How Society Shapes the Health Gradient: Work-Related Health Inequalities in a Comparative Perspective

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Abstract

Analyses in comparative political economy have the potential to contribute to understanding health inequalities within and between societies. This article uses a varieties of capitalism approach that groups high-income countries into coordinated market economies (CME) and liberal market economies (LME) with different labor market institutions and degrees of employment and unemployment protection that may give rise to or mediate work-related health inequalities. We illustrate this approach by presenting two longitudinal comparative studies of unemployment and health in Germany and the United States, an archetypical CME and LME. We find large differences in the relationship between unemployment and health across labor-market and institutional contexts, and these also vary by educational status. Unemployed Americans, especially of low education or not in receipt of unemployment benefits, have the poorest health outcomes. We argue for the development of a broader comparative research agenda on work-related health inequalities that incorporates life course perspectives.

INTRODUCTION

One of the most powerful findings to emerge from research into the social determinants of health is the stepwise gradient in health across almost all measures of social status and economic resources within a society. Higher income, education, job security, or occupational status is conducive to better health. Although these health gradients are present in all high-income societies, their shapes vary substantially across societies. For example, low income, education, or unemployment does not lead to the same degree of health disadvantage in Canada (49, 51, 59, 85), the United Kingdom (10, 58), or Germany (61) compared with the United States. Moreover, cross-national variation in the shape of these socioeconomic health gradients implies that these gradients are not attributable solely to health selection into lower socioeconomic status (SES) but are socially produced. We have argued elsewhere that the steepness of the health gradient within a society is directly related to the social, economic, and cultural institutions that distribute health-related resources there (41, 43, 74, 75). Health inequalities are to some extent avoidable and thus modifiable (22). A central challenge to mitigating them is to identify the features of society that give rise to them.

Comparative health research has attempted to identify the features of social context that condition health outcomes (11, 18, 63) and assess the relationship between relevant institutional variations and average levels of population health (21). Much of this research has focused on overall welfare-regime type, grouping countries on the basis of the approach their states take to providing social protection to their citizens (5, 30), although some studies have also examined effects linked to the ideological orientation of governing political parties (14, 63). A powerful alternative is to understand societal context by reference to the character of the national political economy (42). Given their centrality to the lived experiences of individuals, families, and communities, the labor and employment dimensions of the political economy are likely to be especially important.

This article argues for the value of taking a comparative approach to understanding how the institutional structures of societies influence work-related health inequalities. Although it is well-estabished that health and developmental gradients start in childhood or before birth (46), differences in health disparities across the SES spectrum widen throughout adult life (81). Moreover, there are wide and growing disparities in adult mortality rates across high-income countries (86). The recent global economic recession has highlighted the effects of unemployment and working arrangements on health and well-being and the roles played by governments in mediating such effects (6, 12). Although rich research literatures have established an association between health and the features of labor regimes that structure individual experiences (3)—including the availability of work or incidence of unemployment (24, 71), the level of job insecurity (34, 80), the impact of occupational hierarchies (1, 37, 56) and other job characteristics—the larger societal context within which work is experienced has received little attention.

We apply a varieties of capitalism analysis that highlights particular variations in the societal context of labor (42). It identifies systematic forms of variation in labor institutions and policies occurring across the high-income countries—the same nations that are the focus of welfare-regime research. Although prominent in the political economy literature, the typology this analysis generates has received little attention in the sphere of population health. We believe it offers great promise for adding to our knowledge about how societal contexts condition socioeconomic inequalities in health.

We begin by reviewing the literature on welfare regimes and health. We then present an overview of the varieties of capitalism model and link it theoretically to health and health inequalities. Finally, we present a case study in which we explore employment-related health inequalities in the United States and Germany, two nations with polar positions

in the varieties of capitalism typology that encompass distinctive societal contexts for labor. We conclude by outlining features of a comparative research agenda into the social production of work-related health inequalities.

WELFARE-STATE REGIMES AND HEALTH

Although there are several relevant typologies of welfare regimes (5), the most influential one was elaborated by Esping-Andersen (30). He groups high-income countries into three welfare-regime clusters along the dimensions of decommodification (i.e., the degree to which individuals must rely on labor income for their own welfare) and social stratification [i.e., the extent to which this phenomenon is stratified by class or gender (30, 31)]. Means-tested assistance, modest universal transfers, or modest social-insurance plans dominate in countries labeled "liberal welfare states." Benefits are targeted to those at the bottom of the income spectrum. The consequence is minimal decommodification (i.e., people must work to rise above a minimal subsistence level). Canada, the United States, the United Kingdom, and Ireland are examples of countries that fall within this cluster. In "conservative welfare states," benefit entitlements are more generous but organized around the preservation of differentials based on occupational status and the family as the primary provider. Social insurance is typically not extended to nonworking wives and family benefits encourage traditional gender roles. France, Germany, and Austria are examples of countries that fall within this cluster. The principles of universalism extend social benefits, as a matter of right, beyond the marginal worker to the middle and upper class in "social democratic welfare states." Here, benefit entitlement is less contingent on labor-market participation and distributed relatively equally among occupational classes, although benefit levels are tied to earnings. Denmark, Sweden, and to a lesser extent the Netherlands, are examples of countries falling within this cluster. When this and related typologies are used, investigators predict that regimes that provide greater access to decommodifying social benefits have lower levels of social and economic stratification, better overall health outcomes, and shallower health gradients. The most favorable results should be found in social democratic and, to a lesser extent, conservative welfare regimes (21, 36).

