Faculty of Social Sciences
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STATUS DECLINE AND WELFARE COMPETITION WORRIES FROM AN AUTOMATING WORLD OF WORK.

THE IMPLICATIONS OF AUTOMATION RISK ON SUPPORT FOR BENEFIT CONDITIONALITY POLICIES AND PARTY CHOICE.

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DOCTORAL DISSERTATION

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ABSTRACT

Workplace automation, that is technological capital which may substitute labour in the production process, has garnered increasing attention both within and outside research. In advanced economies, there is growing concern about the extent to which automation affects employment patterns, and thus the level of risk which workers may face from such labour market disruption. There are also worries that elevated automation risk may generate substantial political fallout, namely automation-driven grievances that feedback into the political process. In this regard, I ask: how does automation risk affect individual workers' support for social policies and party choice? I focus particularly on its impact on workers' support for benefit conditionality policies and radical right parties. I argue that the impact of automation risk on these two political outcomes may be traced to automation-vulnerable workers' fear of status decline and concern about welfare competition. These worries may emanate from workers' elevated automation risk, even if they do not actually become unemployed from automation.

Benefit conditionality policies apply stringent obligations like accepting available albeit worse jobs, and sanctions like unemployment benefit cuts to pressure unemployed workers into reemployment. They have become prevalent because they enable governments to achieve cost savings, an objective which has become pressing under permanent austerity. Automation-vulnerable workers may reject benefit conditionality because its stringent obligations and sanctions may exacerbate their economic vulnerabilities. However, they may yet support benefit conditionality if they consider their worries about status decline and welfare competition to be more salient than their worries about the economic costs of benefit conditionality.

These worries may have electoral implications. If automation risk manifests primarily as worries about status decline and welfare competition, automation-vulnerable workers may prefer parties that address such concerns. Furthermore, if automation-vulnerable workers support benefit conditionality, they may prefer parties that support such policies. In Western Europe today, radical right parties' appeals speak to these concerns and preferences. Automation-vulnerable workers may thus support radical right parties based on their status decline and welfare competition worries, and their support for benefit conditionality.

This study investigates these political implications of automation risk in West European countries by exploiting cross-national individual-level surveys from the European Social Survey. I find that automation-vulnerable workers support benefit conditionality policies that obligate unemployed workers to accept worse jobs, namely lower wage or educationally mismatched jobs. This finding may indicate that these workers find welfare competition and status decline worries more salient than potential economic costs which they may

suffer from benefit conditionality. These worries may also explain their preference for radical right parties over other party families.

These findings contribute to two literatures: (a) determinants of public support for benefit conditionality policies, and (b) political consequences of automation. Concerning the first literature, I show that risk is an important determinant of support for benefit conditionality policies, and its impact should be disentangled from that of current employment status. However, and through the case of automation, I demonstrate that risk may manifest different worries and threats, even non-economic ones, which may likewise affect benefit conditionality support. Concerning the second literature, I echo recent studies which show that automation-vulnerable workers' support for radical right parties may be traced to their status worries. I however add that automation-vulnerable workers' concerns about welfare competition and support for benefit conditionality may complement status-based explanations for radical right parties. Overall, this dissertation highlights the need to go beyond economic factors such as unemployment risk, and consider how non-economic factors such as worries about status decline and welfare competition may affect individuals' social policy and party preferences.

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CONTENTS

LIST OF ORIGINAL PUBLICATIONS

This thesis is based on the following publications:

I Im, ZJ 2021, 'Automation risk and support for welfare policies: how does the threat of unemployment affect demanding active labour market policy support?', Journal of international and comparative social Policy , vol. 37, no. 1, pp. 76-91. https://doi.org/10.1017/ics.2020.22

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III Im, ZJ, Mayer, N, Palier, B & Rovny, J 2019, 'The “losers of automation”: A reservoir of votes for the radical right? ', Research & Politics, vol. 6, no. 1, 2053168018822395. https://doi.org/10.1177/2053168018822395

IV Im, ZJ 2021, 'Welfare chauvinism in times of labour market segmentation: how different employment contracts moderate the impact of welfare chauvinism on support for radical right parties', Comparative European Politics, vol. 19, no. 1, pp. 94-116. https://doi.org/10.1057/s41295-020-00224-3

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1 INTRODUCTION

Today, there is greater attention on the effects of workplace automation. A rich literature highlights that workplace automation, namely computers and robots, has disrupted existing employment structures in advanced capitalist economies, which in turn leads to significant socio-political consequences (Kurer and Palier, 2019). Most economists acknowledge that automation has led to substantial changes in employment structures, but disagree on the scale and shape of these changes (contrast Fernández-Macías and Hurley, 2017; Goos et al., 2014). Irrespective of these differences, a burgeoning political science literature contends that the uneven labour market effects of automation yield differences in political behaviour (Anelli et al., 2019; Kurer, 2020; Thewissen and Rueda, 2017).

This link between individual-level exposure to automation risk and policy attitudes is relevant from a policy perspective. Public support for policies may restrict their implementation and reform (Häusermann and Palier, 2017), and even party choice (Lindvall and Rueda, 2014). This dissertation hence explores the impact of automation risk on benefit conditionality, and examines the impact of automation risk on party choice within this policy context (Figure 1). I consider this relationship as one possible channel by which the political consequences of automation may unfurl. This channel reflects a typical comparative political economy framework relating the political implications of labour market transformations to issue concerns and policy preferences (e.g. Gidron and Hall, 2019; Häusermann and Kriesi, 2015; Lindvall and Rueda, 2014).

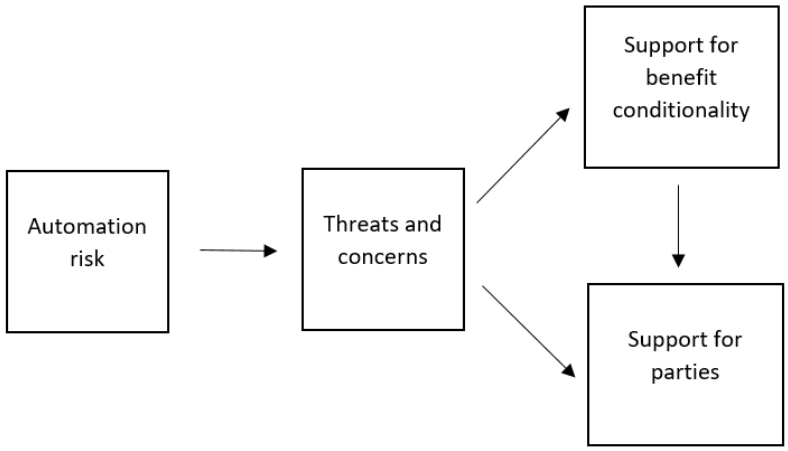


Figure 1. Expected relationship between automation risk, support for benefit conditionality, and party choice.

The focus on benefit conditionality policies is motivated by their growing prevalence in West European welfare states, despite their electoral divisiveness (Bengtsson et al., 2017; Fossati, 2018). By benefit conditionality, I mean policies which target unemployed workers by imposing stringent obligations on their unemployment benefit recipiency and enforcing sanctions when these obligations are unmet. Obligations may include attaching unemployment benefit recipiency to accepting available jobs, even worse paying or mismatched ones. Sanctions may take the form of temporary unemployment benefit cuts (Knotz, 2018). Benefit conditionality policies, which are part of a family of activation policies, have been variously termed as "demanding" labour market policies (LMP) (Fossati, 2018), "negative" LMP (Taylor-Gooby, 2004), or "defensive" LMP (Torfing, 1999). These policies may have become prevalent because they allow governments to find cost savings when governments face cost containment pressures during permanent austerity, especially after the Great Financial Crisis (Bengtsson et al., 2017). The authors find that governments have spent more on cheaper but harsher benefit conditionality policies than expensive but human capital improving labour market policies such as training since the onset of austerity.[1] Benefit conditionality reduces social expenditure by restricting unemployed workers' access to their benefits, thus pressuring them into reemployment.

A burgeoning literature on determinants of public support for benefit conditionality shows that unemployed workers oppose these policies, but employed workers support them (Buss, 2018; Fossati, 2018). It is however ambivalent on how employed workers in risky jobs, such as jobs threatened by automation, view benefit conditionality (e.g. Garritzmann et al., 2018; p. 857). The divisiveness of such policies also means that the public's support for such policies may have electoral consequences (see Lindvall and Rueda, 2014). If governments pursue divisive benefit conditionality policies, these policies may become salient during elections like in the 2019 Finnish parliamentary elections. Voters' support for such policies may then influence their party choice.

It is therefore relevant to explore how automation risk may affect benefit conditionality support, and thus party choice. To do so, it is prudent to first consider which workers are at risk and the types of concerns that they face. Most studies which examine the impact of automation on occupational employment shares find that middle-skilled occupations containing repetitive and easily-codified (routine) tasks have declined substantially in Western Europe and the United States (US) (Acemoglu and Autor, 2011; Goos et al., 2014; Peugny, 2019). By contrast, they find that low-skilled and high-skilled occupations containing unstructured cognitive, interactive, and/or physical tasks have grown. Although a handful of studies contest this routine-biased technological change (RBTC) view (Fernández-Macías and Hurley, 2017;

[1] See Bonoli (2013) and Hemerijck (2017) who compare benefit conditionality and enabling LMPs.

Oesch and Rodríguez, 2011), a recent meta-review by Biagi and Sebastian (2020) shows that most of the landmark studies concur that automation affects routine occupations most. The RBTC perspective would thus suggest that workers in routine occupations face the greatest threat of unemployment owing to automation. Paradoxically, recent studies which track routine workers' individual labour market trajectories find that most routine workers 'survive' in their routine jobs (Kurer and Gallego, 2019; Kurer, 2020); only a minority become unemployed thus far. They find that declines in employment shares of routine occupations result from high entry rates (new workers entering these occupations) rather than high exit rates (existing workers leaving these occupations). Simply put, routine workers face a higher threat of unemployment than non-routine workers, but this threat may not materialise as actual unemployment. These findings hence beg the question: if routine workers do not face looming unemployment, what concerns do they then face which may affect their support for benefit conditionality, and thus party choice?

I argue that the threat of automation may manifest as two concerns for routine workers, namely welfare competition and status decline, which may affect support for benefit conditionality. Although declining labour demand in routine occupations may yield lower entry rates than higher exit rates, routine workers may still worry about their employment circumstance. Research shows that workers respond to the risk of unemployment, even if this risk does not materialise into actual unemployment (Iversen and Soskice, 2001; Rehm, 2009; Rovny and Rovny, 2017). Existing studies show that individuals facing elevated risk worry about welfare competition because they may come to rely on unemployment benefits in the future (Golding and Middleton, 1982; Jeene et al., 2014; Maasen and De Goede, 1989). It is thus plausible that routine workers may also worry about welfare competition. Routine workers may view currently unemployed workers as competitors of scarce unemployment benefits. Benefit conditionality may reduce welfare competition by restricting unemployed workers' access to such benefits. It is worth pointing out that routine workers may be concerned about the costs of benefit conditionality to themselves, should they become unemployed. However, the distant and low likelihood of automation-related unemployment materialising may render such concerns less salient than concerns about welfare competition. Routine workers may thus support benefit conditionality.

Routine workers may also worry about status decline which may then influence their support for benefit conditionality. Although lower labour demand for routine occupations does not (yet) lead to more unemployment among routine workers, this decline in labour demand may nevertheless affect routine workers' social standing. When demand for non-routine jobs outstrips demand for routine jobs, the status and value attached to routine work declines relative to the status of non-routine work (Kurer, 2020; see also Jahoda, 1982). When individuals fear status decline, they may "draw sharp boundaries between 'respectable' people like themselves and others to whom

less social standing can be ascribed" (Gidron and Hall, 2019, p. 8; Kuziemko et al., 2014), such as immigrants and unemployed workers (Ballard-Rosa et al., 2020; Lamont, 2000). They may differentiate themselves by drawing boundaries and characteristics that are in their own favour vis-à-vis the contrasting group (Jeene et al., 2014). Routine workers may likewise assuage their status anxiety by differentiating themselves from unemployed workers. They may try to maintain distance from unemployed workers to validate their own threatened position. They may do so by stressing that they work harder and take more responsibility for their employment than the latter (Hochschild, 2016, p. 157; Lamont, 2000, p. 3). Such views may reinforce opinions that unemployed workers deserve welfare less, and increase support for stringent obligations on unemployment benefit recipiency (Laenen and Meuleman, 2019; Laenen et al., 2019; van Oorschot, 2006).

Such differences in concerns and support for benefit conditionality may yield electoral ramifications. A nascent literature demonstrates that automation affects support for radical right parties (Anelli et al., 2019; Frey et al., 2018; Kurer, 2020), but remains divided on the mechanism (for related see Engler and Weisstanner, 2020). While some studies link it to economic grievances (Anelli et al., 2019), others relate it to status concerns (Kurer, 2020). Instead, I contend that automation's effect on partisan support stems from both economic and status concerns. This perspective builds on recent approach in the political economy literature (see Engler and Weisstanner, 2020; Gidron and Hall; 2019) which convincingly argues that pitting these two mechanisms as competing are misplaced: economic and status concerns may interact to affect partisan choice. I posit that automation-vulnerable workers support radical right parties because these parties assuage these workers' concerns about welfare competition through their support of benefit conditionality. Today, radical right parties, such as the Front National and True Finns, frequently support stringent obligations and sanctions on benefit recipiency for social groups which are commonly viewed as 'less deserving' (De Koster et al., 2012; Ivaldi, 2013; Schumacher and van Kesbergen, 2014), namely immigrants and unemployed workers (van Oorschot, 2006). Their justification for such policies revolves around claims of reducing welfare competition for 'more deserving' members of society. At the same time, these parties also appeal to automation-vulnerable workers' fears of status decline by promoting a return to the nostalgic 'good' old times (Gest et al., 2017). In short, automation-vulnerable may prefer radical right parties because such parties appeal to their welfare competition and status concerns, and their support for benefit conditionality.

