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Research Report

Social compensation, retraining, shorter working hours? Citizen's social policy priorities for the age of automation

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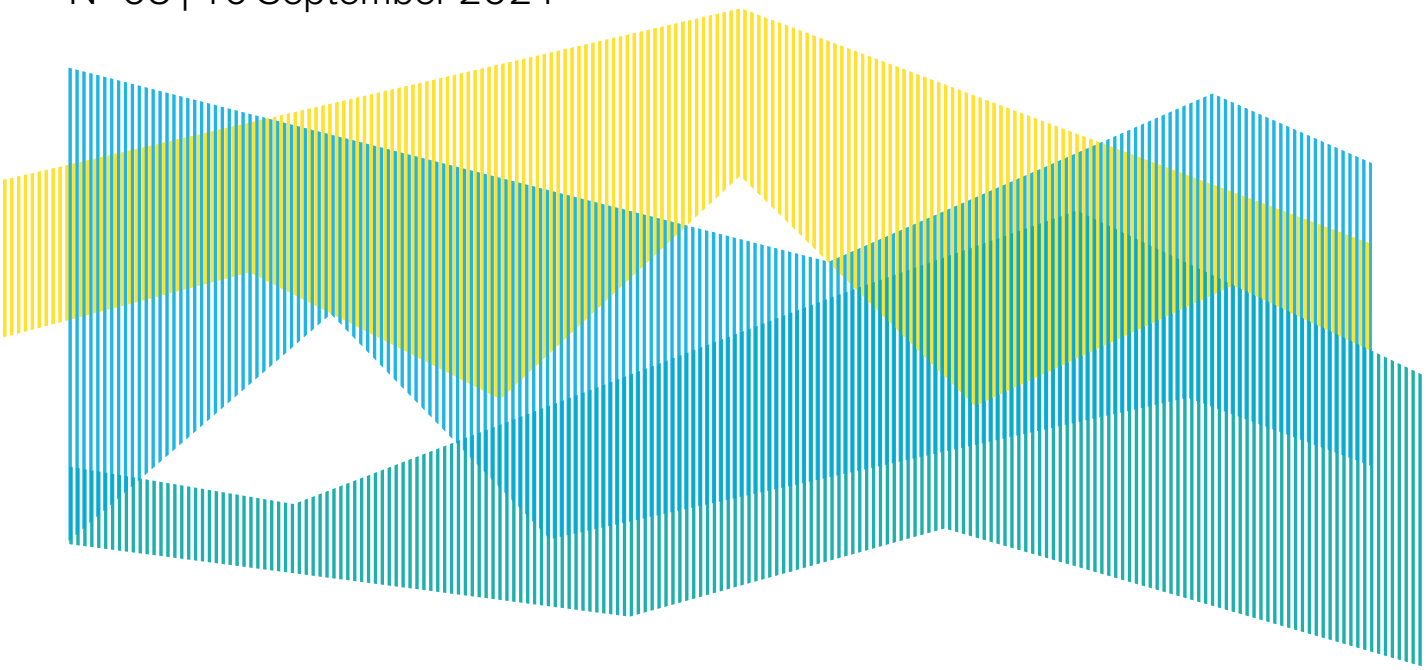

Inequality and Labor

Authors

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Social compensation, retraining, shorter working hours? Citizen's social policy priorities for the age of automation

Abstract

Robotization, automation and digitalization are transforming labor markets around the globe – more than ever now that a pandemic has shown that our economy is fragile and dependent on specific, often unrecognized jobs. What do citizens expect from their governments in response? Our study of 24 OECD countries shows deep concerns about tech-related job risks. But technological change also raises many positive expectations. Education and training measures for those affected by tech-related change are greeted with widespread approval. Disadvantaged workers, however, would prefer short-term compensations for the potential loss of their jobs. Governments are advised to strike a balance between making social investments in the digital knowledge economy and awarding social transfers.

