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Measuring welfare states beyond the three worlds: Refining state-of-the-art tools

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Abstract

The past decades saw the expansion of the geography of comparative welfare state research beyond the three worlds embracing a heterogeneous set of mainly middle-income countries. In response, two leading state-of-the-art tools for measuring welfare states through social rights, Social Citizenship Indicators Program (SCIP) and Comparative Welfare Entitlements Dataset (CWED), integrated many new countries into their datasets. Comparative welfare state research has yet to address the extent to which these measurement tools originally developed for measuring classic welfare states work equally well for measuring welfare states beyond the three worlds. In this article, we explore a number of challenges these datasets face in measuring these new cases. These challenges, we believe, stem from a set of key institutional characteristics widely prevalent in these welfare states. These characteristics are overt and hidden conditionalities, unconventional instruments, informal practices, nature of changes in statutory pension age and labour market characteristics of the representative worker. We propose a set of solutions to refine these datasets for comparing all cases, old and new. We conclude by drawing lessons for comparative research focusing not only on welfare states beyond the three worlds but also on the three worlds themselves.

KEYWORDS
CWED, dependent variable problem, measurement, SCIP, social rights, welfare state

1 | INTRODUCTION

Can we use state-of-the-art tools of comparative welfare state research when we measure cases beyond Esping-Andersen's 'three worlds'? After all, these tools were developed to measure a limited set of countries with particular institutional traits. This was not an issue when research was confined only to these countries. There were, in the eyes of specialists, no 'welfare states' beyond the famous 'eighteen to twenty rich capitalist countries' in the OECD area (Esping-Andersen, 1994, p. 713). Over the past two decades, however, comparative research has been expanding beyond the countries that specialists describe as 'classic' welfare states to include a heterogeneous set of mainly middle-income countries spanning Latin America to East Asia (Esping-Andersen, 1996; Gough, 2004; Haggard & Kaufman, 2008; Huber & Stephens, 2012). These countries have been labelled 'new' and 'emerging' welfare states by researchers even though most of them have had sophisticated social protection systems for a long time (Leisering, 2020). In this sense, it is not necessarily the welfare states that are new and emerging, but scholarly interest in these cases. Clearly, the 'geography of comparative welfare state research' (Hort, 2005) has changed.

With this recent expansion, there emerged the need for measuring welfare stateness in these cases. In response, the developers of two leading datasets for measuring social rights in classic welfare states—Social Citizenship Indicator Program (SCIP) and Comparative Welfare Entitlements Dataset (CWED)—began generating data for welfare states in Southern, Central and Eastern Europe and East Asia.[1] We can now calculate decommodification index (DI) and benefit generosity index (BGI) scores for these cases. Now that we can compare welfare states old and new, the next question is whether these measurements work equally well for both groups of countries (Kuitto, 2018). In this article, we explore the extent to which state-of-the-art tools developed for classic welfare states can be refined to improve our measurements of 'new' welfare states. This research focuses on cases newly added to SCIP and CWED, as well as others that maybe included in future rounds of expansion of these datasets.

Building on our experience in generating original data for these datasets, we show there are promises as well as challenges in measuring welfare states beyond the three worlds. With the new data generated for these countries, promises abound. We can now put new welfare states in comparative perspective by using the same state-of-the-art tools. These promises come with challenges, however. These become all the more pressing when researchers focus exclusively on single summary statistics of DI and BGI. When using these tools this way, we may end up *overestimating* the level of social protection in some cases while *underestimating* it in some others. In this case, we may be compromising measurement validity as we expand the universe of cases beyond the usual suspects. We argue this is no *cul-de-sac*, however. We show that, for several challenges, we can introduce complementary indicators. For others, we remind researchers to remain alert to the potential measurement challenges and to marshal additional evidence through in-depth case research. It is these strategies we explore in this article. Although our article focuses on two specific social rights datasets, SCIP and CWED, we believe our findings have relevance beyond them. As they expand towards the Global South, other cross-national datasets face similar challenges. We hope our findings will be relevant for comparative welfare state research as researchers grapple with measurement problems in the new cases. At a more general level, we also hope that our findings speak to researchers from other subdisciplines working on globalizing their research.

In Section 2, we start by providing a *tour d'horizon* of how the welfare state has been conceptualized, operationalized and measured. We also show how the state-of-the-art tools, SCIP and CWED, began to integrate new cases from Europe's peripheral regions and East Asia into the datasets. Section 3 introduces the aims, scope and conceptual definitions of the datasets we explore in this study. In Section 4, we explore a set of measurement challenges SCIP and CWED face when studying new cases. We illustrate these challenges by providing examples from new additions to the datasets, as well as countries that are likely to be included in the near future. We propose solutions to refine these datasets to compare all cases, old and new in more valid ways. In Section 5, we conclude by drawing lessons for comparative research focusing not only on welfare states beyond the three worlds, but also on the three worlds themselves.