As workers face multiple sources of labour market disruptions, it is also worth comparing if the political consequences of automation are similar to those of other sources of disruption. In this dissertation, I attempt to benchmark the electoral impact of automation against the electoral impact of temporary contracts. Temporary contracts, which is frequently associated with worse employment security and wages, have become commonplace in

advanced capitalist economies' highly dualised labour markets (Häusermann et al., 2015; Rueda, 2005). Although temporary workers have higher unemployment risk than permanent workers, they do not necessarily make up the bulk of the unemployed (Korpi and Levin, 2001). Temporary workers may thus resemble routine workers and provide a useful benchmark to compare the electoral impact of automation against the electoral impact of temporary contracts.

In sum, this dissertation focuses on the political consequences of automation in advanced capitalist West European countries. It asks: (a) how does automation risk affect workers' support for benefit conditionality, (b) how does automation risk affect workers' support for party choice, (c) how does the partisan impact of automation risk compare to the partisan impact of temporary contracts?

2 THEORETICAL SECTION

Workplace automation refers to computers and software which can replace human labour in the production process (Acemolgu and Restrepo, 2018; Autor et al, 2003). Economists consider automation as a major source of labour market disruptions in advanced capitalist economies (Acemoglu and Restrepo, 2018; Goos et al., 2014; Oesch and Rodríguez, 2011). Other sources include job offshoring and international trade (Autor et al., 2013; Kaihovaara and Im, 2020), the rise of temporary and part-time work (Rueda, 2005; Schwander and Häusermann, 2013), and the collapse of demand as evidenced by the COVID-19 outbreak (Forsythe et al., 2020). My focus on automation is motivated by current debates on the subject. Although a large number of economists believe that automation has profoundly affected the structure of employment in advanced capitalist economists, we know comparatively less about the socio-political consequences of such labour market disruption (Kurer and Palier, 2019), which motivates my focus on automation. In this theoretical section, I first review the automation literature and elaborate on the types of threat which automation risk presents to workers. I then discuss how such threats affect automation-vulnerable workers' support for benefit conditionality policies and their party choice. Finally, I briefly review and discuss the electoral implications of risk arising from temporary contracts. Through this, I briefly compare the electoral consequences of automation risk to those from other risks like temporary contracts.

2.1 AUTOMATION RISK: WHAT CONCERNS DO AUTOMATION-VULNERABLE WORKERS FACE?

In this subsection, I review two branches of the automation literature. The first addresses existing debates on changes in employment structures to identify the characteristics of automation-vulnerable workers. The second reviews recent studies examining the employment trajectories of such workers to outline the type of risk(s) that they face.

There are two dominant approaches to explain how automation has reshaped contemporary employment structures: skill-biased technological change (SBTC), and routine-biased technological change (RBTC). SBTC sought to explain employment pattern changes in the 1980s, whereas RBTC builds on SBTC to explain employment pattern changes from the late 1990s (Sacchi et al., 2020). Both SBTC and RBTC concur that high wage occupations, which tend to require higher skills, have benefitted most from automation. They however differ on employment pattern changes for low and medium wage occupations that tend to require low and medium skills respectively.

SBTC argues that automation is a substitute for labour performing low-skilled jobs, whereas RBTC posits that automation is a substitute for labour performing repetitive and easily codifiable (routine) tasks which tend to be concentrated in medium-skilled jobs (Biagi and Sebastian, 2020; Cirillo, 2018). These different theoretical perspectives yield different predictions on the shape of employment pattern change. SBTC predicts that employment shares would grow monotonically with skill, whereas RBTC forecasts that employment share would grow in a polarised U-shaped manner. According to Cirillo (2018, p. 40), the empirical literature seems to find more evidence of polarisation in both Europe and US. Biagi and Sebastian's (2020) meta-review affirms this view. It shows that most of the reviewed studies found evidence of job polarisation. However, Fernández-Macías and Hurley (2017), who used a different dataset and empirical strategy, challenge the traditional RBTC perspective by showing that routine tasks are concentrated in low-skilled occupations, rather than in medium-skilled ones in Europe. They also find that the shape and extent of employment patterns changes vary across Europe. They argue that such variations are attributable to differences in institutional context (Arntz et al., 2017), which contrasts with canonical RBTC approaches that abstract away the effect of automation from its institutional context (e.g. Goos et al., 2014).

	Similarities	Differences
Skill-biased technological change (SBTC)	• High-skilled workers benefit most from automation (growth in employment shares, and arguably wages).	• Seeks to explain employment share changes in 1980s • Low-skilled workers suffer most from automation (decline in employment shares) • Predicts that automation has a monotonical effect on changes in employment shares according to skill level.
Routine-biased technological change (RBTC)	• High-skilled workers benefit most from automation (growth in employment shares, and arguably wages).	• Seeks to explain employment share changes from late 1990s and onwards • Workers performing occupations with substantial routine tasks (usually medium-skilled jobs) suffer most from automation (decline in employment shares) • Predicts that automation has a U-shaped effect on changes in employment shares according to skill level.

Table 1. Summary of similarities and differences between SBTC and RBTC approaches.

This debate between SBTC and RBTC affects the identification of workers who are vulnerable to automation.[2] The SBTC approach suggests that it is low-skilled workers, whereas the RBTC approach implies that it is workers in routine occupations. Fernández-Macías and Hurley's (2017) seminal piece, however, allows us to fuse these two perspectives together, at least for Western European countries. Workers in routine occupations, which also tend to be low-skilled occupations, face the greatest risk of automation. However, this implication still begs the question: what type of risk do such workers face, and to what extent? Changes in employment shares alone do not fully capture the level and type of risk that individual workers face. The innovation and neoclassical approach to automation would suggest that automation risk manifests as unemployment risk (e.g. Frey and Osborne, 2017). Yet, evidence for such widespread unemployment is less extensive than one might come to expect (Autor, 2015). Any mechanical assumption between changes in employment shares and unemployment risk ignores the fact that such changes reflect two flows: entries and exits from occupations. Entries represent new workers who join these occupations, whereas exits represent current workers leaving these occupations. Declines in employment shares may arise from low entry rates as much as high exit rates. It is thus premature to conclude that declines in routine occupations signal a higher unemployment risk for routine workers. In fact, recent studies on routine workers' employment trajectories in Switzerland, Germany, and Great Britain find that only a minority become unemployed; most remain employed in routine jobs (Kurer and Gallego, 2019; Kurer, 2020). They also find that routine jobs disappear gradually over generations through a decline in entry rates into such jobs (Cortes, 2016). In other words, the decline in routine occupations is attributable to a steep drop in entry rates rather than a large number of involuntary exits.

Although routine workers are more vulnerable to automation than non-routine workers, these findings throw into question the type of risk(s) that routine workers face from automation. The findings suggest that routine workers do not appear to face an imminent and widespread threat of unemployment, yet (Kurer and Gallego, 2019; Kurer, 2020). Rather, if unemployment does indeed materialise, it is likely to take place gradually and slowly in the distant future. Automation risk may thus manifest as a distant and possible unemployment threat rather than impending and certain one. This distant unemployment risk may activate welfare competition concerns among routine workers. Several studies find that individuals in vulnerable socioeconomic positions have concerns about welfare competition because they may come to rely on welfare (Golding and Middleton, 1982; Jeene et al., 2014; Maasen and De Goede, 1989). Likewise, workers who are at risk of unemployment and may thus come to rely on unemployment benefits may

[2] The interest of this dissertation relates to automation risk based on recent labour market trends, not predictions of future labour market trends (contrast Frey and Osborne, 2017; Goos et al., 2014).

have similar concerns. Such concerns may also affect routine workers who face a distant, rather than imminent, risk of unemployment. Even if routine workers do not view themselves to be under imminent threat of unemployment, the threat of future unemployment may still render concerns about the future viability of unemployment benefit programmes salient, especially when individuals have become more concerned about the costs and sustainability of welfare programmes under austerity (Laenen et al., 2019). Automation-vulnerable routine workers may thus be concerned about welfare competition, even if imminent unemployment does not materialise.

In addition, routine workers may also be exposed to social threats regardless of whether unemployment materialises. Gidron and Hall (2019) and Engler and Weisstanner (2020) both posit that labour market disruptions may engender both economic and social risks. Kurer (2020) argues that routine workers face the threat of social decline, even if they cling onto their routine jobs (Ballard-Rosa et al., 2020; Jahoda, 1982). When demand for non-routine jobs outstrips demand for routine ones, the status of routine work declines relative to the status of non-routine work. Automation, therefore, "reshapes the employment structure and hence the relative importance and value attached to different kinds of work" (Kurer, 2020, p. 1804). As routine occupations slowly die out, the value of routine work also declines, leaving routine workers with the threat of social decline (Gidron and Hall, 2019, p. 6; Hochschild, 2016, p. 141). This problem may be especially acute for routine workers who previously found dignity through their permanent but routine jobs; they may agonise about the gradual decline in values attached to these jobs (Kurer and Palier, 2019; Kurer, 2020; for permanent jobs, see Sacchi et al., 2020). In short, automation-related labour market disruptions may engender concerns about welfare competition and status decline among routine workers in advanced capitalist countries.

2.2 AUTOMATION RISK AND BENEFIT CONDITIONALITY SUPPORT

Benefit conditionality policies have gained prevalence after the onset of austerity (Bengtsson et al., 2017), because such policies are advantageous to governments which are under pressure to contain costs. Such policies are cheaper than costlier, but more human capacity developing, enabling LMPs such as training and upskilling programmes. Figure 2, which is based on the dataset compiled by Knotz and Nelson (2018), compares the strictness of conditions and sanctions between the time periods 1990-2009 and 2010 onwards. It shows that conditions and/or sanctions have become stricter in West European welfare states from 1990-2010 to 2010 and onwards. There is no country in the bottom left quadrant that represents easing of conditions and sanctions over time. Italy, Norway and Sweden are in the top left quadrant

that represents laxer conditions, but stricter sanctions over time. France, Denmark, Spain, the Netherlands and Germany are in bottom right quadrant that represents laxer sanctions but stricter conditions over time. Finally, most countries are in the top right quadrant that represents stricter conditions and sanctions over time. In short, governments have expanded benefit conditionality policies in recent times, even if such policies are less adept at reorienting a workforce to meet new labour demands in the age of automation (for contrast with training, see Acemoglu and Restrepo, 2018; Hemerijck, 2017).

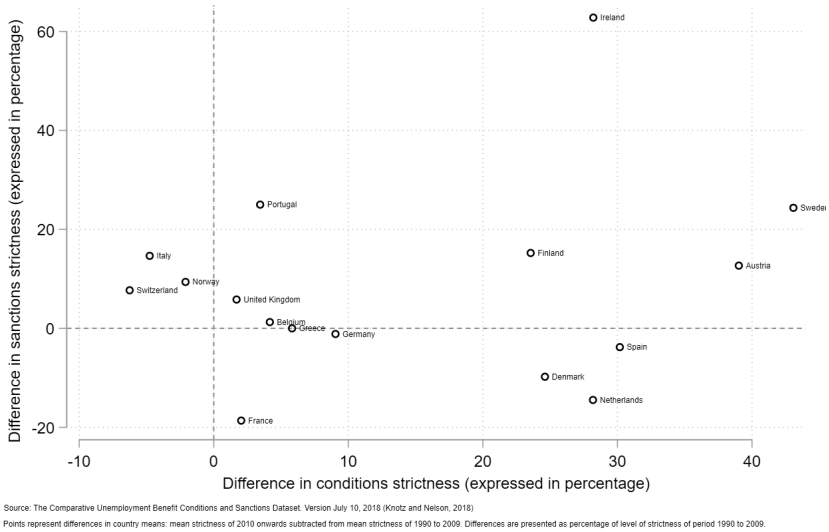


Figure 2. Changes in strictness of conditions and sanctions between 1990-2009 and 2010 onwards.
Note: Changes expressed as mean strictness in period (2010 onwards) subtracted from period (1990-2009), expressed as a percentage of mean strictness in period (1990-2009). Higher positive values on x and y-axes indicate stricter conditions and sanctions in later period as compared to the past, respectively.

Despite their prevalence, benefit conditionality policies are divisive among the public. Recent studies on determinants of public support for such policies show that unemployed workers significantly oppose such policies, whereas employed workers significantly support them (Buss, 2018; 2019; Fossati, 2018). However, less attention has been paid to how risk affects support for benefit conditionality. I thus contribute to this theoretical gap through the case of automation. Specifically, I consider how automation risk may influence benefit conditionality support by manifesting concerns about welfare competition and status decline.

A useful starting point to theorise the relationship between risk and benefit conditionality is Meltzer and Richard's (1981) study. The authors contend that individuals who face high unemployment risk tend to prefer policies that limit their exposure to such risks, and demand policies that dampen the costs arising from such risks (see Iversen and Soskice, 2001). This economic self-interest perspective underpins the approach of some landmark political economy studies that consider how unemployment risk affects support for redistribution (Rehm, 2009; Schwander and Häusermann, 2013). For example, Rehm (2009) finds that workers who face greater risk of unemployment prefer redistribution. Likewise, Schwander and Häusermann (2013) posit that workers who face greater risk of unemployment and non-permanent precarious employment also prefer redistribution. Such an approach may also be transposed to benefit conditionality support. Garritzmann et al. (2018) finds that lower income individuals significantly oppose benefit conditionality. The authors suggest that lower income individuals tend to experience a greater general risk of unemployment and thus face a higher likelihood of being subjected to benefit conditionality policies. They may oppose benefit conditionality because such policies impose further costs that exacerbate their already poor economic circumstance.