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Our project and data

The project "Digitalization, Automation and the Future of Work in Post-Industrial Welfare States" studies, among other things, individual perceptions of workers and citizens on the risks of technological change and associated policy preferences. In collaboration with the University of Lausanne and the OECD, the project team developed a set of survey questions and instruments, which was included as part of the cross-national survey "Risks that Matter". The survey was conducted in 24 OECD countries and received about 25,000 responses overall, allowing for a detailed cross-country variation of preferences and perceptions.

More information: https://www.oecd.org/coronavirus/policy-responses/risks-that-matter-2020-the-long-reach-of-COVID-19-44932654/

The challenge of digitalization for work and welfare

The COVID-19 pandemic created a strong rupture in labor markets around the globe. In Germany alone unemployment figures rose from 5.3 percent before the pandemic to 6.4 percent in August 2020. The state had to financially back businesses in unprecedented ways in order to save jobs.[1] Besides the pandemic's immediate short-term effects – e. g. the introduction of social distancing and increased supply chain risks – it has also accelerated another trend that has already been creating upheaval in labor markets for some time: fast-paced technological change in the form of robotization, automation and digitalization, which is transforming labor markets around the globe. The pandemic shed new light on the benefits of automated work, as software and robots remain largely unaffected by social distancing measures and economy shutdowns imposed by many governments during the pandemic to curb the spread of the virus. As workers' concerns about losing their jobs are rising, this development adds to intense public debates on the implications of rapid technological change for work, welfare and politics in general.[2]

Historians rightly point out that past waves of technological change have also had transformative impacts on labor and subsequently the welfare state.[3] But there are two good reasons to presume that the current form of rapid technological change, and in particular its implications in the coming decade, could have more serious and lasting implications for the future of the welfare state. First, digitalization, robotization and automation are proceeding much faster than previous waves of technological change. This is partly because technological developments progressing in different areas – robotics, artificial intelligence (AI), machine learning, etc. – tend to reinforce each other, further increasing the speed of technological advances. Second, the current wave of technological change is different because it affects "not only muscle but also brain work",[4] which might be replaced by robots and AI. Thus, concerns about job loss could be much more widespread in this decade – and potentially with severe political repercussions, as threatened middle-class workers turn to populist parties to fend off technological and the associated economic threats.[5]

In order to address these challenges adequately, more detailed knowledge of individual perceptions of workers and citizens is needed: on the risks of technological change, and on any associated policy preferences. How concerned are workers across countries about the implications of technological change? And what kind of policy reforms do they demand from their governments? Here we present the main findings of a recent international comparative survey (see "Our project and data").

1 https://www.tagesschau.de/wirtschaft/konjunktur/kurzarbeit-arbeitsplaetze-sicherung-101.html (accessed 20 July 2021).
2 Ford, M. (2016). The Rise of the Robots: Technology and the Threat of Mass Unemployment. Oneworld Publications.
3 Mokyr, J., Vickers, C. & Ziebarth, N. L. (2015). The History of Technological Anxiety and the Future of Economic Growth: Is This Time Different? Journal of Economic Perspectives, 29 (3), 31–50.
4 Bührer, C., & Hagist, C. (2017). The effect of digitalization on the labor market. In The Palgrave Handbook of managing continuous business transformation, 115–137. Palgrave Macmillan.
5 Kurer, T. (2020). The Declining Middle: Occupational Change, Social Status, and the Populist Right. Comparative Political Studies 53 (10–11), 1798–1835.

Concerns about, and potential benefits of, automatization in the workplace

First, we asked respondents for their assessment of the effects of technological change on their own job prospects (see Figure 1). Thus, we addressed the question of tech-related consequences for the labor market from the perspective of individuals who are or might be directly affected. The results show that worries about tech-related labor market risks are widespread. Across all the 24 OECD countries included in the survey, 35.7 percent of respondents thought it was "likely" or "very likely" that their job "will be replaced by a robot, computer software, an algorithm, or artificial intelligence" within the coming five years. Workers in South Korea are worried the most (65.5 percent), those in Austria the least (21.5 percent).