2 | MEASURING WELFARE STATES OLD AND NEW

Over the past decades, comparative welfare state scholars have intensely debated how to best conceptualize, operationalize and measure welfare states. The 'dependent variable problem debate' (Clasen & Siegel, 2007; Green-Pedersen, 2004) revealed that our approaches are not in unison. Originally, researchers focused on government's overall 'welfare effort', measured through public social expenditures as a share of GDP. This measurement did not adequately capture the 'core of the welfare state' (Korpi, 1989; Öktem, 2020). Yet, it constituted 'easily available' (Korpi, 1989) data that continue to be immensely valuable for researchers (Jensen, 2011), in particular when used on a disaggregated level or tailored to different research questions.

From the 1980s onwards, researchers developed new measurements based on TH Marshall's work on social citizenship. These measurements quantified and compared social rights across countries. SCIP, the flagship dataset, compared legislated social rights in key social security programs protecting against social risks (Esping-Andersen, 1990; Korpi, 1989). Based on these program-level indicators, Esping-Andersen constructed the composite index, the DI. This index measures different welfare states' varying capacity to 'de-commodify', that is, 'the ease with which an average person can opt out of the market' (Esping-Andersen, 1990, p. 49).

Since SCIP scores were not publicly available at that time, Scruggs created CWED in the early 2000s to replicate the DI scores. CWED aimed to provide 'systematic data on institutional features of social insurance programs' (Scruggs, 2004, p. 1). Based on CWED indicators, Scruggs constructed the BGI following a slightly different procedure than that for the DI (Jahn & Helmdag, 2019). Debates about 'convergent validity' notwithstanding (Bolukbasi & Öktem, 2018; Wenzelburger, Zohlnhöfer, & Wolf, 2013), the social rights approach, which SCIP and CWED represent, is now widely seen as the 'traditional best' approach to capture the 'multidimensional character of the welfare state' (Kühner, 2015).

This approach inspired three new types of datasets that have the potential to complement SCIP and CWED data. First, datasets such as SaMip (Nelson, 2010) expanded the social rights approach to capture other parts of the welfare state, such as social assistance. Second, researchers devised new tools to measure benefit eligibility (Knotz & Nelson, 2019) and benefit recipiency data (van Oorschot, 2013) that shed more light on specific aspects of social rights. Third, researchers created datasets that study legislative reforms in social rights focusing on policy instruments available to governments (Jensen & Wenzelburger, 2020). All in all, these new datasets may provide fresh perspectives on the welfare state.

SCIP and CWED originally included only 18 countries from Western Europe, North America and the Antipodes plus Japan. The creators of SCIP selected 'capitalist countries with an uninterrupted political democracy since World War II and with populations above one million inhabitants' by the 1980s (Korpi & Palme, 2008, p. 4). Representing 'a universe of comparable nations' (Esping-Andersen, 1990, p. 111) these cases had secured the basic socio-economic and socio-political prerequisites for institutionalization of social rights alongside civil and political rights. These 'most similar' cases were, accordingly, the *only* countries that *could* be labelled as welfare states because political democracy and economic development were seen as universal prerequisites for the emergence of welfare states as such (Korpi, 1989, p. 310; Korpi, 1983, p. 184).

With the geographical expansion of comparative welfare state research, scholars began to explore countries beyond the usual suspects. Facing severe data limitations, they lamented the absence of operational tools (Gough, 2004, p. 44) and made do with proxies. Scholars either relied on social expenditures (e.g., Haggard & Kaufman, 2008) or used welfare outcomes which are only partly driven by the welfare state (Gough, 2004). Fortunately, however, in recent years social rights datasets expanded their geographical reach. SCIP added 16 new cases from Southern, Central and Eastern Europe, exhausting all EU members as of 2010. In parallel, CWED 2 added fifteen additional welfare states in Europe and East Asia. Moreover, developers of both datasets plan to expand their geographical reach even further in the coming years.[2]

These promising developments allow us to analyse emerging welfare states with the state-of-the-art tools that researchers use for measuring classic welfare states. Indeed, there recently emerged a lively debate on whether

these tools can be applied to other countries (Böger & Öktem, 2019; Kim, 2015; Yörük, Öker, Yıldırım, & Yakut-Cakar, 2019). We believe that old and new cases are, in principle, analytically comparable and that the expansion of SCIP and CWED offers us tremendous opportunities. Still, as Kuitto (2018) shows, this expansion presents some challenges, too. We aim to advance this debate in this article by identifying challenges the datasets are facing when measuring welfare states beyond the three worlds. We then propose strategies to refine these datasets to improve their measurement validity.

3 | SCIP AND CWED: AIMS, SCOPE AND CONCEPTUAL DEFINITIONS

SCIP and CWED measure welfare states on the basis of social rights of citizenship. They aim to capture the 'institutional structure' (SCIP) or the 'institutional features' (CWED) of key social security programs that make up the welfare state. Whether it is through 'social rights' (Korpi, 1989), 'decommodification' (Esping-Andersen, 1990) or 'generosity' (Scruggs & Allan, 2006), scholars behind SCIP and CWED ultimately aim to capture the extent of social protection states provide through legislation.