Yet, this approach may have limited traction when considering how automation risk, which is predicted to threaten 47% of US jobs (Frey and Osborne, 2017) and 9% of jobs in 21 member countries of the Organisation for Economic Cooperation and Development (OECD) (Arntz et al., 2017), affects benefit conditionality support. This is because automation risk may not necessarily materialise as actual unemployment, at least in the short-run (Kurer and Gallego, 2019; Kurer, 2020). When routine workers worry less about imminent unemployment, they may feel a less pressing need for policies that dampen the effects of unemployment. This may perhaps explain why two recent studies found opposing results on the effects of automation risk on support for redistribution. Thewissen and Rueda (2017) revealed that routine workers supported more redistribution. By contrast, Sacchi et al. (2020) showed that routine workers were ambivalent on more generous and unconditional redistribution, but significantly preferred redistributive measures with strict conditions and sanctions. These different findings thus suggest that the conventional risk approach built on the Meltzer-Richard (1981) framework may have limits when exploring the impact of automation risk on benefit conditionality support.

Instead, it may be more relevant to consider how other concerns and insecurities, spurred by automation-related labour market disruption, affect benefit conditionality support. As argued earlier, automation may engender worries about welfare competition. Although routine workers may not be concerned about imminent unemployment, they may still worry about distant unemployment especially as automation has a slow and gradual effect on employment (Cortes, 2016; Kurer and Palier, 2019). Routine workers may thus worry about competition from currently unemployed workers for scarce

unemployment benefits, especially when there has been heightened public concern about the fiscal viability of unemployment benefit programmes since austerity (Laenen et al., 2019). They may support benefit conditionality whose strict conditions and sanctions restrict currently unemployed workers' use of unemployment benefits. Benefit conditionality may thus limit current welfare use to maintain its future sufficiency. Routine workers may hence support benefit conditionality to assuage their welfare competition concerns.

Automation may also affect benefit conditionality support through status decline concerns. As argued earlier, automation may yield worries about status decline, even in the absence of actual unemployment. Research shows that people do care about their status: when faced with the threat of social decline, people may seek to "draw sharp boundaries between 'respectable' people like themselves and others to whom less social standing can be ascribed" (Gidron and Hall, 2019, p. 8). 'Last place aversion', which is the fear of falling into social groups viewed as having lower social status (Kuziemko et al., 2014), may fuel this boundary drawing. Put differently, status-anxious individuals may seek to distinguish themselves from lower status groups to validate themselves (Ballard-Rosa et al., 2020; Festinger, 1954; Lamont, 2000), and they do so by drawing boundaries and characteristics that are in their own favour (Jeene et al., 2014).

One group, which status-anxious individuals may seek to distinguish themselves from, is unemployed workers (Hochschild, 2016). The public frequently views unemployed workers unfavourably because employment is often considered as a marker of individuals' place in society (Jahoda, 1982; Tajfel and Turner, 1986).[3] Lamont (2000) gives evidence of this boundary drawing: American, and to a lesser extent, French workers who belong to lower socioeconomic groups may seek to maintain their distance from welfare recipients to protect their own precarious status. These precarious workers judge members of other groups to be deficient in traits which they value and believe they possess: hard work, discipline, responsibility for one's own employment circumstance (see also Hochschild, 2016).

In a similar vein, routine workers may seek to assuage their status anxiety by distinguishing themselves from social groups which are viewed unfavourably like immigrants (Gamez-Djokic and Waytz, 2000), and unemployed workers. Routine workers may differentiate themselves against unemployed workers by casting the latter in an unfavourable light. They may judge unemployed workers as lazy and lacking responsibility for their employment situation; such views are unfortunately already prevalent among the public (Laenen et al., 2019; van Oorschot, 2006). As studies on welfare deservingness show, such views may diminish the extent to which routine workers consider unemployed workers as deserving of welfare (Laenen et al.,

[3] Based on this logic, they may also oppose immigrants. I do not discount this possibility, but I focus on unemployed workers.

2019; van Oorschot, 2006), and increase support for stringent conditions on unemployment benefit recipiency.

In short, automation-led labour market disruptions may yield welfare competition and status decline concerns among routine workers that then influence their support for benefit conditionality (see Figure 3). Owing to the unlikelihood of imminent unemployment, concerns about exposure to the costs of benefit conditionality (if they become unemployed) may be overshadowed by worries about welfare competition and status decline. In contrast to the conventional Meltzer-Richard (1981) framework, I contend that routine workers may support, rather than oppose, benefit conditionality due to the specific concerns engendered by automation.

> Hypothesis 1) All things equal, as automation risk increases, workers' support for benefit conditionality rises.

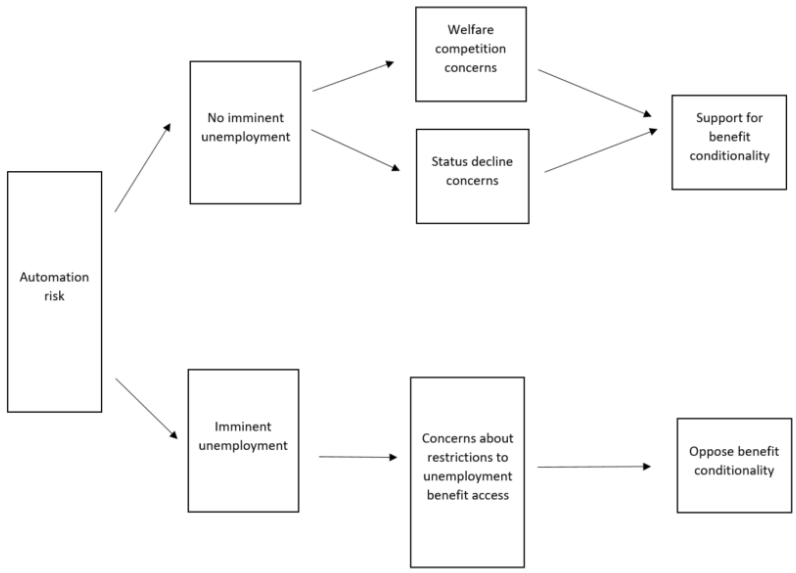


Figure 3. Relationship between automation risk and benefit conditionality support (Hypothesis 1).

Furthermore, I consider how contextual factors may influence the impact of automation risk on benefit conditionality support. Recent research shows that individuals respond politically when economic conditions deteriorate over time (Anelli et al., 2019; Ballard-Rosa et al., 2020). I distinguish here between current economic conditions and changes in economic conditions, and focus on the latter (Rooduijn and Burgoon, 2017). Studies show that worsening economic conditions spur a range of political responses such as feelings of marginalisation and status insecurity, stronger authoritarian values, support for radical right parties (Anelli et al., 2019; Ballard-Rosa et al., 2020; Bromley-Davenport et al., 2018). I pay attention here to the effect on status insecurity and its implication for benefit conditionality support.

Worsening economic conditions, which may be reflected as worsening unemployment over time (Autor et al., 2013), spurs feelings of social status decline within the community. Ballard-Rosa et al. (2020) demonstrate that Americans living in communities suffering from worsening economic hardship over the long-term develop sociotropic feelings of status decline, even if they themselves do not suffer direct economic costs. Bromley-Davenport et al. (2018) also show that British citizens who live in regions that have suffered economic decline experience feelings of marginalisation and exclusion. Such feelings are associated with fears of status decline (Gidron and Hall, 2019).

One may thus expect worsening economic conditions to influence support for benefit conditionality by spurring feelings of status decline. When economic conditions worsen over time and individuals feel cut adrift, these feelings may exacerbate existing fears of status decline among routine workers. They may respond more strongly to the threat of social decline arising from automation, and draw sharper boundaries against lower-ranked social groups, such as unemployed workers (Lamont, 2000; Kuziemko et al., 2014). Deteriorating economic conditions, reflected in worsening unemployment rates (Autor et al., 2013), may hence intensify routine workers' fears of status decline and aggravate their opposition to unemployed workers. They may then view unemployed workers as even less deserving of welfare, and support imposing stringent conditions on unemployment benefit access even more.

> Hypothesis 2) As automation risk increases, the rise in workers' support for benefit conditionality is steepest in countries where unemployment rates have worsened most over time.

2.3 AUTOMATION RISK AND PARTY CHOICE

There appears to be mounting evidence that automation risk increases support for radical right parties in Western Europe. However, studies vary substantially in their explanations for this observation. Anelli et al. (2019) argue that economic hardship, political distrust and political dissatisfaction may influence automation-vulnerable workers' support for such parties (see also Frey et al., 2018). By contrast, Kurer (2020) posits that routine workers who managed to cling onto their routine jobs support radical right parties because they fear status decline. Collectively, these findings suggest that the reasons for routine workers' support for radical right parties are multifaceted. As Gidron and Hall (2019) contend, seeking an economic or social explanation for radical right support may be a false binary. It may thus be unhelpful to examine the political consequences of automation solely through economic or social lenses (see also Engler and Weisstanner, 2020). Rather, both economic and social concerns may fuel discontent that makes radical right parties' appeal attractive. I adopt a similar approach and contend that welfare and

status concerns may influence routine workers' support for radical right parties.

In Mudde's (2007) landmark study, radical right parties' position on economic issues are viewed as electorally irrelevant because they are ambiguous and subordinate to their position on social ones. Some recent studies seem to echo this point in their observations of radical right parties today (Goerres et al., 2018; Rovny and Polk, 2019). Despite their diminished opposition to redistribution, these parties still consider this position as secondary to the one on social issues. This theoretical view is however rooted in a theoretical frame which conceptualises economic policies as redistributive. Instead, economic policies today are multifaceted and encompass a range of policies stretching from redistribution to human capital developing LMPs (Häusermann and Kriesi, 2015; Hemerijck, 2017). Furthermore, these policies today also cover questions about the level of redistribution and the beneficiaries of redistribution. The latter question has become salient under fiscal austerity when maintaining benefit levels for one group frequently comes at the expense of others (Häusermann and Kriesi, 2015). In short, economic policies today are not just about how much, but also to whom. Although radical right parties may remain ambiguous on the first question, they typically have distinct positions on the second question. Studies on welfare chauvinism highlight that radical right parties have clear positions on this issue that differentiates them from other major parties (Goerres et al., 2018; Schumacher and van Kesbergen, 2014). They tend to support strict obligations on welfare recipiency for groups that they consider undeserving of welfare. They may also support conditions that effectively lock them out from accessing welfare. Owing to their anti-immigration stance, radical right parties support restricting immigrants' welfare recipiency. However, some recent studies observe that these parties also target the unemployed (Afonso and Papadopoulos, 2015; Ivaldi, 2013; Jensen, 2012). Jensen (2012), for instance, shows that radical right parties are more willing to cut unemployment benefits than pensions. Radical right parties' welfare position on immigrants and the unemployed should not come as a surprise as the public frequently views these two groups as least deserving of welfare (van Oorschot, 2006). These parties often justify their support for restricting welfare access to these groups by alluding to threats to the fiscal sustainability of the welfare state (Iacono, 2018). That is, maintaining current levels for 'more deserving' groups requires cutbacks from 'less deserving' welfare competitors.

Routine workers may therefore favour radical right parties because these parties' support for benefit conditionality and position on welfare competition resonate with their own. Yet, radical right parties are not the only major party family that targets unemployed workers. As Schumacher and van Kesbergen (2014) and Deeming (2015) note, centre right parties also frequently support imposing stringent obligations on unemployed workers' benefit recipiency. Routine workers, who are concerned about welfare competition and support benefit conditionality, may conceivably support both parties. However, the

crucial distinction between these two parties lies in their appeals to nostalgia. Gest et al. (2017) highlight that radical right parties seek to wind back the clock and revert back to an earlier 'better' time (Gidron and Hall, 2019; Hochschild, 2016). This narrative appeals to routine workers who are fearful of status decline and yearn for a time during which their occupations accorded them respectability, security, and status (Kurer, 2020; see also Lamont, 2000). Routine workers may hence support radical right parties that provide a more 'complete' electoral package appealing to their support for benefit conditionality and fears of status decline and concerns about welfare competition.

Routine workers may also be more inclined to support radical right parties than centre-left and radical left parties owing to the nature of automation risk (Gingrich, 2019). If automation results in imminent and widespread unemployment, routine workers may demand generous redistribution that may be met by centre-left and radical left parties (Kurer, 2020). However, most routine workers remain employed and 'survive'. They thus do fine economically and are unlikely to suffer from material hardship, at least in the short-run. 'Surviving' routine workers may thus pay more attention to their other concerns of status decline and welfare competition. These concerns may be better met by radical right parties. In short, 'surviving' routine workers' support for radical right parties may be multifaceted. It may be led by both welfare and status concerns, and their support for benefit conditionality.

> Hypothesis 3) Workers who face higher automation risk but little material hardship support radical right parties more than workers who face high automation risk and substantial material hardship.

2.4 TEMPORARY CONTRACTS: DISSIMILAR RISKS BUT SIMILAR IMPACT ON PARTY CHOICE?

As workers face various types of labour market disruptions, it may be relevant to compare the electoral consequences of these different disruptions. I provide a brief comparison of automation and temporary employment contracts. Temporary contracts, which have a fixed employment duration, are prevalent in advanced capitalist economies today (Häusermann et al., 2015). Compared to workers on permanent contracts, workers on temporary contracts frequently have weaker employment protection, poorer employment rights and benefits, and poorer employment prospects (Rueda, 2005). Emmenegger (2009) also distinguishes between temporary and part-time workers. While most temporary workers would usually like to attain secure permanent contracts, some part-time workers may have actively chosen to downshift into such jobs. Put differently, part-time workers are heterogeneous and some may have willingly accepted their level of economic risk in comparison to temporary workers.