Even though there is significant cross-national variation, two observations stand out. First, workers living in more generous welfare states tend to be a bit less worried about tech-related labor market risks than those who don't (compare, for instance, Turkey and the US with Austria and Finland). Second, tech-related worries among workers do not seem to be strongly related to the extent to which the countries they live in have already undergone tech-related changes of their labor markets: again, a comparison between responses from the digitalization pioneers Finland (few concerns) and Korea (significant worries) is telling in this regard.

Furthermore, further analyses reveal that workers also see the positive effects of technological change. As pundits and experts have emphasized, digitalization can lead to the expansion of employment opportunities in growing sectors of the economy, compensating for the loss of jobs in other parts.[6] Moreover, technological change holds the potential of increasing the quality of work as robots or software take over the more mundane tasks of a person's job. Finally, digitalization offers the opportunity to facilitate new work models (e. g. working from home) and office routines that grant more autonomy to workers.

6 Acemoglu, D. & Restrepo, P. (2019). Automation and New Tasks: How Technology Displaces and Reinstates Labor. Journal of Economic Perspectives 33 (2), 3–30.

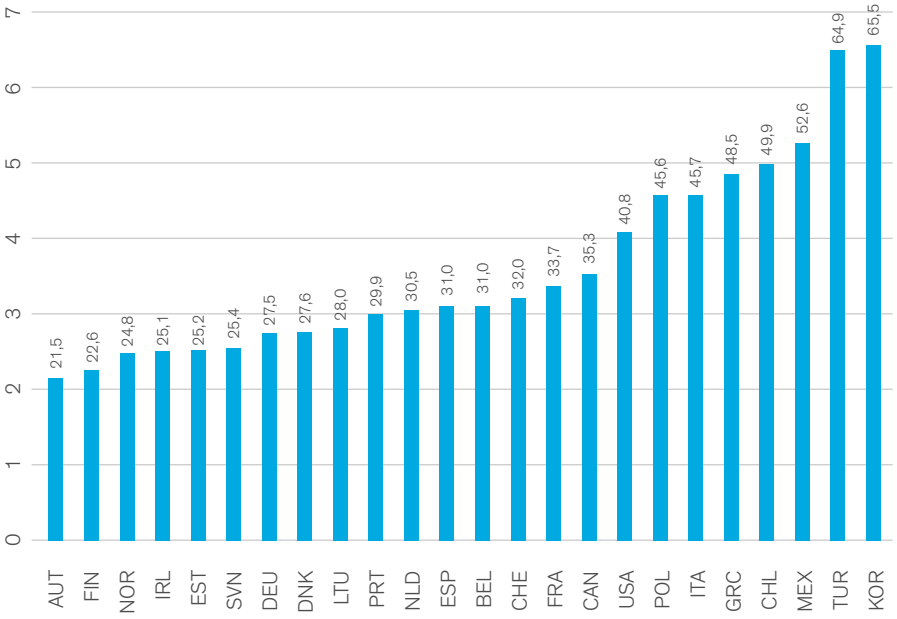

Figure 1: Workers' worries about the implications of technological change for their job.

Figure 1 displays the shares of respondents across countries who think it is "likely" or "very likely" that their job "will be replaced by a robot, computer software, an algorithm, or artificial intelligence" within the coming five years.

List of full country names:

AUT = Austria,
FIN = Finland,
NOR = Norway,
IRL = Ireland,
EST = Estonia,
SVN = Slovenia,
DEU = Germany,
DNK = Denmark,
LTU = Lithuania,
PRT = Portugal,
NLD = Netherlands,
ESP = Spain,
BEL = Belgium,
CHE = Switzerland,
FRA = France,
CAN = Canada,
USA = United States,
POL = Poland,
ITA = Italy,
GRC = Greece,
CHL = Chile,
MEX = Mexico,
TUR = Turkey,
KOR = South Korea.

Our survey data shows that workers recognize these positive aspects of technological change, while also being worried about potential job loss (different kinds of workers are likely to weigh these issues differently):

- 59.8 percent of respondents in all countries think it is likely or very likely that technology "will help my job and working hours become more compatible with my private life."
- 54.1 percent think it is likely or very likely that technology will "help my job become less dangerous or physically demanding."
- 55.1 percent think that technology "will help my job become less boring, repetitive, stressful or mentally demanding."