Although ecological comparative studies have supported this ranking, especially for child health outcomes (17, 18, 62, 63, 83), a wider review suggests that there is no consistent relationship between welfare-regime type (however measured) and health inequalities within or across countries in cross-sectional or longitudinal analyses. Research using the European Social Survey found no difference in the likelihood of reporting poor self-reported health across conservative, social democratic, and liberal welfare regimes (7, 26, 68). Relative health inequalities related to SES were not smaller in social democratic regimes nor consistently larger in liberal regimes (7, 8, 25, 27, 29, 87). Income- and education-related health inequalities were smallest in conservative regimes and highest in social democratic regimes for education (27) and in liberal regimes for income (25, 87) and unemployment (7). Longitudinal analyses among European countries have also not found a consistent relationship with income, education, or unemployment (19, 20, 45, 55). Studies that include the United States as a comparator find that health inequalities are steeper there than in conservative or social democratic regimes (61, 73) or in other liberal welfare regimes (10, 58, 75, 85).

Dahl and colleagues (21) provide some insight into why the observed rankings of health inequalities by welfare regime or country may diverge from the one hypothesized:

- Social democratic countries may have higher-quality data, which could lead to more precise evaluations of health inequalities;
- The meaning of socioeconomic constructs (e.g., a lower skilled manual laborer) may vary across countries or reflect different forms of social stratification;

LME: liberal market economy

CME: coordinated market economy

MME: mixed market economy

- Lower absolute risks in health outcomes will necessarily lead to higher relative risks given comparable risk differences;
- The welfare regime typology applied at a given point in time may not account for the changing features of a country's welfare state; and
- The impact of decommodification may not be enough to counteract other sources of inequality, including the negative health effects of relative deprivation operating through psychosocial pathways (i.e., the negative health outcomes that might follow from the stress and dissatisfaction associated with being lower down in a social hierarchy).

Based on these results, other investigators question the utility of using broad-based regime clusters to explain variations in health inequalities among countries (5, 53) on the grounds that the coverage and generosity of cash transfer programs (e.g., unemployment benefits, pensions) and the availability and quality of publicly provided services (e.g., health care, education) may matter more to health inequalities and vary independently of welfare-regime type (53, 54).

Although there is an argument for examining the health effects of single policies individually, as if they do not fall into coherent clusters, there are at least three limitations to doing so. First, several types of policies are typically found together, and this sort of analysis provides no insight into why that might be the case. Second, there are good reasons for thinking that the impact of each policy, on health as on other outcomes, may be mediated by the presence of other policies, and analyses focused on the independent effects of a policy may miss these interactions. Third, evidence increasingly indicates that the effect of many specific policies is mediated by wider features of social context, and these may well be associated with broad types of societies or political economies. At the same time, because there are many routes through which the institutional structures and cultural frameworks of societies buffer or exacerbate the "wear and tear of daily life" (41), there may be value in looking for ways in which distinctive constellations of institutions interact to condition health inequalities through material as well as psychosocial pathways.

With this in mind, we explore the effects on health inequalities associated with a typology that has been highly influential in comparative political economy but has rarely been applied to issues of health. This varieties of capitalism typology is attractive for these purposes because it identifies many features of economic relations that may be consequential for work-related health inequalities and provides a strong rationale for why these features tend to cluster together, generating distinctive types of political economies where the interaction among such features could condition inequalities in health (36, 44).

VARIETIES OF CAPITALISM

The varieties of capitalism typology classifies high-income countries into three distinct types of economies: liberal market economies (LMEs), coordinated market economies (CMEs), and mixed market economies (MMEs) (40, 42). Over the long term, these political economies are capable of securing similar levels of economic growth, but each type does so on the basis of different sets of institutions, many of which are constitutive of distinctive comparative institutional advantages. This model sees firms as the key agents in the political economy, central to aggregate economic performance, and the value created by firms as a function of the quality of the relationships they establish with other actors in the political economy. The types of relationships firms can form are conditioned, in turn, by the character of institutional structures in five domains central to the operation of the firm, those associated with industrial relations, corporate governance, skill formation, the inter-enterprise relations on which access to technology depends, and the managerial structures governing intra-enterprise relations.