Temporary workers are a useful comparison because they are similar to routine workers in some aspects. Like routine workers (vis-à-vis non-routine workers), temporary workers face a greater threat of unemployment than permanent workers. Their employment contracts are fixed in duration and may not be renewed, and they tend to enjoy less employment protection and rights than permanent workers (Rueda, 2005). Overall, it is cheaper for firms to dismiss temporary workers than permanent ones (Rueda, 2014). Despite their higher unemployment risk, Korpi and Levin (2001) demonstrate that the stock of unemployed workers is not usually overrepresented by workers who had temporary contracts. Put differently, temporary workers may face higher unemployment risk, but this risk may not materialise as actual unemployment for most of them in the short-run. However, they still face a looming possibility of unemployment. This distant possibility of unemployment may yield concerns about the future sustainability of unemployment benefits. Temporary workers may thus have greater welfare competition concerns than permanent workers. In addition, temporary workers may also suffer from lower self-esteem and social status than permanent workers (McGann et al., 2016). They are not at the bottom of the social ladder, but they may fear falling (Mayer et al., 2015). Temporary workers may hence resemble routine workers in their worries about welfare competition and status decline. Like routine workers, it is plausible that they may find radical right parties' appeals attractive owing to such worries.

By contrast, such expectations are less clear for part-time workers. Workers who downshifted voluntarily into part-time work may accept their employment insecurity. They may also accept their lower social status, if part-time work accords less social status than permanent work. They may hence be less concerned about welfare competition or status decline fears. Such workers may find radical right parties' appeals unattractive, and differ in their support for such parties from temporary and routine workers. Yet, there are also some part-time workers who have downshifted into such work involuntarily, and thus worry about welfare competition concerns and status decline. This group of part-time workers may resemble temporary and routine workers, and they may find radical right parties' appeals attractive. In short, the heterogeneity of part-time workers makes it difficult to make clear expectations about their political responses vis-à-vis other workers.

> Hypothesis 4) Temporary workers support radical right parties more than permanent.

3 EMPIRICAL SECTION

3.1 DATA AND SAMPLE

This dissertation is based on individual-level cross-sectional data from the European Social Survey (ESS). The ESS conducts cross-national surveys biennially to investigate European residents' public opinion on a range of socioeconomic and political issues. It also asks respondents for their socioeconomic and demographic background. The ESS attempts to maximise cross-national comparability by ensuring that its questions, answers and sampling methods are similar across countries. The ESS is thus an appropriate dataset for this dissertation which has a cross-national focus.

Since 2002, there have been nine ESS waves. Although most West European countries feature in all ESS waves, some countries are absent from some waves. The number and list of countries thus vary across waves. The ESS maintains a permanent and rotating survey module across all waves. The choice of ESS wave(s) for each sub-study depended on the availability of relevant variables across waves, especially if the relevant variables are contained only in specific rotating modules.[4] Table 2 summarises the waves used for each sub-study.

[4] I did not utilise Wave 9 (2018) because the dataset was only available recently (Spring 2020).

Sub-study	ESS Wave	Dependent variable	Explanatory variables	Control variables	Estimation strategy
I	Wave 8	Support for benefit conditionality	Automation risk	Age, gender, education, ethnic minority, partner in paid work, children at home, previous unemployment, political ideology, domicile	Ordinary least squares estimated using single-level pooled model with country fixed effects
II	Wave 8	Support for benefit conditionality	Automation risk, unemployment rates	Age, gender, ethnic minority, marital status, children at home, previous unemployment, domicile, average year-on-year change in unemployment rates, active labour market policy spending as percentage of Gross Domestic Product	Ordinary least squares estimated using multilevel models with random intercepts
III	Waves 6, 7, and 8	Party choice during last national elections	Automation risk, perceived material hardship	Age, gender, education, religiosity, union membership, ethnic minority, income	Multinomial probit estimated with country and year fixed effects
IV	Waves 1 and 7	Party choice during last national elections	Employment contracts, support for stringent obligations against immigrants (welfare chauvinism)	Age, gender, income, education, religiosity, union membership, political ideology, marital status, children at home, partner in paid work	Multinomial logit estimated with country and year fixed effects

Table 2. Summary of ESS waves, variables and estimation strategy for each sub-study.[5]

Table 3 summarises the criteria by which the sample is chosen for each Sub-study. It also summarises the sample in terms of country choice and respondents' characteristics.

[5] Wording of dependent variables may be found in the sub-studies or their respective supplementary materials.

Sub-study	Included countries and criteria	Included categories of respondents and criteria
I	• West European countries and are available in selected ESS rounds.	• Currently-employed workers. • Workers who are assigned valid automation risk values based on Owen and Johnston's (2017) dataset
II	• Countries included in ESS Round 8 with relevant country-level indicators that is publicly accessible. • Are available in selected ESS rounds.	• Currently-employed workers. • Workers who are assigned valid automation risk values based on Owen and Johnston (2017) dataset
III	• West European countries with electorally successful radical right parties and are available in selected ESS rounds.	• Workers who are assigned valid automation risk values
IV	• West European countries with electorally successful radical right parties and are available in selected ESS rounds.	• Workers • Non-labour market participants included only (for comparison)

Table 3. Summary of sample selection (countries and respondents' characteristics).

3.2 VARIABLES

Table 2 provides an overview of the variables used in each of the sub-studies. Concerning the dependent variable, Sub-studies I and II operationalised benefit conditionality support using variables that measure respondents' support for unemployment benefit cuts when unemployed workers refuse available jobs. Specifically, the variables measure respondents' support for such cuts when unemployed workers reject jobs paying lower wages (Sub-study II), *and* jobs requiring lower education qualifications than their own (Sub-study I). Both of these conditions are common obligations imposed by benefit conditionality policies (Buss, 2018; Fossati, 2018; Knotz, 2018). Sub-study II however focuses solely on respondents' obligations to accept jobs paying lower wages because it may be the most frequently encountered obligation by unemployed workers. When workers shift away from declining jobs or sectors, they may be offered jobs which pay lower wages because they lack work experience or tenure in those jobs, or the requisite education and skills for those jobs. Likewise, accepting a job requiring lower education than one possesses may also incur a fall in wages. In short, while Sub-study I takes a broader view of benefit conditionality policies, Sub-study II zooms in one specific but frequently encountered obligation embedded within benefit conditionality policies. In both sub-studies, benefit conditionality support is continuous.

Sub-studies III and IV operationalised party choice through variables that measure respondents' vote during the last national elections. In Sub-study III, the following party choices were included: radical right, radical left, centre right, centre left (see Rovny and Rovny, 2017). These party families are the

major partisan options voters encounter today in Western Europe and they cater to voters' diverse economic and social values (Bornschier and Kriesi, 2012; Häusermann and Kriesi, 2015). Non-voting was also included to benchmark against these partisan outcomes. Sub-study IV focused on the following party choices: radical right, centre right and centre left vote (see Rovny and Rovny, 2017). This sub-study has a secondary focus on the impact of welfare chauvinism on party choice. I thus restricted the dependent variable to votes for party families that have begun considering stringent obligations for immigrants' access to welfare, but to varying extent (Schumacher and van Kesbergen, 2014). Party choice in Sub-studies III and IV is categorical.

Concerning the explanatory variables, Sub-studies I, II and III operationalised automation risk using two indicators. Sub-studies I and II operationalised automation risk using the Routine Task Intensity (RTI) index. RTI is widely used to measure automation risk (e.g. Sacchi et al., 2020; Thewissen and Rueda, 2017). I used RTI supplied by Owen and Johnston's (2017) study that assigned RTI values to occupations categorised at the ISCO-88 four-digit level. An individual workers' automation risk therefore reflects her occupation's vulnerability to automation. The authors based their operationalisation of RTI on Acemoglu and Autor's (2011) calculations for different occupations in the United States (US). They computed RTI by subtracting the natural log of routine tasks from the sum of the natural log of abstract and manual tasks (Goos et al., 2014). RTI values are considered to be country invariant (Thewissen and Rueda, 2017). Even if these values were based on US data, Biagi and Sebastian (2020) show that studies using RTI yield findings about the shape of changes in European labour markets that are similar to those from other studies using other indices based on other data sources. Higher values indicate that occupations contain more routine tasks, which may imply that workers in such occupations face greater automation threat.

Sub-study III operationalised automation risk based on Arntz et al.'s (2017) calculations. They computed workers' automation risk by calculating the share of workers who may be vulnerable to automation within an occupation based on cross-national data from the Programme for the International Assessment of Adult Competencies (PIAAC). Automation risk values were assigned at the ISCO-08 2-digit level.[6] The Arntz et al. index thus differs from the RTI index in its conceptualisation and measurement. Unlike the US-based RTI that measures the extent to which an occupation consists of routine tasks, the cross-nationally calculated Arntz et al. index measures the share of workers who may become unemployed from automation within an occupation. Despite differences in conceptualisation and calculation, these two indices are strongly correlated (Pearson's correlation = 0.68). Higher values on this index indicate that occupations contain a larger share of workers at risk of becoming

[6] For a handful of countries, the values could only be assigned at the ISCO 1-digit level.

unemployed from automation, and thus imply that workers in such occupations face a greater threat from automation.

To assess the contextual effect of worsening economic hardship in Sub-study II, I operationalised it as the average year-on-year change in countries' unemployment rates over a ten-year period (2006 to 2016). Year-on-year changes provide a better account of the extent of economic hardship over time than snapshot views offered by current unemployment rates.

Sub-study II assesses the conditional impact of perceived material hardship on automation risk's effect on electoral behaviour. I operationalised perceived material hardship as respondents' views on their current income security. It is categorical: (1) living comfortably, (2) coping, (3) finding it difficult, or (4) finding it very difficult on present income.

I followed Emmenegger's (2009) classification of workers' employment contracts in Sub-study IV. It distinguishes between upscales, permanent, temporary, part-time, and unemployed workers. Upscales are workers who are in "privileged positions in the labour market" (p. 133) and need not worry about unemployment. They are employees belonging to the European Socio-economic Classification (ESeC) category 1: large employers, higher managers and professionals with permanent contracts. Workers on permanent contracts are workers who do not have fixed term or part-time contracts, and are employees drawn from all other ESeC categories. Temporary workers are employees on fixed term contracts, and part-time workers are employees working for less than 30 hours a week (Rovny and Rovny, 2017). I also included a category which captures all non-labour market participants to compare results of labour market participants with non-labour market participants.

Finally, I included individual-level controls that may confound the effect of the explanatory variables (see Table 2). In all sub-studies, I included controls that are frequently used in similar studies (e.g. Rovny and Rovny, 2017; Thewissen and Rueda, 2017). These controls typically include individuals' sociodemographic traits such age and gender and their political attitudes (Fossati, 2018). They also consist of household-related traits such as marital status and having children at home.

3.3 METHODS

The choice of method depends on the nature of the dependent variable and the focus of the sub-studies (see Table 2). In Sub-study I, I focused on the individual (worker) level and estimated the effect of automation risk by applying ordinary least squares (OLS) to a pooled model with country fixed effects. Single-level pooled models are appropriate when a researcher is interested in the effects of individual-level determinants (Bryan and Jenkins,

2015; McNeish and Kelley, 2016).[7] Country idiosyncrasies are purged by including country dummies. It is necessary to control for country idiosyncrasies because they may differ in their rate of adoption of automation (Acemolgu and Restrepo, 2018), have different labour market and social policy regimes which dampen or worsen unemployment risk from automation (Fernández-Macías and Hurley, 2017). These country-level differences may influence the effects of automation risk. Country dummies absorb such country confounders, and so "researchers need not be concerned with including level-2 [*country*] predictors in the model, because variance attributable to all Level 2 variables (whether available in the data or not) is consumed by the cluster affiliation variables" (McNeish and Kelley, 2019, p. 23). Furthermore, McNeish and Stapleton (2016) and McNeish and Kelley (2019) recommend using fixed effect models when there are few level 2 cases, as in Sub-study I.

In Sub-study II, I focused on how contextual factors may influence the effect of automation risk on benefit conditionality. With more level-2 (country) cases, I used multilevel models with random country intercepts and cross-level interactions to estimate the contextual effect of changes in unemployment rates on the association between automation risk and benefit conditionality. Individuals are thus nested within their countries. A fixed-effects model with a pooled sample would be less appropriate here: country dummies preclude the inclusion of other country-level predictors, because they absorb all country-level variance. Alternatively, one may turn to a single-level pooled model that excludes country dummies but includes country-level predictors. Yet, omitting country dummies to include country-level predictors also means that one risks omitting relevant country-level variables that may affect the results. Multilevel models diminish these concerns, and are thus preferred for Sub-study II. The multilevel models were estimated using OLS.

In Sub-study III, I applied multinomial logit regression estimation with country and year fixed effects. In this sub-study, I focused on individual-level effects, which made a single-level pooled model with country and year fixed effects appropriate, especially when there were insufficient country cases to estimate a multilevel model. Country and year dummies absorb country and year-related idiosyncrasies. Multinomial logit models are appropriate when the dependent variable is categorical and it contains all expectedly possible outcomes (Dow and Endersby, 2004). If this independence of irrelevant alternatives axiom (IIA) were unmet, multinomial probit models would have been more appropriate.[8] The dependent variable in Sub-study III arguably contained all expectedly possible voting outcomes, both in terms of voting and

[7] See appendix in Bryan and Jenkins (2015).