For policy-makers, these various perceptions of the effect of technological change on the labor market have ambivalent implications. They are faced with the challenge of both maximizing the transformative potential of technological change while taking seriously associated concerns among workers and citizens.

Dealing with technological change: investment in education is popular, but …

Second, we analyzed respondents' support for potential policy measures that their governments could introduce to deal with the effects of technological change (Figure 2).[7]

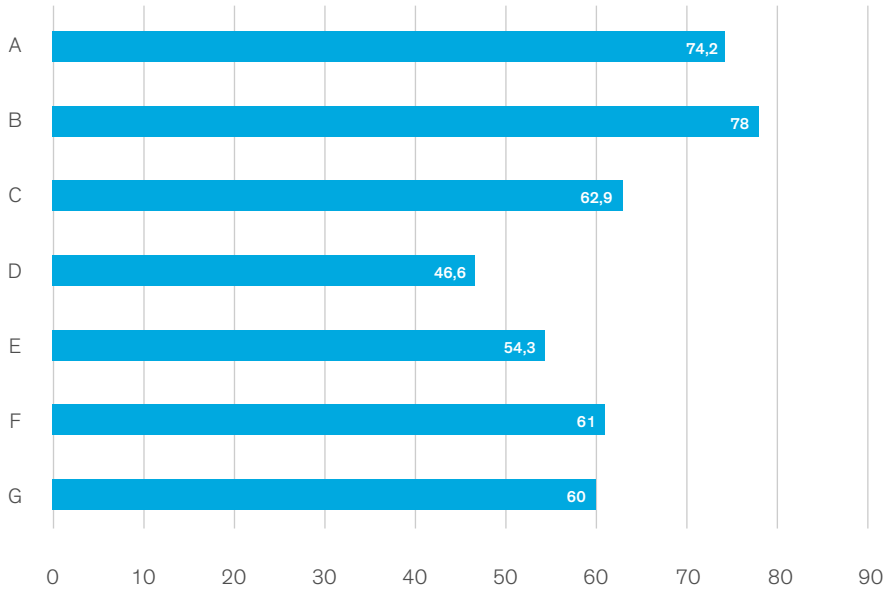

Figure 2: Public support for policy responses to technological change.

Average shares of respondents who "support" or "strongly support" the given policy measures.

The given policy options were:
A: Invest more in university education and vocational training opportunities for young people
B: Invest more in re-training opportunities for working age people
C: Invest more in digital infrastructure, such as the broadband network
D: Introduce (or increase) a tax on robots and/or technology companies
E: Introduce a limit on (or reduce) working hours, so that work can be shared across more workers
F: Make public benefits and services, such as unemployment benefits, more generous to provide a better safety net for workers facing possible job loss
G: Introduce a universal basic income that covers essential living costs to everyone, regardless of their financial situation

(The battery of policy items also included an item on the migration of skilled workers, which we exclude from the analysis here as it is less about welfare state policies, which are at the focus of our analysis.)

We found there was a significant variation in support for these different policy measures. The strongest support went to proposals to expand investment in initial education for young people as well as lifelong learning and further training for working-age people (74.2 percent and 78 percent, respectively). This strong support for investment in human capital is in line with previous research on this issue[8] as well as the recommendations of policy experts on how best to deal with the consequences of technological change.[9] Furthermore, the strong emphasis on social investment has

[7] The survey question is worded as follows: "Governments can introduce measures aimed at helping workers and industries cope with the challenges created by digitalization and technological change, such as outdated skills, skills shortages, and possible job loss. Keeping in mind how much they might cost as well as how you and your family might benefit, to what extent would you oppose or support the government taking the following actions as a response to digitalization and technological change?"

[8] Busemeyer, M. R., Garritzmann, J. L., Neimanns, E. & Nezi, R. (2018). Investing in Education in Europe: Evidence from a Survey of Public Opinion in Eight European Countries. Journal of European Social Policy 28 (1), 34–54.