The varieties of capitalism approach draws a clear distinction between LMEs and CMEs. In LMEs, firms base their relationships on

competitive market institutions, including fluid capital markets and flexible labor markets, marked by few restrictions on hiring and firing and high levels of labor mobility, which give workers incentives to acquire the general skills they can carry from firm to firm. By contrast, in CMEs, more of the relationships on which firms are likely to rely to accomplish their core endeavors are built on the strategic interactions associated with cooperation, including collaboration with trade unions and other employers in coordinated wage bargaining and vocational training schemes that allow workers to acquire high levels of firm- or industry-specific skills, namely skills of value to a particular firm or industrial sector. Accordingly, workers have incentives to acquire the specific skills that lead to well-paid jobs and relatively long job tenures. MMEs are hybrid regimes in which relationships in the sphere of corporate governance tend to be strategically coordinated, whereas competitive markets tend to be more important in labor relations (42). The United States and Germany are archetypical LMEs and CMEs, respectively, and MMEs are found in southern Europe.

For our purposes, some of the most important implications of this typology concern the kinds of policy regimes and types of labor market arrangements that are likely to be found in each political economy. Many firms in CMEs utilize production regimes operated by workers with high levels of specific skills, whom firms are anxious to recruit and retain. Because specific skills are not readily transferable to other parts of the economy, spells of unemployment are often of longer duration. Workers need assurances that they are unlikely to be laid off and will be well supported if laid off, if they are to be persuaded to invest in the training that provides high levels of specific skills (33). Thus, there is wide support in CMEs for policies that offer workers in the core of the economy generous unemployment benefits and, in some cases, high levels of employment protection.

By contrast, most firms in LMEs pursue corporate strategies that rely on workers with general skills whom they can hire and fire at will. The result is a more fluid labor market in which workers are more likely to be laid off, albeit for shorter periods of time, and have incentives to acquire only the general skills readily transferable across sectors. In this context, firms resist regulations that offer employment protection or high levels of unemployment compensation that might raise the reservation wage (4). Thus, LMEs tend to feature low levels of employment and unemployment protection. Spells of unemployment tend to be shorter, if more frequent, but workers with only low levels of general skills to offer can face serious difficulty finding a job if they become unemployed.

It should be apparent that the labor market experience will be stratified differently in these two types of political economies, not only because of systematic differences in their regimes for social protection but because of variation in wider institutional arrangements associated with firm strategies and skill formation. In a complementary analysis, Szydlik (78) has underlined the importance of these differences. The average worker, with medium-level skills for instance, should be better off in a CME because a coordinated vocational training system with wide ambit equips him with skills that are in demand and enhances the matching of skills and occupations. The overall gradient representing the quality of labor market experience should be relatively flat. By contrast, although the returns to formal education, which delivers general skills, should be higher in a LME where such skills are prized, the average worker with only medium levels of such skills is at greater risk of unemployment, and those with low levels of skills may be relegated to a secondary labor market offering only low wages and little employment security. Here, the quality of the labor market experience may be steeply graded.

Szydlik's (78) comparison of Germany and the United States provides support for these conjectures. He finds there is a better fit between skill and occupation in Germany and that Americans in low-skill jobs suffer an earnings penalty (compared with people with medium or high skills in an occupation suitable to their skills) significantly greater than the equivalent

in Germany, both for those with low skills and for the overqualified (i.e., those with high skills in a low-skill job).

INSTITUTIONAL MECHANISMS MEDIATING THE HEALTH EFFECTS OF UNEMPLOYMENT

The varieties of capitalism approach suggests that the levels of employment protection and unemployment protection a state provides are among the principal policy instruments likely to mediate work-related health inequalities. Employment protection affects exposure to unemployment and job insecurity, whereas the social benefits we describe as unemployment protection mediate the effects of job loss on health by altering the material and career consequences of unemployment.

Unemployment protection can vary on several dimensions, including by coverage (i.e., the proportion of the unemployed who receive unemployment compensation) and the generosity of benefits, which is usually measured by net replacement rates of pre-unemployment income, the duration of benefits, and the terms governing whether the unemployed can wait until a suitable job is found or are required to take any job available (33). Other public transfers can also serve as unemployment protection, including social assistance, benefits for children, and one-time payments for extraordinary expenses. Favorable tax treatment for the unemployed is also relevant.

As **Figure 1** indicates, variation on many of these dimensions reflects the differences to be expected between CMEs and LMEs (66). Replacement rates are lower on average in LMEs compared with CMEs. For a single earner earning 67% of the average wage, the average replacement rate in 2009 across LMEs was 53%, whereas across CMEs it was 71%. This difference persists for single-earner couples with two children, although it is more generous across all countries largely as a result of cash transfers and housing benefits for families with children. These net replacement rates are maximum benefit levels that may not reflect the experience of the typical person who is unemployed because many are not eligible for benefits or receive less than the maximum entitlement. Individuals with weak labor force attachment—typically working part-time or on short-term contracts—are more likely to become unemployed but less likely to receive full unemployment compensation. For example, in Germany, around 80% of the unemployed receive unemployment benefits, whereas in the United States only 30% to 40% of the unemployed do (60).