[8] Multinomial probit models are also afflicted by problems, as specified in Dow and Endersby (2004), which multinomial logit models suffer less from. I thus checked my results by re-estimating the models using the latter in my robustness checks.

non-voting as well as choice of party families. I thus opted for a multinomial logit estimation strategy.

In Sub-study IV, I applied multinomial probit regression estimation with country and year fixed effects. As I only included a subset of possible voting outcomes, a multinomial logit estimation model would violate the IIA axiom. A multinomial probit estimation model was thus preferred. Likewise, a single-level pooled model with country and year dummies was appropriate because there were insufficient country cases to estimate a multilevel model.

4 RESULTS

4.1 ROUTINE WORKERS' SUPPORT FOR BENEFIT CONDITIONALITY

I first present an overview of how workers' automation risk is stratified by their occupations. Table 4 presents the mean and standard deviation values of automation risk for different occupations. I classified occupations here at their aggregated ISCO-88 1-digit level for ease of comparison. According to the International Labour Organisation (ILO), the ISCO-88 system also differentiates occupations by their required skill level. Skill level refers to the degree of specialisation and the complexity of tasks performed in an occupation. The rightmost column shows the skill level requirements for each occupational category as assigned by ILO. Higher values indicate greater complexity and specialisation. Occupations with higher skill levels frequently also require higher levels of education.

Table 4 shows that workers in plant and machine operating and assembly, craft and related trade work, clerical, and elementary occupations experience the highest automation risk in descending order. By contrast, legislators, senior officials, and managers and professionals have the lowest automation risk. Table 4 also demonstrates that workers in occupations that require middling skill levels (level 2) experience the highest automation risk. Plant and machine operators and assemblers, craft related trade workers, and clerks who require middling skills face higher automation risk than elementary workers who require low skills (level 1). Automation risk thus appears to be concentrated among workers in medium-skilled occupations (RBTC) rather than workers in low-skilled ones (SBTC). It is however important to highlight that workers' automation risk varies substantially within these broad ISCO-88 1-digit occupational categories. This is because automation risk was assigned at a more detailed four-digit classification level.

Occupations	Mean	Standard deviation	Skill level
(1) Legislators, senior officials and managers	-1.974	0.204	NA
(2) Professionals	-1.824	0.419	4
(3) Technicians and associate professionals	-1.452	0.408	3
(4) Clerks	-0.952	0.302	2
(5) Service workers and shop and market sales workers	-1.364	0.626	2
(6) Skilled agricultural and fishery workers	-1.431	0.424	2
(7) Craft and related trade workers	-0.875	0.552	2
(8) Plant and machine operators and assemblers	-0.761	0.293	2
(9) Elementary occupations	-0.984	0.342	1

Occupations categorised at the International Standard for Classification of Occupations 88 1-digit level.
Skill level assignment: higher values indicate greater complexity and specialisation.
Mean and standard deviation values refer to automation risk which is operationalised using the Routine Task Intensity (RTI) index supplied by Owen and Johnston (2017). Higher values indicate that an occupation consists of more routine tasks, and may thus be more threatened by automation.
NA: Not applicable

Table 4. Mean and standard deviation values of automation risk and skill level requirements for occupations classified at the ISCO-88 1-digit level.

After showing which workers are in routine occupations and are thus threatened by automation, I present results on the impact of automation risk on benefit conditionality support. Table 5 shows results from stepwise regressions performed in Sub-study I. In these stepwise regressions, I included covariate(s) incrementally in each model to assess changes in the effect of automation risk on benefit conditionality support. In Model 1, automation risk has a positive and significant ($p < 0.001$) impact on benefit conditionality support. That is, workers who face a greater threat of automation support benefit conditionality more.

Model 2 considers if this relationship is sensitive to the inclusion of education. Education may confound the impact of automation risk on benefit conditionality in two ways. Firstly, the effect of automation risk may be driven by education, if it is concentrated among lower-educated workers as argued by the SBTC hypothesis (Katz and Murphy, 1992) and by Fernández-Macías and Hurley (2017). Secondly, if automation risk is indeed concentrated among lower-educated workers, then the observed effect of automation risk may in fact be led by the effect of authoritarian political attitudes. This is because lower-educated workers are more likely to have authoritarian political attitudes (Dekker and Ester, 1989), which may then make them more inclined to support restrictive welfare policies such as benefit conditionality (Achterberg et al., 2014; Häusermann and Kriesi, 2015). In short, education may have direct and indirect effects on benefit conditionality support, and these effects may be correlated with the effects of automation risk. Based on the descriptive statistics presented in Table 4, it seems that automation risk is neither concentrated nor limited to lower-educated workers: education does not have a monotonical relationship with automation risk. Nevertheless, it is worth testing the potential confounding effect of education more thoroughly (Model 2). The results show that automation risk remains robust after purging the effects of educational differences. However, decreases in automation risk's effect magnitude and level of significance ($p < 0.01$) suggest that some of its

correlation with benefit conditionality support, as observed in Model 1, was driven by educational differences.

Models 3 and 4 further assess if the relationship between automation risk and benefit conditionality support is sensitive to respondents' political ideology (Fossati, 2018), and their political attitudes (Achterberg et al., 2014; Häusermann and Kriesi, 2015). It is useful to control for respondents' political ideology and attitudes as they may represent the indirect effect of education on benefit conditionality support. Unsurprisingly, individuals who have right-wing ideology and authoritarian attitudes (oppose immigration) support benefit conditionality significantly more. Nevertheless, automation risk remains robust even after purging these effects. However, decreases in automation risk's effect magnitude and level of significance ($p < 0.01$) suggest that some of its correlation with benefit conditionality support, as observed in Model 1, was driven by political ideology and political attitudes.

Benefit conditionality support				
	Model 1	Model 2	Model 3	Model 4
Automation risk (RTI)	0.167***	0.128**	0.120**	0.115**
	(0.0406)	(0.0439)	(0.0434)	(0.0430)
Lower educated (ref.)				
Medium educated		-0.0253	-0.0158	0.00827
		(0.0812)	(0.0810)	(0.0802)
Higher educated		-0.148	-0.129	-0.0487
		(0.0908)	(0.0900)	(0.0909)
Self-placement left right political ideology			0.0539***	
			(0.0121)	
Opposition to income redistribution				0.0242
				(0.0238)
Opposition to homosexual rights				-0.0289
				(0.0289)
Opposition to immigration				0.0629***
				(0.0112)
Number of observations	2555	2555	2555	2555
Sociodemographic and household controls?	Yes	Yes	Yes	Yes
Country dummies?	Yes	Yes	Yes	Yes
r^2	0.158	0.161	0.174	0.182

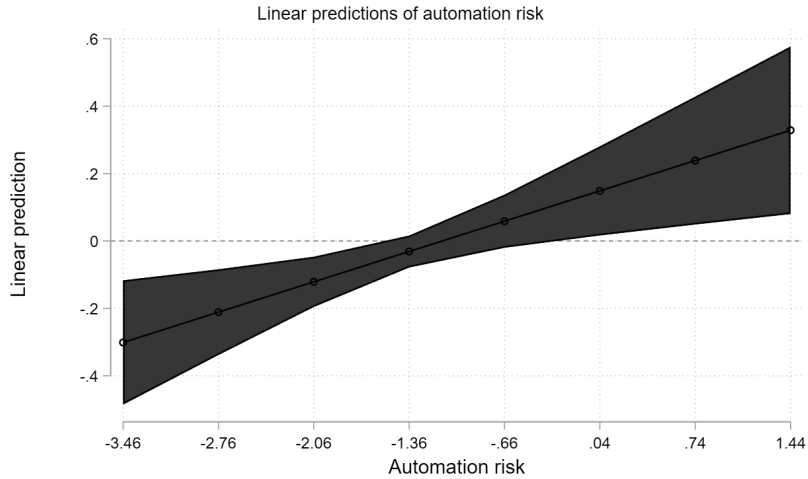
Standard errors in parentheses
* p<0.05 ** p<0.01 *** p<0.001
Notes:
Higher values for self-placement on left-right scale indicate ideology that is more rightist.
Higher values on income redistribution indicate opposition to income redistribution.
Higher values on homosexual rights indicate opposition to such rights.
Higher values on immigration indicate immigrants make country worse place to live in.
Design and population weights (supplied by European Social Survey) applied.

Table 5. Stepwise regression results on the relationship between automation risk and demanding ALMP support (extracted from Sub-study I).

Figure 4 illustrates linear predictions of benefit conditionality support at different levels of automation risk. Calculations are based on Model 2, which purges the effects of education. The dependent variable, benefit conditionality support, ranges from -1.37 to 1.52. The dependent variable has a value of -0.30 at the minimum value of automation risk and a value of 0.32 at its maximum value. When translated to percentage points, a rise in automation risk from its

minimum to maximum values yields a 20.8 points increase in support for benefit conditionality, which is sizable.

Figure 4 also illustrates that workers are stratified in their support for benefit conditionality at the poles of automation risk. Workers who experience low/high automation threat significantly oppose/support benefit conditionality policies. By contrast, workers who experience only middling automation threat are neither significantly predisposed nor opposed to such policies. Presumably, they do neither because they experience a threat that is greater than low-risk workers, but one that falls short of that faced by high-risk workers. Put differently, this middling level of threat may be adequate to prompt these workers to feel some concerns about welfare competition or status decline such that they would not oppose benefit conditionality. However, the level of threat, and hence the corresponding degree of welfare competition and status concerns, may not be sufficient to prompt these workers to support benefit conditionality. In short, automation-threatened routine workers support benefit conditionality, whereas automation-secure non-routine workers oppose benefit conditionality.



Higher values on x-axis indicate greater automation risk. X-axis values scale from minimum to maximum automation risk values.
Higher values on y-axis indicate greater support for benefit conditionality. Predictions based on Model 2. Other covariates held at mean values.

Figure 4. Linear predictions of benefit conditionality support at different levels of automation risk.

Having examined individual-level effects of automation risk, Figure 5 explores the contextual effect of worsening economic hardship. It highlights that the effect of automation risk is contingent on the extent to which economic hardship has worsened. When unemployment rates have worsened over time like in Spain, Italy, and Ireland, automation risk yields a considerable increase in support for benefit conditionality. By contrast, when unemployment rates have diminished over time like in Israel, Poland, and

Germany, automation risk yields a considerable decrease in support for benefit conditionality. Based on each countries' standard deviation for support for benefit conditionality, the difference between the maximum and minimum values of automation risk translates to a rise in support of 42.4 and 28.1 percentage points in Spain and Italy, and a fall in support of 33.9, and 31.5 percentage points in Poland and Germany. The impact of automation risk on benefit conditionality support is thus substantial in countries with worsening or declining unemployment rates over time. These results are robust to different operationalisations of this contextual variable.[9] In sum, routine workers support benefit conditionality when economic hardship worsens. Conversely, they oppose benefit conditionality when economic hardship diminishes.

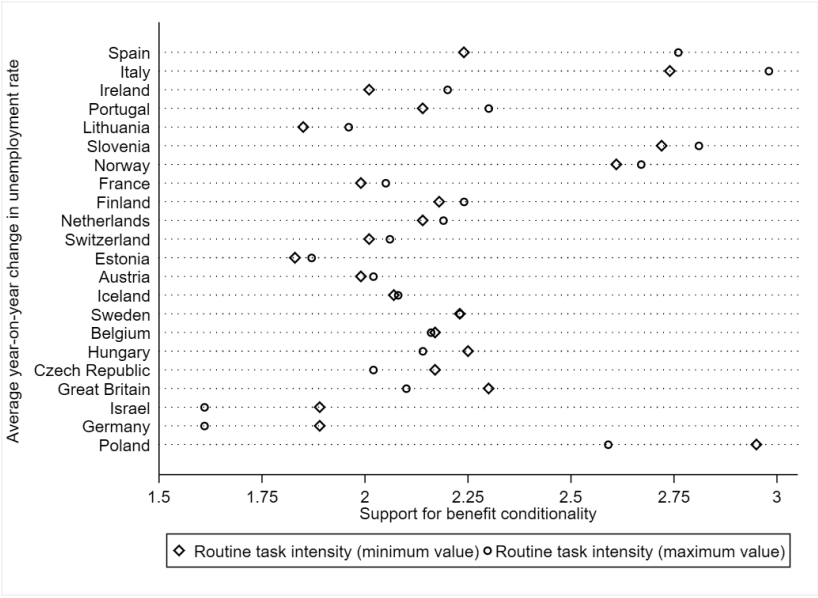


Figure 5. Predicted support for benefit conditionality at minimum and maximum automation risk values. Countries ranked by average year-on-year change in unemployment rates from 2006 to 2016 in descending order (from growth to decline in unemployment rates) (extracted from Sub-study II).

4.2 ROUTINE WORKERS' SUPPORT FOR RADICAL RIGHT PARTIES

The subsection above shows that automation risk affects support for public and social policies. These findings may beg the question: does automation risk

[9] See subsection "Robustness Checks" (Sub-study II).

also affect electoral behaviour? Table 6 presents multinomial logit estimates of the effects of automation risk and perceived material hardship on electoral behaviour. The estimates compare the likelihood of one outcome occurring vis-à-vis the base outcome that is radical right vote. With respect to party choice alone, Table 6 highlights that a rise in automation risk significantly decreases support for radical left, centre left, and centre right parties vis-à-vis radical right parties. With respect to the decision to vote, automation risk does not significantly affect respondents' likelihood of not voting over choosing radical right parties. Perceived material hardship also significantly affects respondents' preference for centre left and centre right parties over radical right ones. Respondents who are coping or living comfortably on present income prefer centre left and centre right parties over radical right ones more than respondents who are finding it difficult on present income.

