully capture routine workers’ grievances. For example, the most influential strand of research on political reactions to economic risk in recent years, the dualization literature (Emmenegger et al., 2012; Rueda, 2005), is not well-suited to analyze the fate of routine workers since it emphasizes the problems of labor market outsiders without analyzing the fears of the lower middle class (i.e., the fear of becoming an outsider).
In order to detect political reactions to technological change, we need more fine-grained measures of economic insecurity among precisely defined groups.

**Mechanisms linking job polarization and political behavior**

The relative economic decline of historically dominant core groups is a likely source of discontent and insecurity and a nascent literature has linked these perceptions to an increased demand for social conservatism in the political arena. Two recent studies focusing on the economic roots of authoritarian and socially conservative preferences, respectively, provide an explicit theoretical discussion of the underlying mechanisms based either on a negative change in social identity or a sense of a loss of control (Ballard-Rosa et al., 2018; De Vries et al., 2018). In a similar vein, a relatively novel literature on demand-side factors of right-wing populist parties emphasizes the role of societal pessimism and nostalgia among losers of economic modernization (Gest et al., 2017; Steenvoorden and Harteveld, 2018). What both types of argument have in common is the emphasis on a gradual shift in relative societal position that creates a specific perception of insecurity and loss of control, which can even emerge in the absence of absolute material hardship. As a consequence, we might not observe the strongest political reaction among the hardest-hit but rather among those who are most concerned about their economic well-being and future prospects in the labor market (Im et al., 2019; Kurer, 2017). The recent rise of the “gilet jaune” movement in France is an apt illustration of our argument since most protesters do have jobs but are increasingly concerned about making ends meet.

The emphasis on relatively subtle mechanisms in routine workers’ perceived position in the social hierarchy has two important implications. First, the observed political disruptions are hardly a sudden and conscious revolt against automation. Rather, the demand for socially conservative parties is a consequence of a gradual change in preferences and later electoral decision-making. Second, and directly related, such a more subtle process implies that the political outcomes we are interested in are not uniquely caused by technological change. Such a mono-causal explanation is certainly at odds with the multifaceted drivers of voters’ economic fortune and perceptions thereof. However, while perhaps not the only driver, we contend that technological change is a main driver behind economic and social polarization and the demise of the lower middle class, which itself is feeding political turmoil.

The most recent literature has become increasingly skeptical toward an overly simple narrative emphasizing direct effects of material disadvantage and economic hardship (e.g., Antonucci et al., 2017; Gidron and Hall, 2017; Mutz, 2018). For example, Antonucci et al. show on the basis of the British Election Study that the typical Leave voter does not fit the image of an angry, unskilled and perhaps even unemployed outsider. Rather, voting Leave is associated with intermediate classes who suffer from a perceived decline in their economic position.

This description very much resembles our understanding of routine occupations: moderately skilled but increasingly less valued work with rather bleak prospects in labor markets due to susceptibility to automation. Based on comparative survey data, Im et al. (2019) confirm the conjecture that the endangered prospect of social upward mobility among routine workers is a powerful driver of political behavior, and they provide empirical evidence for one of the guiding hypotheses of this special issue: the risk of automation is positively related to support for social conservatism. Given that structural transformations in the economy create uncertainty, which in turn increases the demand for socially conservative policies, the mainstream right as well as the (populist) radical right might appeal to losers of automation. However, we expect that right-wing populist parties are more successful in this endeavor. According to expert surveys, in most cases their actual position on social conservatism is more pronounced than the one of mainstream right parties. In addition, they very often have the benefit of the newcomer who has not been part of the machine, which after all is (made) responsible for the state of the matters. By implication, we would expect mainstream right parties’ attempts to mobilize said constituency to remain relatively unsuccessful in the presence of a more radical competitor on the right. This reasoning is indeed confirmed by existing empirical work, including one of the contributions to the special issue (Burgoon et al., 2018; Im et al., 2019; Kurer, 2017).