The datasets quantify, and thereby render comparable, legislated social rights. While the datasets focus mainly on publicly provided mandatory benefits, they also provide data on mandatory private benefits for some cases. CWED focuses on three branches of social security: old age pensions, unemployment insurance and sick pay insurance. SCIP, in addition, integrates data on work accident and family policies. As their indicators are generally based on national social security legislation, SCIP and CWED capture the 'de jure status' (Kuitto, 2018). For some indicators, such as coverage, the datasets complement legislative data with statistical data, usually from the respective social security institutions.

Both datasets contain data on the benefits received by a worker in case certain social risks materialize; the conditions under and the duration for which these benefits would be provided; and the potential and actual number of people who benefited from these programs, that is, coverage. To be able to compare these dimensions across countries, the datasets employ the model family approach. Two different model families are constructed: one single-person household and one single breadwinner family with two children. In both datasets, the breadwinner is defined as an average worker in the manufacturing sector. This worker is assumed to earn an average wage, the average production workers wage (APWW).

In order to make benefit levels comparable, the datasets use the concept of *replacement rates*, which are defined as 'the portion of income replaced by social security benefits' (Kuitto, 2018, p. 205) or the 'extent' to which an 'insurance program replaces the APWW' (Korpi & Palme, 2008, p. 17) in case of a loss of income. Replacement rates can be computed as gross and net replacement rates. While SCIP contains both types of replacement rates, CWED focuses on the latter. Net replacement rates are at the heart of operationalizations of 'de-commodification' (DI) and 'generosity' (BGI). With regards to *benefit conditions*, CWED and SCIP measure the qualification period and waiting days for unemployment and sick pay. In addition, SCIP also includes data on means, income and residence tests. *Coverage* is assumed to reflect 'the probability that any given person will possess the right to a transfer' (Esping-Andersen, 1990, p. 49). Conceptually, coverage is defined as 'the proportion of a reference population that is covered by an insurance during a specific point in time' (Korpi & Palme, 2008, p. 21). This is operationalized as the percentage of the labour force insured for unemployment and sick pay. For pensions, SCIP and CWED measure the take-up ratio (which is also labelled 'effective coverage' or 'beneficiary coverage ratio', ILO, 2017, p. 201) operationalized as the proportion of people above retirement age who are in receipt of a public pension. SCIP also includes further coverage and take-up indicators (Korpi & Palme, 2008; Scruggs, Jahn, & Kuitto, 2017b). While the concepts of coverage and take-up are used differently by some researchers, we follow the conceptual and operational definitions of SCIP and CWED in this article and refer to alternative definitions only when necessary.

4 | MEASURING NEW CASES: CHALLENGES AND STRATEGIES FOR IMPROVEMENT

In this section, we identify five challenges scholars face when measuring welfare states beyond the three worlds with state-of-the-art tools. These challenges stem from institutional characteristics prevalent in these welfare states. These institutional characteristics are overt and hidden conditionalities, unconventional instruments, informal practices, nature of changes in statutory pension age and labour market characteristics of the representative worker. While the list of challenges may not be exhaustive, we provide empirical instances from a range of cases. These cases include countries recently added to the datasets (mainly high-income countries from peripheral Europe) and others likely to be integrated in future rounds of expansion (mainly middle-income countries from diverse regions).

4.1 | Overlooking overt and hidden conditionalities

The first challenge concerns program coverage. SCIP and CWED, as they stand, potentially overestimate the scope and extent, to which people are protected by social security programs in many new cases. There are various conditionalities attached to social security programs in some of these cases. These effectively result in a far lower take-up rate than the coverage indicators in SCIP and CWED would make one expect.

Figure 1 demonstrates the gap between unemployment coverage and take-up rates in the original set of countries and those recently added to CWED. To illustrate, in Slovenia, the percentage of the labour force insured for
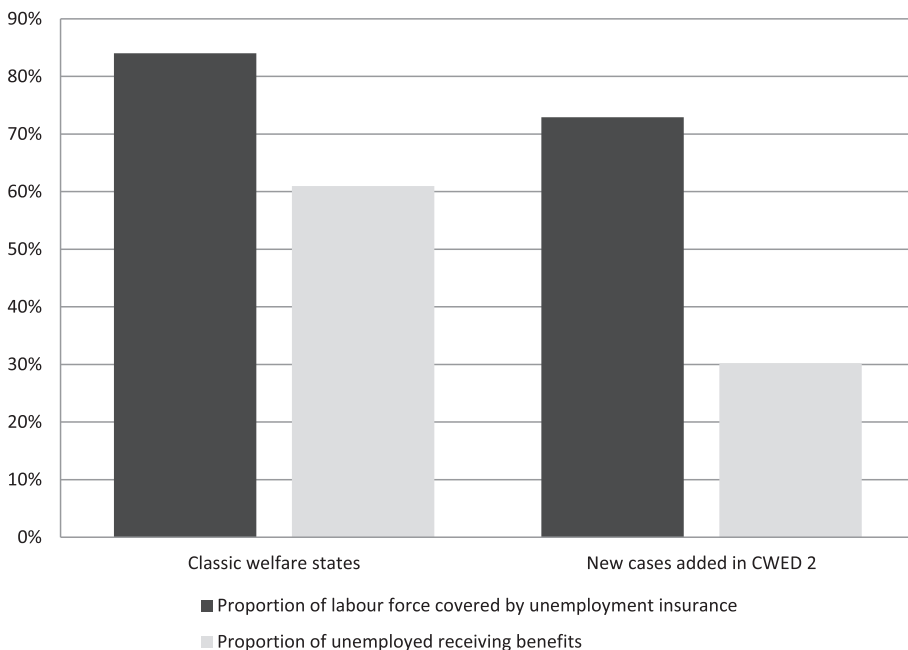