In short, the direct effects of automation risk relate to party choice rather than the decision to (not) vote. Although workers who face automation threat are more likely to support radical right parties than other parties, they may also choose not to vote. It is thus necessary to identify conditions under which automation-threatened workers may vote for radical right parties, and conditions under which they may abstain from voting.

Party choice and non-vote				
	Radical left	**Centre left**	**Centre right**	**Did not vote**
Automation risk	-1.066***	-0.790*	-1.544***	0.218
	(0.200)	(0.339)	(0.423)	(0.265)
Difficult on present income (ref.)				
Living comfortably on present income	0.0115	0.356*	0.797***	0.0351
	(0.125)	(0.156)	(0.118)	(0.0995)
Coping on present income	0.0641	0.281*	0.498***	0.0203
	(0.0858)	(0.113)	(0.0709)	(0.0861)
Very difficult on present income	-0.253	-0.338	-0.535**	0.0124
	(0.184)	(0.241)	(0.165)	(0.174)
Number of observations (total)	30320	30320	30320	30320
Sociodemographic and household controls?	Yes	Yes	Yes	Yes
Country and year dummies?	Yes	Yes	Yes	Yes
Country clustered standard errors in parentheses	Yes	Yes	Yes	Yes
' p<0.10 * p<0.05 ** p<0.01 *** p<0.001				
Results reflect comparison to base outcome: vote for radical right parties.				

Table 6. Multinomial logit regression estimates on electoral behaviour (extracted from Sub-study III)

Figure 6 explores one such condition. It illustrates the average marginal effect of a unit change of automation risk on electoral behaviour conditional on different levels of perceived material hardship. Figure 6 shows that automation risk does not have a significant association with radical right vote when respondents feel substantial material hardship (finding it difficult or very difficult). Automation risk is, however, positively and significantly associated with radical right support when respondents feel little material hardship (coping and feeling comfortable). In fact, a rise in automation risk yields a greater rise in radical right support among workers who feel some

material hardship (coping) than workers who feel no hardship (feeling comfortable). It is thus clear that not all workers who are threatened by automation prefer radical right parties. Voters who feel substantial material hardship would abstain rather than vote for radical right parties.

Nevertheless, it is still not possible to distinguish conditions under which automation-vulnerable workers would conclusively vote for radical right parties rather than abstain based on these results. The effect of automation risk on non-voting is still relatively larger than the effect of automation risk on radical right vote among workers who feel little or no material hardship. To recap, these results suggest that automation risk has a clear impact on party choice: workers who are threatened by automation and feel little material hardship support radical right parties significantly more than other parties. Automation risk, however, does not have as distinguishable an impact on the choice to (not) vote. It seems that automation-threatened workers who feel little material hardship are as inclined to vote for radical right parties as they would not vote.

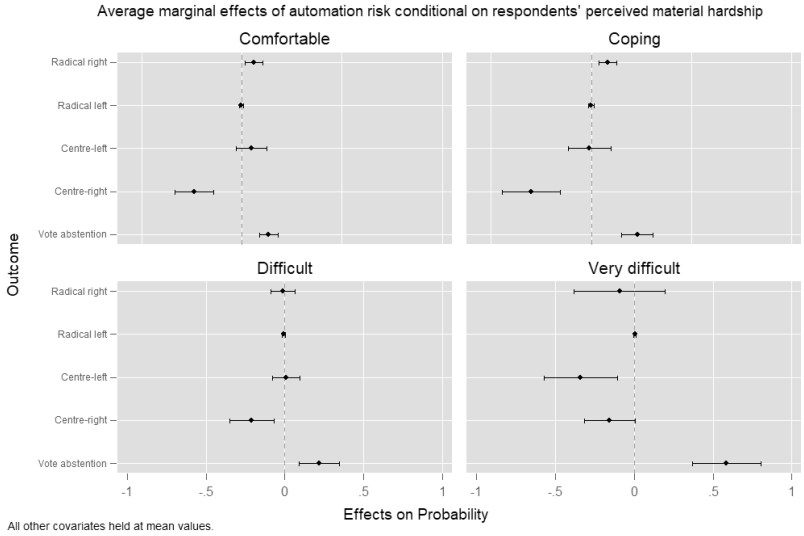


Figure 6. Effect of automation risk on electoral behaviour probability, conditional on perceived material hardship (extracted from Sub-study III).

4.3 COMPARING ROUTINE AND TEMPORARY WORKERS

Next, I explore if temporary contracts yield similar electoral outcomes as automation risk. Model 1 in Table 7 presents the direct effect of employment contracts on party choice. It shows multinomial probit estimates that compare the likelihood of voting for centre left and centre right parties vis-à-vis radical

right parties. In comparison to upscale workers who face the lowest risk, all other categories of workers and non-workers are significantly less to vote for centre left and centre right parties than radical right ones. At first glance, these results may suggest that there is little tangible difference in the party choice of workers on different employment contracts.

However, workers on different employment contracts may be heterogeneous, and this heterogeneity may mask any distinguishability in their party choice. One potential heterogeneity relates to their policy opinions. Existing studies show that support for stringent obligations on immigrants' recipiency of welfare benefits, namely welfare chauvinism, may increase support for radical right parties (Bornschier and Kriesi, 2012; Goerres et al., 2018).[10] Table 7 shows a similar result: respondents who have welfare chauvinist views support centre left and centre right parties significantly less than radical right ones. If workers with different employment contracts are heterogeneous, they may only have clear and distinguishable party choices once the conditional effects of their policy opinions is taken into account. Model 2 reflects this point: the direct effects of employment contracts and welfare chauvinist opinions are no longer significant after including their corresponding interaction terms.

[10] Stringent obligations against immigrants' benefit recipiency may be regarded as a form of benefit conditionality albeit targeted against immigrants.

Party choice				
	Model 1		**Model 2**	
	Centre left	Centre right	Centre left	Centre right
Upscale (ref.)				
Permanent	-0.390*	-0.448**	0.562	-0.0514
	-0.164	-0.166	(0.527)	(0.544)
Temporary	-0.446*	-0.486*	1.320	0.522
	-0.205	-0.221	(1.047)	(0.976)
Part-timers	-0.409*	-0.284*	0.581	0.231
	-0.179	-0.123	(0.601)	(0.576)
Unemployed	-0.504***	-0.669**	0.612	-0.327
	-0.13	-0.207	(0.586)	(0.783)
Non-employed	-0.380**	-0.273	0.627	0.151
	-0.132	-0.147	(0.591)	(0.633)
Welfare chauvinism	-0.156***	-0.136***	0.0293	-0.0596
	-0.0266	-0.0232	(0.109)	(0.105)
Upscale (ref.) X Welfare chauvinism				
Permanent X Welfare chauvinism			-0.177*	-0.0704
			(0.0798)	(0.0827)
Temporary X Welfare chauvinism			-0.307	-0.165
			(0.164)	(0.151)
Part-timers X Welfare chauvinism			-0.182	-0.0896
			(0.0957)	(0.103)
Unemployed X Welfare chauvinism			-0.203*	-0.0615
			(0.0991)	(0.136)
Non-employed X Welfare chauvinism			-0.186*	-0.0743
			(0.0933)	(0.101)
Number of observations	8740		8740	
Sociodemographic controls?	Yes		Yes	
Country and year fixed effects?	Yes		Yes	
Country-clustered standard errors in parentheses. Design weights applied.				
* p<0.05 ** p<0.01 ***p<0.001				
Regressions with respect to reference outcome: vote for radical right parties				
Higher values on welfare chauvinism indicate support for more welfare chauvinist policies.				

Table 7. Multinomial probit regression estimates on party choice (extracted from Sub-study IV).

As multinomial probit regression estimates of interaction terms are challenging to interpret, Figure 7 illustrates them as predicted probabilities. It shows that workers with different employment contracts have distinguishable party choice conditional on their support for stringent obligations on immigrants' recipiency of welfare benefits. Temporary workers who support welfare chauvinism differ from other similar employed workers (upscale, permanent, part-time) in their support for centre left and radical right parties. They are least supportive of centre left parties and most supportive of radical right parties in comparison to all other employed workers. They also have a higher probability of supporting radical right parties than unemployed workers and non-employed respondents with similarly high levels of support for welfare chauvinism. Likewise, they have a lower probability of supporting centre left parties than unemployed workers and non-employed respondents with similarly high levels of support for welfare chauvinism. Concerning centre right parties, temporary workers are generally indistinct from workers with other employment contracts. Figure 7 thus suggests that temporary workers are split between radical right and centre left parties based on their support for welfare chauvinism. They favour centre left parties when they oppose

welfare chauvinist policies, but prefer radical right parties when they support such policies.

In short, temporary workers who may face more labour market risk than upscale, permanent and part-time workers have clear and distinct party preferences once their policy opinions are taken into account. There is thus evidence that workers' party choice is stratified by their employment contracts. In short, employment contracts are similar to workplace automation: both sources of labour market disruptions yield relevant political consequences.

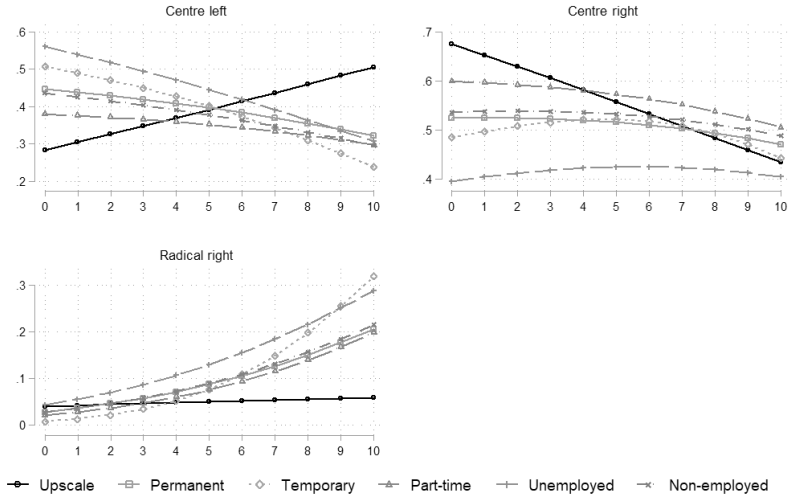


Figure 7. Predicted probabilities of party choice for workers of different employment status and contracts conditional on their level of support for benefit conditionality policies imposed on immigrants (welfare chauvinism) (extracted from Sub-study IV).

5 DISCUSSION

Table 8 summarises the main findings of each sub-study contained in this dissertation and they are discussed further below.

Sub-study	Research question(s)	Findings	Theoretical contribution	Areas for further research
I	• How does automation risk affect support for benefit conditionality?	• Automation risk positively and significantly correlates with support for benefit conditionality.	• Risk affects support for benefit conditionality policies. • Automation risk may affect benefit conditionality support through welfare competition worries. • Different labour market risks may yield different threats and concerns, depending on the time horizon of unemployment.	• Distinguish between impacts of welfare competition worries from i status decline concerns. • Compare with other labour market disruptions with different immediacy of unemployment.
II	• How do changes in economic hardship condition the impact of automation risk on benefit conditionality support?	• Workers who face higher automation risk support benefit conditionality more when there is rising economic hardship (rising unemployment levels).	• Automation risk affects benefit conditionality support through status decline worries. • Impact of automation risk is influenced by extent of economic hardship: worsening economic hardship strengthens routine workers' support for benefit conditionality.	• Distinguish between impacts of welfare competition worries from status decline concerns. • Compare impact from other contextual factors.
III	• How does automation risk affect electoral behaviour?	• Automation-vulnerable workers who feel little material hardship support radical right parties more than other party families. • Automation-vulnerable workers who feel little material hardship either support radical right parties or do not vote.	• Extends the study of automation risk on party choice from the regional level to the individual level. • Automation risk stratifies party choice, but decision to (not) vote depends less on risk-related factors. • Automation risk affects radical right support not through actual material hardship, but fears of status decline and welfare competition. • Automation risk may affect radical right support when workers are more predisposed to benefit conditionality policies.	• Distinguish whether automation risk affects party choice through welfare competition or status decline concerns. • Identify conditions under which automation risk yields vote for radical right parties rather than non-voting. • Assess contextual factors that influence the impact of automation risk on party choice.
IV	• How do employment contracts affect party choice?	• Temporary workers who support welfare chauvinism prefer radical right parties and oppose centre left more than similar workers employed on other contracts.	• Compares electoral impacts of different labour market disruptions. • Employment contracts affect party choice, especially after considering workers' policy opinions.	• Compare interaction effects of contracts and automation risk. • Consider how other policy preferences may influence these different workers' party choice.

Table 8. Summary of research questions, findings, contributions, and areas for further research.

5.1 RISK AS A DETERMINANT OF BENEFIT CONDITIONALITY SUPPORT

The growing literature on determinants of public support for benefit conditionality has shown that current employment status significantly influences such support (Buss, 2018; 2019; Fossati, 2018). We however know less about how unemployment risk affects such support. With the exception of two studies which examined this factor briefly (Buss, 2018; Garritzmann et al., 2018), most do not focus explicitly on this factor. Some studies also do not distinguish between the impact of unemployment risk and the impact of unemployment status (e.g. Fossati, 2018), which is an approach some studies have cautioned against (Rovny and Rovny, 2017). This is because actual unemployment and the threat of unemployment may manifest different concerns, which then yield varying political outcomes. This dissertation's study of automation risk may thus be viewed as a contribution to the current theoretical discussion of risk as a determinant of benefit conditionality support.