[9] Colin, N. & Palier, B. (2015). The Next Safety Net Social Policy for a Digital Age. Foreign Affairs 94 (4), 29–33.

also been dominant at national and EU levels of policy-making.[10] In Germany, for instance, the Weißbuch Arbeiten 4.0 published by the Federal Ministry of Labor and Social Affairs (Bundesministerium für Arbeit und Soziales; BMAS) a few years ago very much supports this general shift in policy paradigms of the welfare state.[11]

However, investing in the skills of workers who are immediately confronted with the prospect of job loss due to technological change may not be sufficient to quell those workers' concerns about social and economic decline. We found high levels of support for measures that aim to boost the social safety net directly, in particular by increasing the generosity of unemployment benefits and similar transfer programs, supported by 61 percent of respondents. Implementing such measures in addition to pure social investment policies would ensure there is a balanced approach in managing the challenges of the digital knowledge economy, building on and further developing the social investment paradigm to social policy. Surprisingly, but also in line with previous research on this issue,[12] overall public support for the introduction of universal basic income is also strong (60 percent). In contrast, the policy proposal to levy additional taxes on firms that rely heavily on robots and/or technology companies receive less support (46.6 percent), whereas the proposals to limit working hours (54.3 percent) and to invest more in the digital infrastructure of the economy (62.9 percent) are more popular.

… not among those at high risk of losing their job

Finally, we study to what extent potential tech-related job loss is related to and might influence the above policy preferences. We wanted to know how age, education level and household income are associated with individual support for investment in education (item A from Figure 2) and support for more generous funding for unemployment insurance (item F from Figure 2). Figure 3 displays the estimated effects of these variables. It reveals a striking finding: Workers who are worried about tech-related job loss are more supportive of boosting the generosity of unemployment insurance and social transfers than investing in education and lifelong learning. Support for educational investment goes down from 75.3 percent to 73 percent for a worried worker, whereas support for unemployment compensation increases from 58.3 percent to 65.7 percent. Thus, the latter effect is much larger than the former.

[10] Hemerijck, A. (2018). Social Investment as a Policy Paradigm. Journal of European Public Policy 25 (6), 810–27.
[11] https://www.bmas.de/DE/Service/Publikationen/a883-weissbuch.html (accessed 20 July 2021).
[12] Dermont, C. & Weisstanner, D. (2020). Automation and the Future of the Welfare State: Basic Income as a Response to Technological Change?. Political Research Exchange 2 (1–11).

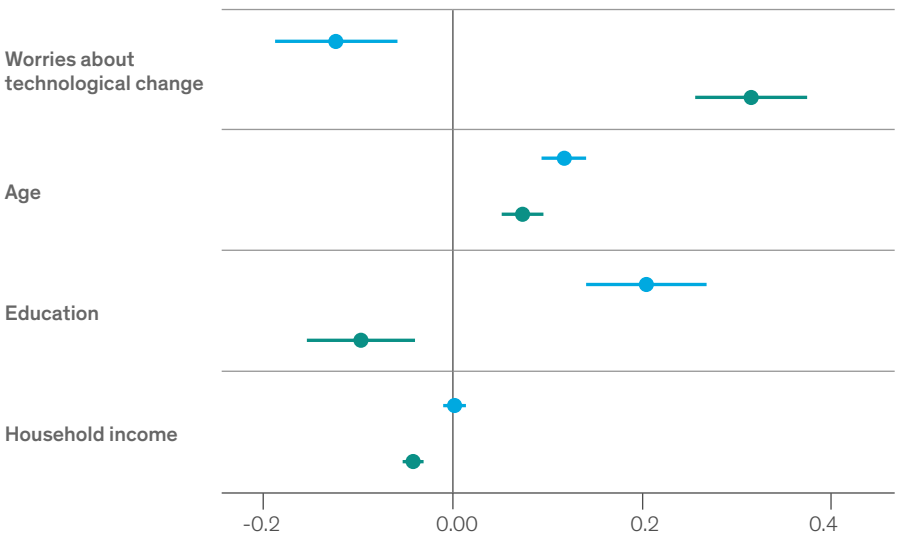

Figure 3: How workers' worries influence policy preferences.