FIGURE 1 Coverage and take-up rates of unemployment insurance. *Source:* Classic welfare states for which there is data are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Japan, Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom and United States. New cases in CWED 2 for which there are data are Bulgaria, Czech Republic, Estonia, Hungary, Korea, Latvia, Lithuania, Poland, Portugal, Slovakia, Slovenia, Spain, Taiwan and Turkey. Scruggs, Jahn, & Kuitto, 2017a; ILO, 2017 and own calculations for Turkey

unemployment was 87% in 2008 according to CWED. The proportion of unemployed receiving unemployment benefits, however, remained around 26%. Empirical research shows an overwhelming majority of unemployed in these countries, in fact, does not receive any benefits (ILO, 2017). Naturally, take-up rates would categorically be lower than coverage rates in most countries. In many new cases, however, this gap is conspicuously larger than those in the original set of countries (Figure 1). We observe that key reasons behind this large gap are overt and hidden conditionalities, which escape the lenses of SCIP and CWED. Due to such conditionalities, coverage indicators may lead researchers to overestimate the likelihood that benefits are actually available for the population.

The first type of conditionality, which we term *overt conditionality*, appears in the letter of the related social security legislation. In general, a large gap between coverage and take-up could be accounted by different institutional traits of the unemployment insurance program, such as long qualification period and short benefit duration. Indeed, SCIP and CWED data show that on average, benefit duration is longer and qualification period shorter in old cases than in the new cases. However, these differences are not strong enough to account for differences in coverage and take-up between old cases and new additions to the datasets. A key condition attached to receiving benefits, which escapes the lens of the datasets, could potentially play a significant role: In many new cases, such as Slovenia, unemployment benefits are only paid if an employee is fired from her job. Employees, who voluntarily leave their jobs, therefore, are not eligible for benefits. In contrast, nearly all old cases do provide benefits for people who voluntarily leave their jobs (even if benefits are paid only after an initial sanction period) (Langenbucher, 2015).

While SCIP and CWED do not provide detailed information on conditions of benefit receipt, some new datasets focus precisely on eligibility criteria and conditionalities (Knotz & Nelson, 2019; Langenbucher, 2015). In addition to sanctions for voluntary unemployment, these datasets also measure a host of other aspects, such as availability and job-search requirements. These datasets thus offer new insights into the question under what conditions people are eligible to receive benefits. It would be worthwhile to combine these different datasets to get a clearer understanding of unemployment insurance generosity. However, for many new cases, such in-depth data on conditionalities does not exist. Therefore, an additional indicator measuring take-up alongside legal coverage would be welcome. For example, for unemployment benefits, the ILO collects and publishes data on a global level on what it calls 'beneficiary coverage ratio' (ILO, 2017). Furthermore, the OECD also collects and publishes similar data on what it defines as 'pseudo-coverage rates' (OECD, 2020). We acknowledge that cross-country data on take-up are not easily built, as it would have to be based on benefit recipiency data which may itself contain some pitfalls (van Oorschot, 2013).

The second conditionality type, which we term *hidden conditionality*, does not appear in the letter of the legislation and thus is not captured by conditionality datasets as they record legislative changes. Despite this, however, there exists again a large gap between coverage and take-up rates, yet this time for different reasons. An example of a hidden conditionality is found in the case of sick pay insurance. The large gap between sick pay coverage and take-up rates is rooted in hidden conditionalities that structure the behaviour of employees. Labour markets in many countries are characterized by a dualistic structure with large informal segments co-existing with the formal segment. Since labour law does not apply to the informal segment altogether, there is absolute *de facto* labour market flexibility in this segment. This flexibility also exerts a spillover effect on the job security of formal sector workers. This effect is larger in contexts of low union density. In fact, trade union density in the old cases is twice as high as in new additions to CWED (OECD & Visser, 2016). These factors make the employment relationship more precarious, particularly in the low-paid sectors. Although employed in the formal sector, workers develop a sense they could be replaced anytime. Thus, they try to keep their job by abiding to the unsaid rules of the labour market, one of which is showing up to work no matter what. This includes going ill to work—known as 'sickness presenteeism' in the literature. Hence, they do not make use of sick pay programs to the extent that workers in classic welfare states do. These behavioural dynamics in the employment relationship cannot be captured with measures solely based on legislation.

The extent to which sickness presenteeism is prevalent around the world is difficult to ascertain. The literature on this subject mostly focuses on within-country variation in presenteeism in the Global North. The literature highlights 'personal circumstances, attitudes and work-related factors' (Hansen & Andersen, 2008, p. 956). It also shows

precarious employment and job insecurity are closely associated with higher levels of presenteeism (Hansen & Andersen, 2008, p. 963; Kim, Lee, Muntaner, & Kim, 2016, p. 1095). As precarious employment and job insecurity are systematically higher outside the Global North, it is likely that presenteeism (i.e., non-take-up of sick pay insurance) is also higher there.