Employment protection refers to regulations and practices governing the dismissal of permanent employees, including collective dismissals, and the terms regulating the use of temporary or fixed-term contracts (65). Countries with higher levels of employment protection typically require more notice before severance, which may include the need to notify local work councils, the right to contest dismissals in court, and the requirement to retrain or reassign employees, as well as higher severance payments (64). The greatest cross-national variation bears on the use of temporary or fixed-term work contracts. There are few or no restrictions on their use in LMEs but more variation exists across CMEs and MMEs (82). Denmark and Switzerland, for instance, place few restrictions on the use of temporary workers or fixed-term contracts, whereas Norway, Spain, and Portugal are more restrictive. In most LMEs, temporary workers are not entitled to the same pay or benefits as permanent employees, whereas entitlements are more likely to be similar in CMEs (67).

The health effects of unemployment follow, not only from the experience of unemployment itself, but also from the character of post-unemployment labor market trajectories; it is important to note that the latter depends not only on the strength of employment and unemployment protection, but also on other features of the institutional environment often associated with varieties of capitalism. Thus, we expect to find significant variation on this dimension across types of political economies (23, 38, 39).

Labor market scarring, defined as post-unemployment earning deficits and poorer career prospects, is found in all high-income economies (28, 38, 39, 47, 50). A growing body of evidence suggests that labor market scarring is worse in LMEs, and especially in the United States, compared with CMEs. In a series of studies examining ten high-income countries, Kuhn (50) reports that, compared with the United States, the likelihood of unemployment after job displacement was lower in countries with high levels of employment protection, whereas earning losses were greater in Canada, the United States, and the United Kingdom (all LMEs) for workers with long-standing tenure. Gangl (38) found that the receipt of unemployment benefits significantly improved post-unemployment earnings in both Germany and the United States, but greater coverage and higher benefits produced lower levels of labor market scarring in Germany. Drawing on data from 13 countries, Gangl (39) found that, once temporary lay-offs (e.g., based on short-term plant closures) are removed from the data, the unemployed in LMEs have durations of unemployment similar to those in CMEs but poorer employment and earning outcomes.

UNEMPLOYMENT AND HEALTH IN CMEs AND LMEs: A CASE STUDY OF GERMANY AND THE UNITED STATES

To illustrate how a varieties of capitalism approach can inform issues in the social production of health inequalities, we present two comparative studies of unemployment and health in Germany and the United States, an archetypical CME and LME. We draw on longitudinal data from the German Socio Economic Panel (GSOEP) and the American Panel of Income Dynamics (PSID) for the period of 1984 to 2005 to examine the association between unemployment and mortality and self-reported health status (SRHS). These studies also highlight the value of using the small but growing set of longitudinal datasets rich in economic, social, and health measures, such as the GSOEP and PSID, for comparative research into health over the life course (16, 58, 70, 72, 84, 85). Full details on the data, study design, cohort construction, measures, and analytic approaches are presented elsewhere (60, 61).

We focus on the effects of unemployment on health, on the extent to which there is a skill-based gradient in that relationship, and on the role of unemployment benefits as a mediator of such effects. These are all issues that can be addressed, in principle, by cross-national analysis that makes no reference to types of political economies. But our core point is that doing so runs the risk of misspecifying the relevant associations because the structure of the political economy can be an important additional factor mediating them. We want to show the value of bringing into the analysis systematic comparison between types of political economies.

We expect unemployment to have negative effects on health in all cases. However, the varieties of capitalism approach leads us to expect several kinds of variation in the results across countries. First, because material support for the unemployed is significantly more generous in Germany, we expect the negative relationship between unemployment and health to be somewhat weaker there. Second and more important, we expect the gradient (which is skill-based rather than income-based in this article) in the association between health and unemployment to be steeper in the United States because people with medium and low levels of skill face a more difficult labor market situation by virtue of the features of the political economy we have outlined. Finally, we expect the receipt of unemployment insurance to be a stronger mediator of the relationship between unemployment and health in the United States because it is also a marker for strong labor force attachment, which is instrumental to securing another suitable job.

In our first example (61), two comparable working-age cohorts were derived from the PSID and GSOEP and followed from 1984 to 2005. High-, medium- and minimum-skilled cohorts were created using the Comparative Analysis of Social Mobility in Industrial

Nations (CASMIN) classification of education, which categorizes skill level by hierarchy (length, quality, and value of education) and skill orientation (vocational versus general) (15). The relationship between current unemployment and mortality was examined using discrete-time survival analysis and adjusted for a range of demographic, socioeconomic, and health characteristics. In both countries, unemployment affected health risks adversely. The unemployed in the United States faced a 2.4 relative risk of dying compared with the employed, whereas the risk was 1.4 for the German unemployed.

As expected, there was a steep, skill-based gradient in the relationship between unemployment and health risk in the United States, where the unemployed with both minimum and medium levels of skills faced approximately a 2.5 relative risk, compared with the employed, whereas there was no association between unemployment and mortality for the highly skilled. In aggregate, there was no mortality gradient by skill status among the German unemployed; in particular, the medium-skilled were not worse off than the highly skilled. But there was a large and statistically significant association between unemployment and mortality among the highly skilled in Germany.