Although the Meltzer and Richard (1981) framework, which argues that individuals support policies that minimise their economic risk (see also Iversen and Soskice, 2001; Rehm, 2009), may be a useful starting point to theorise how risk affects support for social policies, it may be less useful in the case of automation. Automation risk may be unlike other types of labour market risks because automation-threatened routine workers generally cling onto their jobs; only a minority become unemployed (Kurer and Gallego, 2019; Kurer, 2020). In other words, automation risk may not entail imminent or substantial unemployment. Automation risk therefore does not appear to resemble a typical unemployment risk: workers who face high unemployment risk typically experience a high likelihood of becoming imminently unemployed (see also Kurer and Palier, 2019). To understand how automation risk affects benefit conditionality support, it is perhaps more useful to deliberate on the type and nature of threat that routine workers encounter from automation risk. I posit that it may manifest both welfare competition and status decline concerns, even in the absence of imminent unemployment (Kurer, 2020; Laenen et al., 2019). Such concerns may then increase support for benefit conditionality support, as expressed in Hypothesis 1: all things equal, as automation risk increases, workers' support for benefit conditionality rises.

Results from both Sub-studies I and II show that Hypothesis 1 cannot be rejected. They demonstrate that automation risk significantly increases support for benefit conditionality. In other words, routine workers may support benefit conditionality because they worry about welfare competition and status decline. That is, however, not to say that routine workers do not fret about having to bear the costs of benefit conditionality, should they become unemployed (see for related Jeene et al., 2013). However, the low likelihood of imminent unemployment from automation may mean that such worries are relegated behind other concerns such as welfare competition and status decline. When concerns about welfare competition and status decline are more salient on balance, routine workers may support benefit conditionality policies rather than oppose them. Separately, Sub-study II finds that currently employed and unemployed workers significantly differ in their support for benefit conditionality. These findings are consistent with results from other similar studies (Buss, 2018; Fossati, 2018). Collectively, these results reflect the need to disentangle the impact of risk from the impact of current employment status (Rovny and Rovny, 2017).

Crucially, the impact of automation risk is robust despite purging the effects of education and authoritarian political values that may confound the relationship between automation risk and benefit conditionality support. If the SBTC approach is correct, lower-educated workers have a higher likelihood of being in occupations that are vulnerable to automation (Arntz et al., 2017; Fernández-Macías and Hurley, 2017; Katz and Murphy, 1992). Lower-educated workers, owing to their higher propensity for authoritarian political values, may have a higher likelihood of supporting stringent welfare

obligations and thus benefit conditionality (Achterberg et al., 2014; Häusermann and Kriesi, 2015). The robustness of this result therefore indicates that the association between automation risk and benefit conditionality support is not led by differences in education or authoritarian political values.

The findings in Sub-studies I and II are also supported by results from Sacchi et al.'s (2020) study on Italy. The authors investigated how automation risk affected Italian workers' support for two benefit systems: an unconditional unemployment benefit system, and a conditional one that imposes stringent activation requirements. They find that routine workers are not significantly predisposed towards unconditional and generous unemployment benefits. Instead, they significantly support conditional unemployment benefits with stringent obligations. Sacchi et al.'s (2020) findings echo results from Sub-studies I and II. The authors however provided different justifications for their findings. They argued that routine workers in Italy are typically employed on privileged permanent contracts (Emmenegger, 2010; Rueda, 2005). Such workers may hence support conditional unemployment benefit systems because they are the prime beneficiaries of such systems through their steady social security contributions. This explanation is however consistent with explanations presented here. Routine workers, especially if they are labour market insiders, may feel especially concerned about welfare competition and status decline concerns arising from automation. This is because their routine jobs and permanent contracts used to accord them welfare and status security. That is, they enjoyed good social protection and social security privileges and had a valued social status. Automation, however, undermines such privileges and security. Routine workers, despite their permanent contracts, may become unemployed in the distant future during which the generosity of unemployment benefits may have eroded away due to austerity. They also face the threat of status decline as labour demand for such jobs fall. Routine workers, who had enjoyed the privileged of having permanent contracts, may hence manifest even greater worries about welfare competition and status decline, which then spur them to support benefit conditionality policies.

Yet, changes in the level of economic hardship experienced by communities may also influence the impact of automation risk. Even if individuals do not experience greater economic risk themselves, they may become more fearful of status decline when there is substantial economic hardship (Ballard-Rosa et al., 2020; Bromley-Davenport et al., 2018). I thus expected worsening economic condition to influence how automation risk affects public support for benefit conditionality as expressed in Hypothesis 2: as automation risk increases, the rise in workers' support for benefit conditionality is steepest in countries where unemployment rates have worsened most over time.

Results from Sub-study II show that Hypothesis 2 cannot be rejected. The results show that the difference in benefit conditionality support between routine and non-routine workers is greatest in countries whose

unemployment rates have worsened or ameliorated most. Specifically, routine workers support benefit conditionality substantially more than non-routine workers when there is worsening economic hardship. These findings appear consistent with those from recent findings about the political consequences of extended economic hardship. Worsening economic hardship engenders feelings of marginalisation and status concerns which then drive political responses such as opposition to immigration and minorities, anti-elite sentiments, support for radical right parties (Anelli et al., 2019; Ballard-Rosa et al., 2020; Bromley-Davenport et al., 2018), and support for benefit conditionality. This finding may help explain why individuals in economically decaying areas paradoxically support harsh welfare policies like benefit conditionality that may not be in their interest (Hochschild. 2016). I contend that their status concerns motivate such support.

However, the results also show that routine workers oppose benefit conditionality when there is a substantial fall in unemployment rates. When there is less economic hardship, routine workers may feel less threatened by status decline, and become less predisposed to judge unemployed workers harshly. They may even sympathise with unemployed workers during better economic conditions, and thus oppose benefit conditionality. In short, worsening economic hardship may create fertile conditions that allow worries about status decline and welfare competition to manifest from automation risk. Routine workers may thus support benefit conditionality especially during times of economic duress.[11]

Overall, these findings from the case of automation suggest that risk is an important determinant of benefit conditionality support. In addition, the impact of automation risk varies across contexts. Whereas high levels of unemployment prompts automation-threatened workers' solidarity with unemployed workers (Uunk and van Oorschot, 2019) and may thus decrease their support for benefit conditionality policies, worsening unemployment over time increases their status decline fears and hence their support for such policies. It is also worth reiterating the relevance of disentangling the impact of risk from the impact of employment status. In the case of automation, vulnerable routine workers do not respond like unemployed workers. The results also demonstrate how risk may manifest multiple concerns that may not relate directly to a worker's pocketbook, but are nevertheless politically consequential. In short, it is useful to distinguish both employed and unemployed workers, and vulnerable and non-vulnerable employed workers when examining determinants of public support for benefit conditionality.

[11] This finding is not sensitive to various alternate operationalisations of changes in unemployment rates. See Sub-study II.

5.2 AUTOMATION RISK AND PARTY CHOICE: MULTIFACETED REASONS FOR SUPPORTING RADICAL RIGHT PARTIES

There is mounting evidence that automation risk has electoral implications, especially for radical right support. Most of these studies study its impact at the regional level (Anelli et al., 2019; Frey et al. 2018). The few that focus on the individual level argue that automation-threatened workers' support for radical right parties may be traced to their worries about status decline (Kurer and Gallego, 2019; Kurer, 2020). Such worries may increase the attractiveness of radical right parties' appeals to nostalgia (Gest et al., 2017). As most automation-threatened workers do not experience economic deprivation from unemployment, these studies generally discount welfare reasons as explanations for these workers' preference for radical right parties. Kurer (2020) noted, "'more welfare' in the traditional sense might not help alleviate grievances (p. 1826; see also Gingrich, 2019). Yet, this perspective ignores how welfare considerations have expanded beyond 'more' or 'less' welfare, and now includes considerations about 'who ought to get what' (Häusermann and Kriesi, 2015). In other words, welfare concerns today are about distributive deservingness as well as distributive levels.

Radical right parties seem to have recognised this evolution in the welfare debate, since they have formulated distinct positions on welfare issues regarding the deservingness of immigrants and unemployed workers, and consequently the obligations that such groups ought to be subjected to when they receive benefits (Goerres et al., 2018; Ivaldi, 2013; Schumacher and van Kesbergen, 2014). Radical right parties' position on such issues may appeal to automation-threatened routine workers' support for benefit conditionality policies, since most of these workers may not face imminent unemployment (Kurer, 2020; Kurer and Gallego, 2019) and are thus at low risk of being subjected to such stringent obligations. In other words, automation-threatened workers' support for radical right parties may be multifaceted. Given radical right parties' position on such welfare issues, it is not possible to preclude that welfare considerations complement status concerns to influence these workers' support for such parties. I thus expected workers who face higher automation risk but little material hardship to support radical right parties more than workers who face high automation risk and substantial material hardship (Hypothesis 3).

Results from Sub-study III suggest that Hypothesis 3 cannot be rejected. Only automation-threatened workers who are living comfortably or coping materially are significantly more likely to support radical right parties than other parties. The same cannot be said for automation-threatened workers who are finding it difficult or very difficult materially. These findings are consistent with status-based explanations of automation's effect on party choice: automation-threatened workers who suffer material hardship may pay more attention to their economic vulnerability than their status decline

(Kurer, 2020). They may prefer leftist parties' support for generous redistributive programmes that compensate for their economic weakness than radical right parties' ambiguity on such programmes (Rovny and Polk, 2019). These findings are also consistent with welfare-based explanations: workers who experience material hardship may oppose stringent obligations for benefit recipiency because they may be subjected to them. They may thus not find radical right parties' harsh views on welfare deservingness and their support for stringent obligations appealing. By contrast, workers who are threatened by automation but are living comfortable or coping materially may be less concerned about the burden of such obligations. They may thus find radical right parties' support for harsh views on welfare deservingness and appeals to nostalgia attractive. Furthermore, and building on results from Sub-study II, the level of economic hardship may affect these workers' support for radical right parties. These workers may find radical right parties' appeals even more attractive when economic hardship worsens. In short, both welfare and status concerns are compatible and complementary explanations for why automation risk increases support for radical right parties over other party families.

Yet, neither explanation fares well in distinguishing when automation risk increases the likelihood of voting for radical right parties over not voting. Kurer (2020) finds that automation-threatened workers who survive vote for radical right parties and automation-threatened workers who become unemployed do not vote. Sub-study III however shows that automation-vulnerable workers who face little material hardship, and are thus arguably 'survivors', are torn between voting for radical right parties and not voting. These seemingly contrasting findings here highlight two considerations. Firstly, the decision mechanisms behind voting and party choice may be driven by different concerns. While party choice may be influenced by voters' support for parties' policy and issue positions, the decision to vote may be led by other factors like the lack of economic and psychological resources. This point is highlighted in studies that explore determinants of voter turnout (Aytaç et al., 2018). The explanations offered in the political science literature on automation and here are however rooted in how voters' policy and issue preferences are met by political parties. It is perhaps less equipped to disentangle non-preference related factors that may determine automation-vulnerable workers' decision to vote for radical right parties or not vote.

Secondly, it is not a foregone conclusion that automation-threatened workers favour only radical right parties. Although this dissertation and recent research stress that individuals who worry about welfare competition and status decline tend to support radical right parties (Engler and Weisstanner, 2020; Gidron and Hall, 2019; Goerres et al., 2019; Hochschild, 2016), heterogeneity among these individuals means that some of them may have divergent partisan preferences. Likewise, some automation-threatened workers may therefore find resonance with radical right appeals, whereas others may find little allure in these appeals owing to differences in political

values, political and social experiences (Campbell et al., 1960). For instance, some automation-threatened workers may have liberal values and find radical right parties' authoritarian solutions grating. These workers may also find other parties' solutions unappealing and thus abstain from voting. This explanation of Sub-study III's findings, that is automation-threatened workers may support radical right parties or not vote, is more consistent with a perspective that emphasises the relevance of policy and issue preferences to voting behaviour. Additionally, this split means that a reservoir of automation-threatened voters, who have yet been politically mobilised, exists. Political entrepreneurs and parties may eventually seek to mobilise this group of voters by appealing to the specific demands of this group of voters. This study thus contributes to existing debates on the individual-level effects of automation and highlights the need to disaggregate automation-threatened 'survivors', and identify if these different groups have varying political demands.

5.3 TEMPORARY CONTRACTS: DISSIMILAR RISKS, SIMILAR PARTY CHOICE?

Given the specific characteristics of automation risk, it begs the question of whether risks from other sources yield similar political outcomes. Results from Sub-study IV offer a comparison of two risks, namely automation and temporary contracts. Although routine and temporary workers are more vulnerable than non-routine and permanent workers respectively, they may nevertheless not be under immediate or substantial threat of unemployment (Korpi and Levin, 2001; Kurer, 2020). This similarity may yield similar concerns for both groups, which may then influence their party choice. Like routine workers, I thus anticipated that temporary workers support radical right parties more than permanent workers (Hypothesis 4).

Results from Sub-study IV show that temporary workers differ significantly in their support for radical right parties from workers on other types of employment contracts, after accounting for their welfare chauvinist attitudes. Hypothesis 4 hence cannot be rejected. The conditional effect of workers' support for stringent obligations on immigrants' access to welfare highlights two considerations. Firstly, workers' welfare preferences matter in their party choice, even after purging their political ideology and education. Purging the latter is especially important since lower educated individuals tend to have authoritarian attitudes (Dekker and Ester, 1987; Häusermann and Kriesi, 2015), which may then increase their support for radical right parties. The significance of welfare preferences, even after purging authoritarian attitudes, thus signals the growing relevance of welfare preferences to radical right support today, especially as welfare considerations increasingly include both deservingness and generosity concerns.