Although sickness presenteeism is notoriously difficult to measure, there is at least some illustrative evidence for our argument. Self-reported levels of sickness absence and presenteeism in the European Working Conditions Survey show that countries in the European periphery, such as Slovenia or Romania, have the highest levels of presenteeism (Eurofound, 2012). Similarly, workers in some peripheral countries report the lowest levels of sickness absence. This is all the more suspicious as at least some of these countries, such as Latvia, have very generous sick pay programs according to SCIP and CWED. Hence, on paper, workers in these countries should have no incentive to work while they are sick. We thus suspect that hidden conditionalities of the labour market explain part of the conspicuously large gap between coverage and take-up of sick pay in some of the new cases.

The wedge between coverage and take-up rates is well documented in the comparative literature on labour markets. In many peripheral countries, there exists a gap between social rights provided through legislation and the exercising of these rights (Stallings, 2010). Hence, coverage indicators would tend to systematically overestimate the scope of social protection programs in these countries. Here, real protection can only be plausibly measured if *effective* take-up is also taken into consideration alongside *legal* coverage.[3] We thus propose to measure conditions attached to benefit receipt and focus on take-up in addition to coverage, whenever this is feasible.

4.2 | Missing out on unconventional instruments

While hidden and overt conditionalities may lead SCIP and CWED to overestimate the generosity of social security systems, other challenges have an opposite effect. This presents a second challenge in measuring welfare states beyond the three worlds. *Unconventional instruments* of social protection, or 'social policy by other means' (Seelkopf & Starke, 2019), are the second institutional characteristic of these welfare states that systematically escape the lens of state-of-the-art measurement tools.

This issue can best be illustrated by looking at unemployment protection schemes. SCIP and CWED focus mainly on social insurance-based unemployment insurance programs (even if they also include some non-contributory programs). This is a default choice as unemployment insurance constitutes the main social protection instrument against unemployment in classic welfare states. However, beyond these countries, other forms of protection against unemployment, such as employment-guarantee and severance pay schemes, often dominate. Severance pay schemes, which 'provide lump sum cash payments to workers who involuntarily or voluntarily separate from their employers' (Holzmann, Pouget, Vodopivec, & Weber, 2011, p. 4), are much more prevalent than employment guarantees (ILO, 2017, p. 40–56). We thus focus on severance pay schemes in this section.

Severance pay schemes differ from country to country. In some cases, voluntary firm-based schemes, which can be seen as occupational 'fringe benefits', predominate. In other cases, however, severance pay is based on national legislation and is enforced through courts. Here, severance pay is best understood as a form of 'mandatory occupational welfare' that essentially constitutes a social right (Ozkan, 2020). In this sense, it can be perceived as 'protective legislation', which Olsen (2019) calls the '"third pillar" of the welfare state'. This 'third pillar', in turn, is a crucial part of the 'regulatory welfare state' (Levi-Faur, 2014).

A review of severance pay schemes around the world demonstrates that the 'absence of unemployment benefits' in many countries goes hand in hand 'with high employment protection through mandated severance pay' (Holzmann et al., 2011, p. 45). Thus, there appears to exist a trade-off between severance pay and unemployment schemes. For instance, within Europe, comparative studies emphasize that Nordic countries tend to have more generous unemployment insurance programs and less generous severance pay programs, while Southern European

countries tend to have generous severance pay schemes and weaker unemployment insurances (Özkan, 2014; Ozkan, 2020).

Although technically not aiming at protecting the 'unemployed' *per se*, severance pay can serve as a 'functional equivalent' (Bonoli, 2007) of unemployment insurance under certain circumstances. In some countries, severance pay effectively functions as a shelter against the risk of unemployment. What is more, workers and labour unions perceive it as the most important protection against unemployment. Especially for workers with longer job tenure— as assumed for the model workers used in SCIP and CWED (Korpi & Palme, 2008; Scruggs et al., 2017b)—severance pay may provide very generous benefits. This alternative instrument, which is paid out of the pocket of employers, alleviates the burden that would otherwise be exerted upon the public unemployment insurance program.

In sum, we argue that SCIP and CWED, as they stand, work best in cases where unemployment insurance is the most important means to protect individuals against unemployment. However, in those social protection systems that largely rely on functional equivalents, such as publicly-mandated severance pay, conventional instruments fall short of gauging the actual level of protection against unemployment.

A straightforward solution to this challenge is not easy as it is difficult to combine the protection provided through unemployment insurance and other programs, such as severance pay, into a single composite indicator. In the case of severance pay, problems are numerous. After all, although it may serve as a functional equivalent to unemployment insurance, the program's structure as well as its function is not identical to unemployment insurance and may vary from country to country. Therefore, creating a composite indicator that comprises unemployment insurance and severance pay does not appear to be a valid option. Yet, it is clear that in countries where unconventional instruments deliver supplementary protection, SCIP and CWED underestimate social protection. Thus, in principle, these datasets would benefit from additional indicators that account for unconventional instruments like severance pay as they increasingly include countries that rely more heavily than the old cases on such instruments. Still, in practice, such indicators may not be easy to develop and measure.