Here we study how individual factors impact the support for educational investment and unemployment compensation (using a so-called multivariate regression model). The dots represent the estimated effects of a particular independent variable (left-hand side). The lines indicate statistical uncertainty (confidence interval). If the lines do not touch the zero line, the effect is statistically significant.

- Preference for education investment
- Preference for unemployement compensation

On the one hand, this finding is entirely plausible as concerned workers demand short-term compensation for feared or real job loss. Investments in education (in particular if focused on the younger generation) are less effective in quelling workers' concerns. On the other hand, this finding poses a challenge for policy-makers dealing with the implications of technological change: even though investing in skill formation may be the more effective policy instrument in the long term, it does not effectively address short-term concerns about job loss among those who are directly confronted with the implications of digitalization and automation.

Figure 3 also hints at the contours of current and future political struggles about the policy responses to technological change. Whereas in traditional welfare state politics, income division (and relatedly, class division) occupied a central place, educational division is becoming more important in the knowledge economy.[13] Although Figure 3 also shows workers' preferences in relation to their income, their educational background seems to matter to a much larger extent: highly educated respondents strongly support further investment in education and lifelong learning as a response to digitalization, and are much more critical of the expansion of social transfer programmes. As highly educated workers usually contribute more to the financing of the welfare state by paying higher taxes, these differences in preferences could congeal into political conflicts about the priorities of social policy-making, pitting social compensation against social investment policies. The challenge for policy-makers is to find a middle way between these two alternatives.

[13] For a similar argument, see: Beramendi, P., Häusermann, S., Kitschelt, H. & Kriesi, H. (2015). Introduction: The Politics of Advanced Capitalism. In The Politics of Advanced Capitalism. Hrsg. von P. Beramendi, S. Häusermann, H. Kitschelt & H. Kriesi. Cambridge University Press, 1–64.

Results and recommendations

1. Among workers in 24 OECD countries, perceptions of technological change are various and multi-faceted. On the one hand, workers recognize the potentially positive contribution of technological change. On the other, a significant proportion of the working population are worried about job loss due to their job being replaced by technology.

   Recommendation: Policy-makers should take the multi-faceted nature of concerns about technological change seriously and avoid emphasizing only one aspect. Rather, what is needed is a balanced approach that recognizes the opportunities of technological change while also respecting the concerns of affected workers.

2. Policy proposals that focus on expanding educational opportunities for both younger generations and more elderly workers are widely supported. However, the fact that investment in education is broadly supported does not yet ensure that actual spending levels will be increased.[14]

   Recommendation: Policy-makers need to prioritize policy strategies that focus on expanding educational opportunities, in particular in the sector of lifelong learning. The challenge here is to safeguard educational investment against potential short-term demands for spending in other policy areas. This might become an increasingly difficult political objective in the wake of the COVID-19 pandemic as public budgets are and will be strained for some time to come.

3. Workers who are worried about tech-related job losses prefer direct forms of compensation via increased unemployment insurance and social transfers rather than support through educational investment.

   Recommendation: While giving priority to educational investment, policy-makers need to develop policy instruments that also support affected workers directly, combining new social investment policies with compensatory social policies. Schemes might, for example, combine more generous unemployment insurance with new tools to promote lifelong learning, such as learning accounts, or statutory rights for lifelong learning. Moreover, policy-makers should strive to emphasize the positive aspects of technological change in their communication strategies.

[14] Busemeyer, Marius R., Julian L. Garritzmann and Erik Neimanns. 2020. A Loud but Noisy Signal? Public Opinion and Education Reform in Western Europe. Cambridge, New York: Cambridge University Press.

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The Politics of Inequality
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is an interdisciplinary Cluster of Excellence at the University of Konstanz within the framework of the Excellence Strategy of the federal and state governments. The gap separating the poor from the rich, the worldwide rise of populism, the division of burdens in the fight against climate change, unfairly distributed access to education – many current debates are as much about inequality as they are about other issues. These topics pose highly complex questions, yet scientifically grounded answers are still few and far between. This is where we come in to investigate "The Politics of Inequality": the political causes and consequences of inequality.

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