Secondly, temporary workers are indeed a heterogeneous group, especially as temporary contracts have proliferated among socioeconomic groups that had previously enjoyed permanent contracts, such as highly educated workers (Häusermann et al., 2015). This heterogeneity may explain why previous studies from the labour market dualisation literature seem to find inconsistent results on the relationship between temporary contracts and party choice (e.g. Marx and Picot, 2013; Lindvall and Rueda, 2014). The findings here thus highlight the relevance of disaggregating temporary workers to understand how their different sociodemographic background may intersect with their employment contracts to affect their political responses.

These results also show that temporary workers share some similarities in their party preferences with automation-vulnerable workers. These results may also suggest that there are some overlaps between these two groups of workers: they may have similar concerns that inform their support for radical right parties. They may both worry less about imminent unemployment, but remain concerned about future unemployment. Such concerns may give rise to worries about threats to the future generosity of their unemployment benefits, such as welfare competition. Both temporary and automation-vulnerable workers also suffer from the threat of status decline (Kurer, 2020; Mayer et al., 2015; McGann et al., 2016). Yet, they also differ in terms of their heterogeneity: temporary workers seem more heterogeneous than automation-vulnerable workers. While automation-vulnerable workers significantly prefer radical right parties as shown in Table 4, temporary workers only do so when they possess welfare chauvinist attitudes.

5.4 LIMITATIONS AND FUTURE RESEARCH

Although this study sheds light on political responses to automation, it is important to highlight the perimeters of this research which relate to three broad areas: theoretical, contextual, and measurement concerns.

There are three theoretical concerns. Firstly, this study focuses on risk emanating from automation, and to a lesser extent, employment contracts. Consequently, it is worth considering whether the political outcomes observed here are generalisable beyond these two risk sources. Regardless of the source of risk, research suggests that individuals who experience elevated risk may hold similar welfare and status concerns (e.g. Engler and Weisstanner, 2020; Gidron and Hall, 2019; Meltzer and Richard, 1981; Rehm, 2009; van Oorschot 2006; Uunk and van Oorschot, 2019). Nevertheless, vulnerable individuals may still respond differently due to the specificities of each risk (Kaihovaara and Im, 2020). For example, workers who are threatened by unemployment from falling labour demand during the COVID-19 pandemic may respond differently from workers who are threatened by unemployment from automation. They may respond dissimilarly because of differences in the time

horizon of unemployment. Risk from COVID-19 may stimulate a greater concern for economic vulnerability, whereas risk from automation may induce a greater concern for status decline and welfare competition. Such dissimilarities may yield differences in policy support and party choice. In short, even if risks from different sources yield similar concerns, they may give rise to dissimilar priorities. Future studies could explore the types of concerns and priorities which manifest from different risks, and compare their outcomes to those from automation. Furthermore, future studies may extend the analysis of such risks to support for other social policies, including enabling LMPs which may prevent such risks from materialising in the first place (Bonoli, 2013; Hemerijck, 2017).

Secondly, I focused on differences between temporary and permanent contracts. However, today's gig economy has increased the prevalence of zero-hour contracts. Unfortunately, this dataset does not allow a precise identification of such workers. Likewise, it is not possible to distinguish workers who voluntarily downshifted into part-time contracts and those who did not. Distinguishing these two types of part-time workers is pertinent because they might perceive their risks differently. They may thus worry about welfare competition and status decline to different degrees, and hence vote differently. Furthermore, it is not possible to track changes in workers' employment contracts over their employment biography in this dataset. From a life-course perspective, it is plausible that prior experience of insecure employment contracts or unemployment may influence workers' subsequent political responses. Future studies could exploit datasets which facilitate such differentiation.

Thirdly, I focused here on the impact of risks from automation and insecure employment contracts. However, workers face multiple sources of disruption (Autor et al., 2013; Kaihovaara and Im, 2020), and thus experience overlapping or intersecting risks. For instance, temporary routine workers may feel greater employment insecurity than permanent routine workers if firms seek to lower their dismissal costs (Rueda, 2005; 2014). Temporary workers are often cheaper and easier to dismiss than permanent workers; firms may simply not renew temporary worker' contracts. Such differences in employment insecurity may mean that temporary and permanent routine workers perceive the threat of automation dissimilarly, and respond differently. Future studies may explore how different labour market risks compound and interact with each other to affect political outcomes.

I next consider concerns about contextual effects. Firstly, this study focuses primarily on individual-level associations between automation risk and political outcomes. This emphasis on individuals is motivated by a view that individuals in similar occupations face relatively similar automation risks across different advanced capitalist economies, because some tasks are more easily automated than others (Gingrich, 2019; Goos et al., 2014; Thewissen and Rueda, 2017). Consequently, the first order of business would be to explore political responses to automation risk at the individual (occupational)

level. It is nonetheless naïve to disregard institutional differences that may influence individuals' political responses to automation. Labour market institutions may shape the adoption of automation as well as the extent to which they replace workers (Fernández-Macías and Hurley, 2017; Oesch and Rodríguez, 2011). Social and labour market policy programmes may also cushion the extent to which automation displaces labour. For instance, if states subsidise on-the-job training programmes, workers who previously performed routine tasks may be retrained to perform new tasks that complement automation (Arntz et al., 2017; Hemerijck, 2017). Such institutional and policy differences mean that automation-threatened workers may perceive the threat of automation differently, and respond dissimilarly in different countries in their support for benefit conditionality policies. Sub-study I addressed such contextual variation by employing country dummies. Sub-study II employed random country intercepts and ALMPs expenditure to consider such contextual variation. Future studies could explore how other contextual differences, such as countries' industrial make-up, labour market institutions and social policy expenditures adjusted for unemployment rates, affect routine workers' support for benefit conditionality. It is also fruitful to examine the extent to which workers in similar automation-threatened occupations perceive the threat of automation similarly, and if their subjective perceptions vary across contexts and have a bearing on political outcomes.[12]

Secondly, I focused on individual-level associations between automation risk and temporary contracts and voting outcomes. While this approach allows me to assess how similar groups of workers respond politically, future studies could explore the influence of other contextual factors. As discussed above, differences in labour market and social policies may influence these workers' vote choice. Some of these differences may include collective bargaining practices, employment protection legislation (Halikiopoulu and Vlandas, 2016; Rueda, 2014), and expenditure on passive compensation and ALMPs which may buffer vulnerable workers' risk (Gingrich, 2019). Another relevant contextual factor relates to how political parties mobilise vulnerable workers. For instance, radical right parties vary in their positions on welfare issues (Afonso and Papadopoulos, 2015), which may explain why some radical right parties are more successful in mobilising this group of workers than others (Gingrich, 2019). Although radical right parties currently mobilise such workers most, it is far from certain that other parties, including mainstream ones, would not attempt to do the same in the near future (see Schumacher and van Kesbergen, 2014). Future studies may explore the contextual influence of other institutional factors on automation-threatened and temporary workers' vote choice (e.g. Anelli et al., 2019). They may also examine parties' manifestos to explore how various parties attempt to mobilise

[12] The ESS offers this possibility with its question on respondents' perceived likelihood of unemployment in the next 6 months.

these voters through their programmes on welfare and positions on issues related to status anxiety.

Lastly, I consider measurement concerns and first pay attention to the quality of RTI as a measure of automation risk. Although RTI is commonly used in similar studies and applied on countries other than the US (e.g. Gingrich, 2019; Kurer, 2020; Thewissen and Rueda, 2017), it is nevertheless calculated using US labour data. There are therefore reservations about its relevance to European workers (e.g. Fernández-Macías and Hurley, 2017). However, Biagi and Sebastian's (2020) meta-review of different automation indices finds that most studies arrive at similar conclusions about the structure of employment in advanced capitalist economies today, despite them using different indices based on different labour data or calculations. Their study may thus indicate that there is broad convergence across different indicators about which occupations are threatened by automation. It may hence be justified to apply RTI outside of the US. Sub-study II applied some of these different automation indices and found results that are similar to those based on RTI. It is however arguable that RTI may be less relevant for Eastern European countries than West European ones due to differences in their levels of economic development. Although Sub-study II partially addresses this concern by employing country dummies in fixed-effects models or random country intercepts in random-effects models, future studies could delve further into potential differences between Eastern and Western European routine workers.

A second reservation pertains to technology's current and predicted effects on labour demand. The existing labour economics literature on technology focuses on two types of technological advancements: recent and futuristic ones. Measures like RTI rate occupations' threat of displacement from current technologies (Autor et al., 2003; Fernández-Macías and Hurley, 2017; Goos et al., 2014). By contrast, measures like the Frey and Osborne index rate occupations' threat of displacement from future technologies like driverless vehicles and algorithms and advanced computing underpinning the platform economy. I focused on the impact of recent technologies because present-day political responses to automation are probably linked to current rather than futuristic technological disruptions. Regardless of this theoretical stance, robustness checks in Sub-study II apply both types of indices and find similar results. In addition, Biagi and Sebastian's (2020) meta-review finds substantial similarity in findings from both types of indices. Nevertheless, future studies could explore potential differences in political responses to current and future technological disruptions as they may affect dissimilar occupations.

A third reservation stems from measuring automation risk at the level of occupations. Although this is the predominant approach in studies that explore similar concerns (e.g. Gingrich, 2019; Thewissen and Rueda, 2017), some labour economists have pointed out that automation risk varies for similar occupations in different sectors (eg. Cirillo, 2018). The automation

indices used in this dissertation do not directly account for such sectoral differences. Owing to collective bargaining coverage, a similar argument could be made about employment contracts in different sectors. In Sub-study II, I addressed this issue by introducing sectoral dummies during robustness checks and found results which were similar to the main models. Nevertheless, future studies could explore how sectoral differences influence vulnerable workers' political responses (e.g. Anelli et al., 2019; Kurer and Gallego, 2019). Relatedly, workers in similar occupations may have divergent unemployment risk owing to dissimilar life course experiences. For instance, older workers who perform routine physical tasks may face greater threat than younger routine workers, especially if age hinders the execution of such tasks. Similarly, routine workers who have supervisory responsibilities may be less threatened than routine workers who do not. Likewise, female routine workers could experience higher unemployment risk than male routine workers in countries and sectors where male breadwinner norms are dominant. Firms may adjust their dismissal strategies to public views that consider it less acceptable for men than women to be unemployed. Future studies could disaggregate automation risk beyond the occupation level.

A fourth reservation relates to disentangling the impacts of welfare competition and status decline concern. Disentangling their corresponding impacts here is challenging because a single measure of risk (RTI) proxies both concerns. Additionally, the dataset does not facilitate a reliable or precise disentanglement of these two effects. Furthermore, both concerns were hypothesised to have similar effects which made it more difficult to disentangle their respective effects. Although welfare competition and status decline concerns may yield overlapping outcomes on benefit conditionality support and radical right vote, these similarities may not extend to other political outcomes. For instance, if another party chooses to appeal to status insecure voters without mobilising their welfare competition concerns, individuals who prioritise status insecurity may prefer this party more than individuals who prioritise welfare competition. Future studies may leverage datasets which facilitate researchers to disentangle effects from these two worries. Future studies may also examine the extent to which political outcomes from these concerns converge or diverge.

The last concern pertains to this study's exclusive use of the ESS. Although it is a high quality dataset, it has some limitations.[13] Some of them have been discussed above, such as its imprecision at measuring different employment contracts present today. Others include the lack of details about conditions and sanctions applied to unemployment benefit recipiency. Knotz (2018) noted that sanctions might not be applied at the first instance of offence, but only for repeated breaches of obligations. The ESS does not contain questions which measure respondents' opinion for benefit conditionality policies at this

[13] This research did not directly engage with human participants in the research process.

level of precision. Future studies could exploit other datasets which capture this precision, and employ them to cross-validate findings based on the ESS.

6 CONCLUSION

As concerns grow about the adoption of workplace automation, especially if the COVID-19 pandemic spurs a further uptake of such technological capital, it is timely to assess the political implications of this labour market disruption. I focused on the impact of automation risk on support for benefit conditionality policies, and the impact of automation risk and temporary contracts on party choice. Although each research question examines specific political responses to labour market disruptions, I find a common theme throughout these different political responses: automation risk and temporary contracts present status decline and welfare competition worries to workers that then inform their political responses.

At a policy level, this means that political parties and policymakers should consider innovative policies that assuage such concerns to avert a political backlash to automation. It also means that traditional social policies that compensate for labour market disadvantage, such as generous unemployment benefit, may not stem the tide of worries experienced by automation-vulnerable workers. It is also uncertain if basic income, which provides unconditional generous redistribution to address economic worries rather than status and welfare competition fears, may stem the political fallout from automation. Instead, policies that recognise and redress the specific threats and concerns that automation-vulnerable workers face are required. Yet, such policies may appear to fall outside the scope of most social and welfare policies. It then begs the question: are there relevant social policies which may mitigate the political fallout from automation?

The short answer to this question is, yes. The gradual disappearance of jobs that had previously accorded economic and status security is at the root of automation-vulnerable workers' worries. In this regard, social and labour market policies that promote the retention of such jobs are perhaps key to averting the political fallout from automation. By retention, I do not only mean the quantity (employment) of jobs, but I also mean the quality (relevance) of such jobs. In short, automation-threatened jobs may need to be reconfigured to include new tasks that complement automation. On-the-job training programmes that enable workers' to transit seamlessly and perform these new tasks are thus crucial. By changing the composition of tasks within routine jobs and equipping workers who performed such jobs with updated skills, there is a greater chance that previously-automation vulnerable workers may continue to receive economic security and status relevance from being in their "updated" jobs. In short, training programmes and industrial policies that are well coordinated with firms may be policymakers' best bet to avert the political fallout from automation.

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