At first glance, this last result is puzzling because we should expect people with high skill levels to suffer less from unemployment. However, closer examination shows that this result can be explained by a unique feature of the German political economy rooted in its 1990 reunification. We find that the association between unemployment and mortality among the highly skilled is present only among the highly skilled who were educated in East Germany. These are people who could have expected secure and well-paid positions prior to reunification but were unable to find such positions in subsequent years. More generally, the authors found no association between unemployment and mortality for West Germans but a 2.1 relative risk of dying for the unemployed compared with the employed among East Germans.

To provide a direct comparison across countries and employment status and skill level, we present the ratio of the predicted risk of dying by employment status/skill level, evaluated at the mean of the other covariates (**Figure 2**). The gradient in the risk of dying is much steeper by employment status and skill level in the United States, where people with minimum and medium levels of skills who are unemployed are 7 and 3.5 times more likely to die than are the highly skilled employed in either Germany or the United States. By contrast, those with minimum and medium levels of skills who are unemployed in Germany are 2.7 and 1.4 times more likely to die than are members of this reference group.

We turn now to a second example, using the same data to examine the relationship between unemployment and self-reported health status. In this example, the German cohort was drawn from 1994 to 2005 because SRHS was not measured prior to this in the GSOEP. We analyzed relative within-country differences by employment status, avoiding direct comparisons between countries because subjective health measures have cultural- and society-specific anchors (48). The effect of unemployment on SRHS was estimated overall and by skill level in each cohort using a random effects logistic regression adjusting for demographic and SES covariates and lagged health status. In separate models, the interaction between employment status and receipt of unemployment benefits was also examined. SRHS was collapsed into poor and fair health versus good, very good, and excellent health because the proportionality of the odds assumption was violated in ordinal models that used all five health categories.

Once again, unemployment appears to have adverse effects on health. Compared with those who are employed, the unemployed in both Germany and the United States have a similar relative risk, of 1.7, of having a poor SRHS. In both countries, there is evidence of a gradient. The negative association between unemployment and SRHS declines as skill level rises, and among the highly skilled, there

is no association between unemployment and SRHS in either country.

In this study, we can also explore the mediating effect of unemployment benefits. They appear to affect the unemployment–SRHS association differently in these two countries. In Germany, receipt of unemployment benefits does not modify this association. By contrast, in the United States, for those with minimum and medium levels of skills, the association between unemployment and SRHS remains high (with an odds ratio of approximately two) among those who do not receive benefits but is attenuated by the receipt of benefits (see **Figure 3**).

These results support the general hypothesis that variations in the institutional structure of the political economy have implications for health and, in this case, for the association between unemployment and health. The most striking finding is that the health gradient associated with unemployment is much steeper by skill level in the United States than in Germany, measured both by risk of mortality and by SRHS. In the United States, the mortality risk of unemployment is concentrated among the minimum and medium skilled and much higher than the risk for workers at corresponding skill levels in Germany. We interpret this result as a reflection of the ways in which Germany's CME provides specific skills and employment for many workers at middle-level positions in the occupational structure and, conversely, as an artifact of the flexible labor markets in the LME of the United States, which provide ample opportunities for those with high levels of general skills but no secure niches for those with medium or low levels of skill.

Here, we think the exception also proves the rule. In Germany, the workers whose risk of dying is increased the most by unemployment turn out to be highly skilled workers brought up in East Germany whose occupational expectations were likely dashed by reunification. In many cases, these are the long-term unemployed suffering from health effects associated with the loss of the social and affective benefits of employment. That we do not see the same pattern in the SRHS study merits further investigation, but this may be because the SRHS study covers years that begin some time after German reunification and do not span the reunification period.

In the American context, by contrast, highly skilled workers suffered almost no ill effects from unemployment, as we would expect in a LME where people with the highest levels of general skills are likely to be in the highest demand. For U.S. workers with low and medium levels of skills, unemployment benefits were a significant mediator of the association between unemployment and health, not only because a LME provides such people with few other sources of support but also because the receipt of such benefits in the United States is contingent on relatively recent employment and thus reflects ongoing attachment to the labor market.

The absence of any clear-cut effect from receipt of unemployment benefits on the association between unemployment and SRHS in Germany is more surprising and more difficult to explain. Overall, it is likely attributable to two factors. On the one hand, long-term unemployment is common in Germany: In our cohort, 42% and 45% of those with minimum and medium levels of skills who became unemployed in Germany were unemployed for an entire year, compared with less than 13% and 8% in the United States (**Figure 4**). Of those unemployed the entire year, 85% received unemployment benefits in Germany, compared with only 12% in the United States. Long-term unemployment has a stronger association with mortality than short-term unemployment in CMEs (13, 57, 69, 77), a finding also replicated when we accounted for duration of unemployment in the mortality study (60). Accordingly, many of those receiving unemployment benefits in Germany would have experienced elevated health risks as a result of long-term unemployment.