4.3 | Overlooking informal practices

Informal practices constitute a third challenge in measuring welfare states beyond the three worlds. This challenge is a crosscutting issue that affects the measurement of all social security programs whenever net replacement rates are involved. Net replacement rates are computed by dividing net benefits to the take home pay of an average worker (the denominator). In many 'new' welfare states, formal sector employees receive under the table cash payments in addition to the legally reported wage on which tax and social security contributions are levied. This creates a problem for social rights datasets. Given that the real wage of an average worker is actually higher than the reported wage (the denominator), datasets are prone to computing replacement rates that are higher than what the average worker perceives. Thus, the measured generosity of social security systems would be higher than the perceived generosity.

In the literature, these informal wage payments in the formal sector are known as 'envelope payments' or 'envelope wages'. Empirical research largely focused on Eastern Europe where envelope wages are widespread. This practice is not confined to Eastern Europe, however (Perry et al., 2007). It may also be found in parts of the Global North. Still, comparative research reports that envelope payments are more prevalent in many countries around the world with lower per capita income, underdeveloped and corrupt bureaucracies, significant material deprivation and income inequality (Williams, 2014). Thus, this institutional characteristic should be taken into account when interpreting replacement rates scores.

Unfortunately, it is difficult to take informal wage payments into consideration in computing replacement rates. Regular labour force surveys may under-report these envelope payments and perhaps only through in-depth case studies can we reveal the actual extent of informal top-ups employees receive. One possible solution is to change the wage assumptions for the average worker used in computing replacement rates taking into consideration these

envelope payments. However, this may present further measurement problems stemming from incomparability of the data across countries. In this sense, there are trade-offs between 'securing content validation and ensuring comparability' (Kvist, Straubinger, & Freundt, 2013, p. 321). Hence, we can only stress that researchers working on countries where envelope wages are prevalent, should interpret replacement rate scores by taking this institutional characteristic into consideration.

4.4 | Difficulty in tracing the scope of pensions over time

The fourth challenge concerns changes in the statutory retirement age in old-age pension programs. Changes in the retirement age across time may result in an overestimation or an underestimation of the likelihood with which benefits are actually available to the population. This presents a challenge in measuring some of the new additions to the datasets since retirement age changes herein take place more frequently and/or significantly.

SCIP and CWED gauge the scope of pensions through different indicators. A key indicator in both datasets, which also features prominently in the DI and BGI, is take-up, that is, the share of people above retirement age receiving old age pensions. In practice, this is computed by dividing the number of old age pensioners (the numerator) to the number of people above the statutory retirement age (the denominator). This indicator may become problematic in tracking the trend in take-up when applied to countries where retirement age is significantly changed during the period under study. When retirement age is pushed upwards, the number of possible recipients (the number of people above the retirement age, the denominator) decreases, while the number of actual recipients, at first, does not change. This, *ceteris paribus*, raises the indicator (take-up rate) without any actual improvement in the program's scope.

This may be more consequential when retirement age changes are significant and frequent. Many welfare states beyond the three worlds had pension systems which originally had either set the retirement age quite low, or allowed for early retirement. In recent decades, however, many of these countries reformed their pension systems resulting in higher retirement age (Kuitto, 2018). To quote some examples: in the 2000s, retirement age in Slovenia increased from 54 (women) and 58 (men) to 65, in Taiwan from 55 (women) and 60 (men) to 65 and in Turkey from 50 (women) and 55 (men) to 58 (women) and 60 (men) (Social Security Administration, 2020).

To illustrate this issue, take the example of Turkey where the results of such retirement age changes on pension take-up are shown in Figure 2. We see that between 1999 and 2000, pension take-up rates jumped from less than 50 to around 75%. In this year, Turkey increased the statutory retirement age from 55 for men and 50 for women to 60 for men and 58 for women. Although this increase was phased in gradually, the number of persons above the new retirement age is directly used for computing the take-up rate in the year 2000. This results in a sudden decrease of the denominator (the number of people above the retirement age), which *ceteris paribus* sharply raises the take-up rate. Therefore, the datasets would report an actual *retrenchment* of the welfare state as an *expansion* for this indicator.

How could this challenge be overcome? One solution is to use disaggregated figures for the number of pensioners and count only those pensioners whose age exceeds the legal retirement age. A retirement age increase would then not automatically lead to an increase in take-up as both the numerator and the denominator would decrease. However, for many countries, disaggregated pension beneficiary numbers are likely more difficult to obtain than aggregated pension beneficiary numbers. Thus, pension take-up data would be difficult to calculate.