Political actors promoting socially conservative platforms have identified the still significantly large group of routine workers as electorally relevant and actively seek to gain their support at the ballot box. Anecdotal evidence is abound. Donald Trump carried Rust Belt states on the promise of reviving industries and ending job loss and population stagnation. Theresa May rallied so-called Jams (“just about managing”), i.e., hardworking but financially struggling families just not poor enough to profit from welfare state benefits. In addition, Nicolas Sarkozy in 2007 called upon the French population “who gets up early” in order to work more and earn more.1 What these calls have in common is the explicit reference to “honest work.” They are not about increasing welfare benefits to cushion economic vulnerability but about appreciating the value of ordinary work (Lamont, 2000). We believe that this appeal to personal dignity is key to winning routine workers’ support. Perhaps even more than social protection, they demand economic and cultural protection. They feel attracted by promises to re-establish the values of a bygone era of a more homogenous demography, more rigid hierarchies and an economic system that protects domestic workers (Gest et al., 2017). An exclusive understanding of the
nation state and citizenship, which often figures prominently on the right-wing populist agenda, certainly adds decisively to their success.

An important implication of the central role of dignity and social status in routine workers’ election calculus is that political contestation tends to be skewed in favor of political challengers or newcomers. It is far from obvious which concrete policy response could mitigate the perceived decay of traditional values and the declining esteem of ordinary work. If routine workers’ grievances are not primarily about material concerns, expanding social security will be an ineffective remedy and mainstream parties will have a hard time satisfying routine workers’ demands. Indeed, Gingrich (2019) provides sobering evidence on mainstream parties’ limited leeway to compensate the losers of economic modernization. As expected, welfare retrenchment is electorally harmful and benefits right-wing populist mobilization. However, the reverse mechanism (more spending, less populism) is not borne out by the data – despite demonstrably positive effects on individual welfare. This finding highlights the strategic disadvantage of responsible mainstream parties in competition with challenger parties that thrive on a less policy-based, less programmatic appearance, which makes it much easier to appeal to the subtle, perhaps slightly diffuse fears and demands of those fearing the negative consequences of technological change.

Conclusion

The political disruptions we currently observe around the world are a likely expression of fears revolving around workplace automation and economic modernization. In contrast to what could be expected in the first place, the pendulum has not swung back to the left. Instead, right-wing populist parties’ promises to turn back the clock seem to strike a chord with routine workers’ fears of social regression. More than the mainstream left and in fact more than any other party, political actors rooted in far-right challenger parties (or movements) have recognized the political relevance of a disaffected lower middle class. They explicitly acknowledge and address the widespread anxieties among the shrinking middle and thereby gain their support – despite the virtual absence of concrete policy remedies.

As a final note, we wish to emphasize that a sole focus on the (shrinking) group of losers would certainly not paint an encompassing picture of the political consequences of technological change. While it is important and normatively imperative to study the more concerning aspects of a changing employment structure, we do not want to gloss over the substantial part of the population that benefits from new technologies and the rise of knowledge economies (Gallego et al., 2018; Iversen and Soskice, 2019). On the one hand, we have discussed the structural roots of electorally consequential anxieties, suggesting that the demand for socially conservative anxieties and support for right-wing populist parties is likely to become a constant feature of post-industrial democracies. On the other hand, significant other parts of society do not share these gloomy prospects and have good reasons to continuously support the existing mainstream parties and democratic institutions. In that sense, the prospects for post-industrial societies in the medium term might rather be characterized by increased political polarization than by a steady deterioration of political norms.

Acknowledgements

We are grateful to the participants of two workshops at Sciences Po, the anonymous reviewers and the editors of Research & Politics for helpful comments and feedback.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work has been supported by a public grant overseen by the French National Research Agency (ANR) as part of the “Investissements d’Avenir” program LIEPP (ANR-11-LABX-0091, ANR-11-IDEX-0005-02).

Note

1. According to the above logic, however, we would expect the latter two attempts of mainstream right parties to attract working class voters to be electorally unsuccessful due to the presence of an arguably more credible competitor from the far right.

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Supplemental materials

The supplemental files are available at http://journals.sagepub.com/doi/suppl/10.1177/2053168019831164

The replication files are available at https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/QDHGCI

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