On the other hand, the German welfare state provides those without unemployment

benefits several other forms of material support. Regardless of whether a person receives unemployment benefits, unemployment has smaller negative effects on household income in Germany, especially for longer durations of unemployment and those with minimum or medium levels of skill, than it does in the United States (**Figure 5**). For example, in the German cohort, people with minimum levels of skills who were employed the entire year had an average household income of 58% of the level enjoyed by those with high levels of skills similarly employed; for people with minimum levels of skills unemployed for the entire year, this ratio dropped to 45%. In the American cohort, by comparison, the analogous household income ratios were 41% and 18%, reflecting higher levels of wage inequality and lower levels of social transfers.

In sum, there are good reasons for thinking that some of the variations in inequalities in population health found across countries are linked to the institutional structures of the political economy. Moreover, a varieties of capitalism framework explains why these variations tend to persist over time. According to its logic, these are not happenstance but are instead an effect of deeply embedded institutional structures around which firms have come to organize their production. LMEs have low levels of unemployment, little employment protection, and flexible labor markets because these are central to their national comparative institutional advantages, just as corresponding forms of collaboration are crucial in CMEs. Lest inequalities in health be treated purely as a residual, however, it should be noted that, within each category, there are variations across countries that can be consequential for population health. Some LMEs, for instance, such as Canada and Australia, offer higher levels of social protection and more public goods that may well contribute to the better health outcomes observed in those countries (10, 58, 74, 85, 88). There is scope for improving health outcomes in all types of political economies, but one of the first steps is to acknowledge the impact that the distinctive institutional structures of different types of political economies can have on health.

CONCLUSION

Societal institutions shape health inequalities. This article has used a varieties of capitalism analysis to identify institutional features of the labor market that are important shapers of work-related health inequalities. Our comparison of the relationship between unemployment and health in Germany and the United States suggests that systematic differences across the political economies of high-income countries influence the complex pathways between unemployment and health at multiple points, determining who is unemployed, the meaning of unemployment, the material effect of unemployment, and the future consequences associated with it. Unemployment and other work-based experiences should not be seen simply as individual-level attributes affecting health, but as the components of wider collective phenomena that are at their core socially produced.

We contend that the varieties of capitalism analysis has much to contribute to a broad, research agenda that seeks to understand how work-related health inequalities vary across economies. Recent research using the Whitehall II cohort of civil servants in comparison with cohorts from other countries has shown that occupational hierarchies and work stress are associated with poorer health outcomes in all cohorts but that behavioral or cultural factors play a different mediating role in these relationships across countries (2, 52, 76).

Although we have focused on differences associated with unemployment, the varieties of capitalism framework points to several other kinds of institutional variations across countries that are salient to work-related health inequalities, including differences in the coordination of wage-setting and hence wage differentials, in skill formation and the distribution of training across the workforce, in job tenures, and in managerial structures. All these are factors that affect the social experiences of work, job

insecurity, work stress, and the occupational hierarchies that appear to matter to health.

We see here a comparative research agenda defined by four branches. First, the varieties of capitalism framework can be used to understand how systematic institutional variations across the high-income economies affect health by shaping labor market experiences other than the experience of unemployment examined here. Of particular relevance are increases in temporary employment and part-time work across the high-income economies as well as the development of dual labor markets in some CMEs (79). Second, although our emphasis has been on differences between CMEs and LMEs, there may be institutional variation within each of these two types of political economies with relevance for health inequalities. Do the lower levels of employment protection but higher levels of unemployment protection found in some Scandinavian countries and associated with a flex security model inspire different work-related health outcomes relative to those in the European political economies that provide high levels of unemployment and employment protection? Within LMEs, do the slightly more generous social protections provided in Canada or Australia condition the health advantages these countries enjoy compared with the United States?

It is important to identify the full range of factors in each type of political economy that feed into health inequalities because these bear on the types of policies feasible for reducing such inequalities within each type. As we have noted, many of the institutional features that define a political economy are mutually reinforcing. Thus, it may be politically difficult or economically undesirable to change one of those institutions without changing others. To tackle the policy problems posed by health inequalities effectively, we must understand how political economies cohere and how their institutions, often in interaction with each other, condition health.

Third, we need to consider how the institutional variations associated with different types of political economies mediate the impact of other types of inequalities also associated with health, such as those based on gender, race, ethnicity, or immigrant status, notably in the context of labor markets and the work experience. Recent research comparing two LMEs, the United States and Canada, which reveals considerable variation in the influence of race on health, suggests that a wide range of social institutions can mediate such inequalities (75). Estevez-Abe (32) has shown that the institutional structures of CMEs and LMEs give rise to distinctive forms of gender-based occupational segregation with implications for the kind of attachments men and women have to the labor market. Finally, because health inequalities unfold over the life course, we need to look into the ways in which the institutions of the political economy construct life trajectories marked by systematic variation across countries for specific social groups. There are good grounds for expecting some of these differences to lead to cross-national differences in the accumulation of health disadvantage.