A second solution is to use an alternative take-up indicator found in SCIP, which measures the share of people aged 65 years or older receiving old age pensions. As shown in Figure 2, this indicator is not much affected by retirement age changes. Thus, it allows for within-case comparisons over time. This indicator would present some challenges, too. To illustrate this challenge, let us focus on Slovenia. The SCIP indicator is reporting universal availability of benefits in the 2000s, while around two-thirds of the people above retirement age received pensions. Moreover, take-up rates measured as the share of people aged 65 years or older makes cross-case comparisons quite difficult,
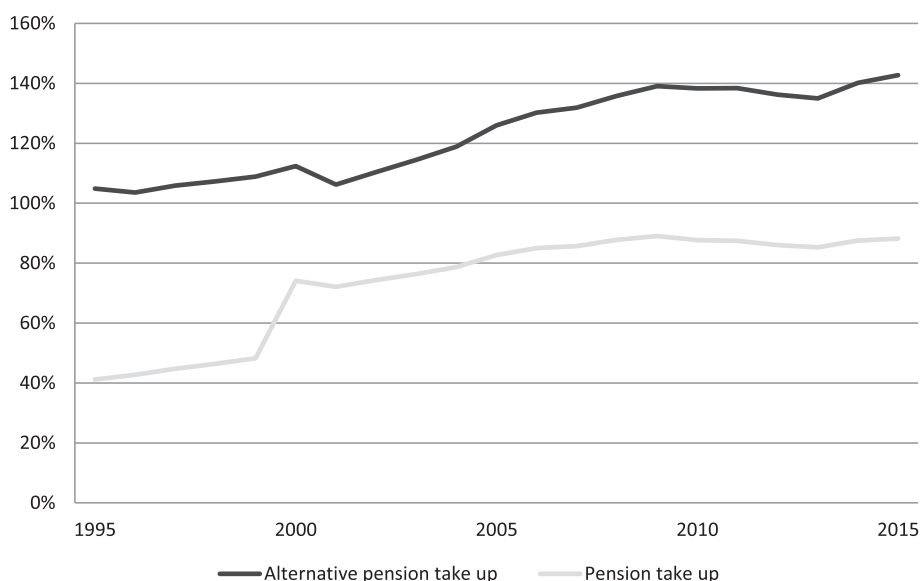
FIGURE 2 Pension take-up rates in Turkey. *Source:* Pension take up is calculated by dividing the number of old age pensioners to the number of people above pension age. The alternative pension take up indicator is calculated by dividing the number of old age pensioners to the number of people above 65. Own calculations based on national legislation following CWED 2 coding scheme

because retirement ages widely differ among countries. Take-up rates measured as shares of people of above retirement age receiving old age pensions, on the other hand, make within-case comparisons over time difficult. Thus, there is a trade-off between different analytical goals, such as longitudinal within-case analysis and cross-case comparisons. Therefore, we would suggest handling the respective indicators with care when analysing welfare states undergoing frequent retirement age reforms.

4.5 | Challenges for identifying a representative worker

The fifth challenge concerns the issue of identifying a representative worker. SCIP and CWED apply the type-case approach where a fictitious worker with certain characteristics is used to calculate benefit entitlements (Korpi & Palme, 2008). For both datasets, this worker is the 'model-typical average production worker' (APW), who is supposed to represent a typical worker. However, this APW is rarely representative of a typical worker beyond the three worlds for two reasons: the APW's earnings are too high and her contribution history is too long in comparison to typical workers in these countries.

To understand the problems with the APW one first needs to understand what assumptions the concept entails. The 'average production worker' or 'standard worker' is assumed to be 'a worker in manufacturing or the metal industry'. In SCIP, he is assumed to be 'thirty years of age', 'worked for ten years all in all', 'worked for five years at the present place of employment' and was 'not unemployed during the past two years'. For retirement calculations, this standard worker is assumed to have earned the APW wage (APWW) throughout his working life and have 'made full-time contributions during 35 years' of employment (Korpi & Palme, 2008, p. 4–6). In CWED, the assumptions are only slightly different (Scruggs et al., 2017b, p. 10–13).

The degree to which these assumptions hold for employees in contemporary welfare states has been a subject of debate (Kuitto, 2018; Kvist et al., 2013). As the characteristics of the average worker have a direct impact on

benefit levels and thus replacement rates, they strongly influence assessments of welfare state de-commodification and generosity. Insofar as the APW is not representative, these measurements therefore would not capture the generosity of social protection systems in valid ways.

There are two main problems with the operational characteristics of the APW in countries beyond the three worlds. First, the APWW that SCIP and CWED define is significantly higher than the median wage in these countries. Second, the contribution history of the APW is far longer than the mean and median contribution history of a typical worker in these countries. While the first problem may lead to an artificial fluctuation and/or underestimation of replacement rates, the second problem leads to an overestimation of standard pension replacement rates. Let us explore these problems in more detail.

In many new cases, income inequality is high and wage distribution is skewed to the lower end. In these countries, a sizeable part of the labour force earns barely the statutory minimum wage. Formal sector workers in the production sector, however, tend to be relatively better-off, and therefore, the APWW, which was devised to measure the earnings of an average worker, far exceeds the actual median wage. In itself this would not necessarily constitute a problem. However, replacement rate indicators are highly sensitive to changes in the reference wage. This is due to the fact that taxes and social security contributions are highly dependent on the wage level (Ferrarini, Nelson, Korpi, & Palme, 2013, p. 1259). Most social security systems are contribution-based and define a social security contribution ceiling. It is highly unusual that a regular worker's wage would exceed this contribution ceiling. Yet, in a context of a skewed wage distribution the APWW might exceed the ceiling. This would lead to an artificial decrease in replacement rates, as benefit levels are usually based on contribution levels.