Until now, the opportunities for comparative research into health inequalities that adopts a life-course perspective have been limited by the paucity of available data. However, comparable longitudinal data has recently emerged with detailed measures on income, education, labor market experiences, and health for a growing range of countries spanning CMEs and LMEs (35). These evolving data resources represent an unprecedented opportunity for those interested in taking a comparative approach to understanding how the institutional structures of societies influence not only the aggregate level of population health but also the steepness of the health gradient.

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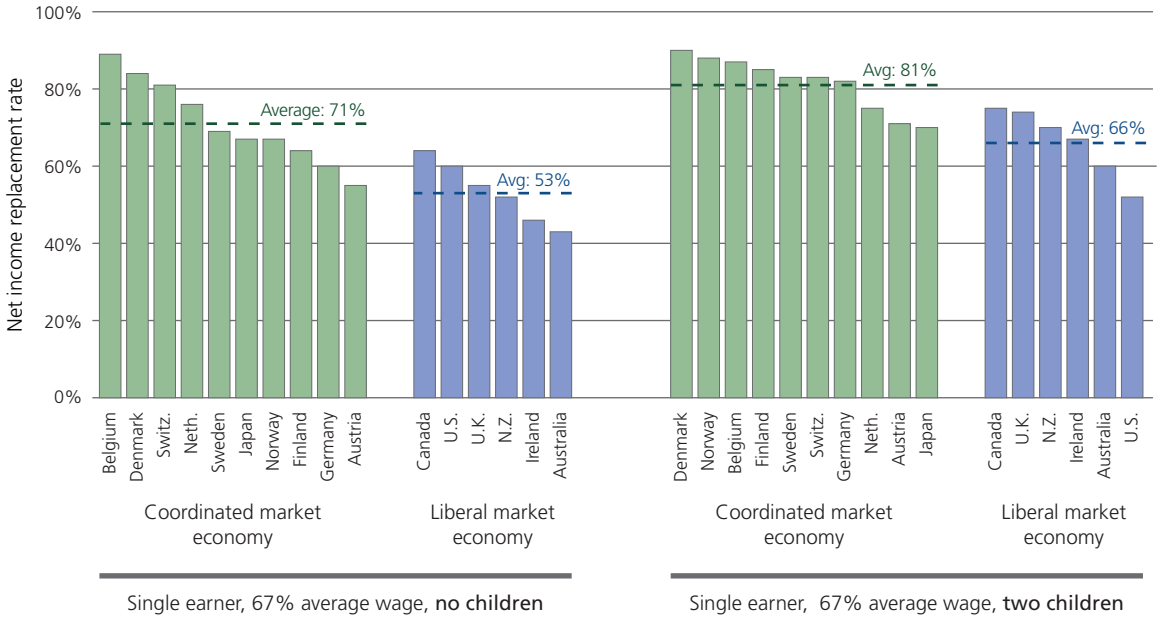

Figure 1

Unemployment benefit replacement rates by family type for selected OECD countries, 2009.

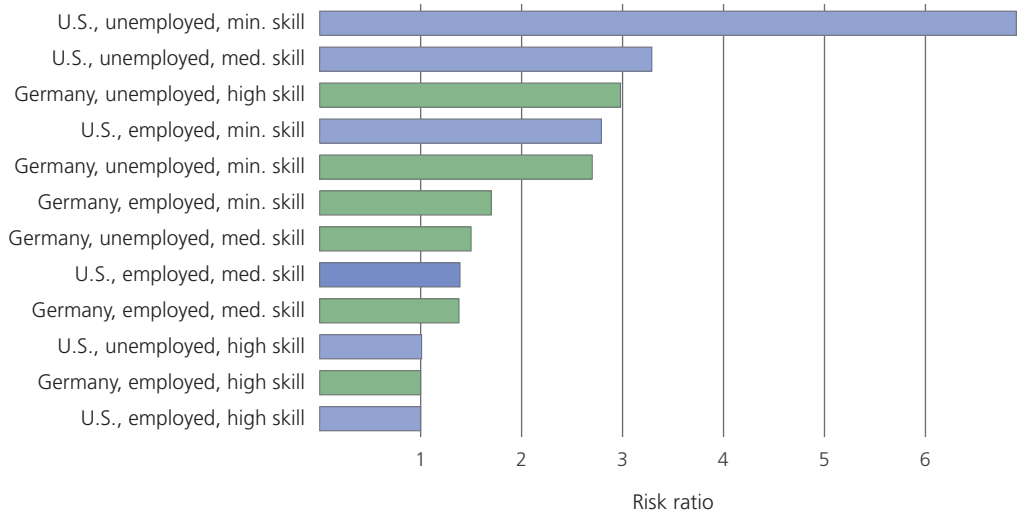

Figure 2

Rate ratio of dying by current unemployment and skill level, Germany (GSOEP) and the United States (PSID), 1984–2005.

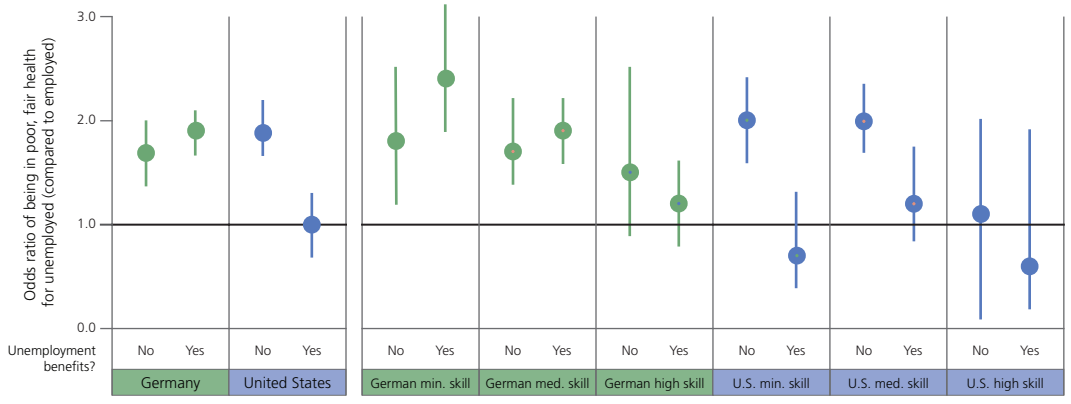

Figure 3

Odds ratios of being in poor or fair health for the currently unemployed, by receipt of unemployment benefits for Germany (GSOEP) and the United States (PSID).

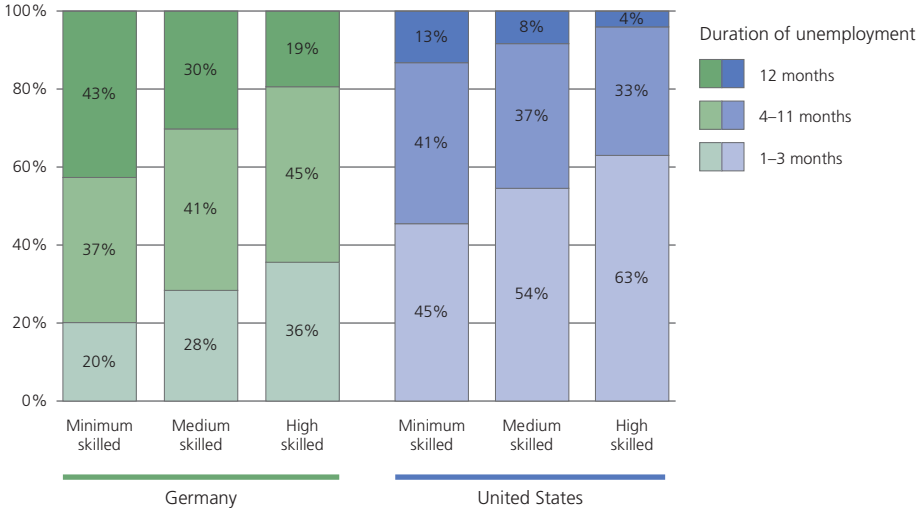

Figure 4

Percentage of year unemployed for those unemployed at the time of the survey, Germany (GSOEP) and the United States (PSID).

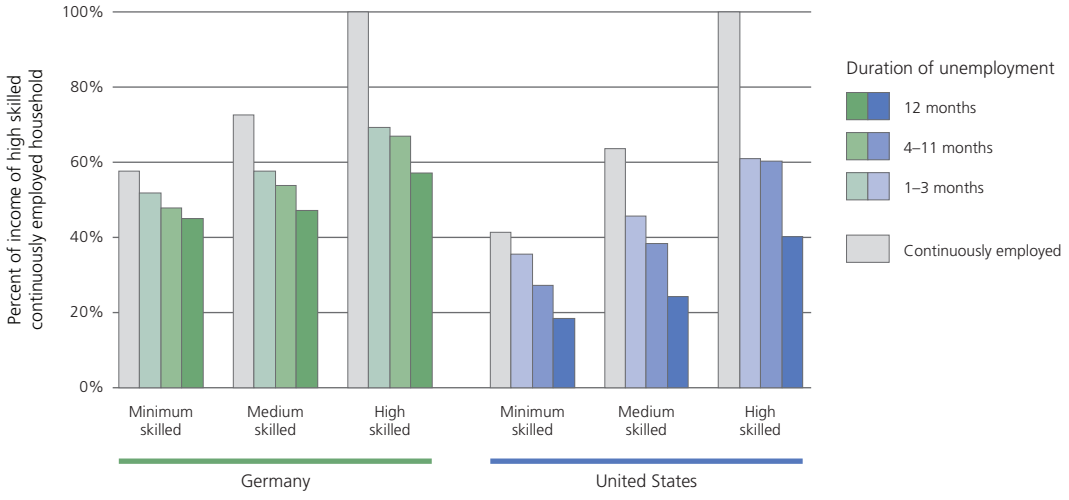

Figure 5

Proportion of household income of the unemployed compared with continuously employed by months unemployed for Germany (GSOEP) and the United States (PSID).

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