Let us take a look at the Turkish case as an example. Turkey has a heavily skewed earnings distribution and thus it is no surprise that the APWW defined in SCIP or CWED far exceeds the median wage. For instance, in 2013, the APWW was around two to three times as high as the median wage (SGK, 2013). The results of using such high earnings as the reference wage can be illustrated with the sick pay replacement rate for the couple household. Sick pay benefit levels for couple households have been virtually unchanged in recent decades. Since the introduction of sickness insurance in 1950, they have been defined as two-thirds of a worker's gross wages. However, observing the fluctuation of sick pay replacement rates over time, as is shown in Figure 3, CWED would leave the impression that there have been repeated episodes of retrenchment followed by expansion.

FIGURE 3 Sick pay replacement rate for couple household for Turkey. *Source:* Own calculations based on national legislation following the CWED 2 coding scheme

Yet, the fluctuations in Figure 3 largely reflect changes in the ratio of APWW to the social security contribution ceiling. In most of the 1980s and 1990s, the APWW far exceeded the ceiling. In these years, sick pay replacement rates were far lower than one would have expected given that benefit levels were set at two-thirds of the gross wage. This shows how the development of the replacement rate over time is significantly influenced by the precise location of the APWW in the overall distribution of wages. Therefore, for many new cases, the replacement rate in SCIP and CWED would be different from the replacement rate that a typical worker would receive.

While comparative data on wage distributions are less than perfect, OECD data show that the ratio of mean to median earnings is far lower in the original 18 countries included in SCIP and CWED than in other countries for which the OECD compiled data. This indicates that countries beyond the three worlds are likely to have similarly skewed wage distributions. One solution to this issue is to compute separate replacement rates for different model workers, as SCIP does.[4] Such detailed data are rarely available beyond the OECD. Therefore, we propose that, especially in countries with skewed wage distributions, computing replacement rates for median or minimum wage earners would result in more valid generosity measures of social protection for a typical worker.

A second issue in terms of the APW's representativeness is that the notional average worker in SCIP and CWED has a longer contribution history than the actual average worker in new cases. This problem manifests itself most clearly in the standard pension replacement rate indicators. To compute these indicators, one needs to make some assumptions about the pensioner's working history. The datasets assume that the pensioner has been working continuously for 35 years (SCIP) or until retirement (CWED), earning the APWW since he has been 20. Based on this contribution history, the datasets compute what pension the APW would receive in the year of retirement. In many countries such employment histories are far from typical. Instead, intermittent employment, repeated transition between the formal and the informal sector, and early retirement (partly due to arduous working conditions) are common. Naturally, this would affect pension levels in most social security systems. Standard pension replacement rates in SCIP and CWED are, therefore, prone to overestimating the actual pension benefits in countries beyond the three worlds.

We propose to overcome this problem by computing additional indicators for pension. One such additional indicator could be based on estimating pension benefits that a person with minimum wage earnings would receive and comparing them to the current minimum wage. This may produce very different scores than those for standard pension replacement rates in SCIP and CWED. Take the example of Turkey again. In Figure 4, we compare this additional
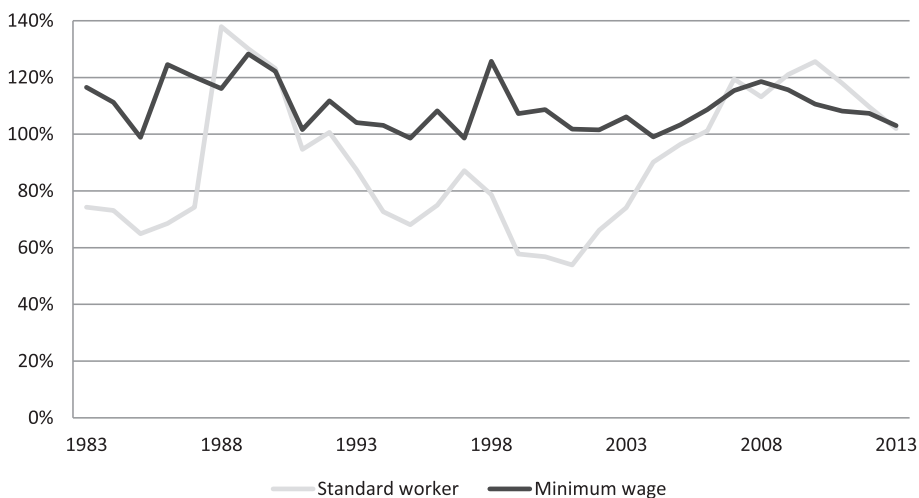

FIGURE 4 Pension replacement rates for standard workers and for minimum wage earners in Turkey. *Source:* Own calculations based on national legislation and following CWED 2 coding scheme

measure to the standard pension replacement rate indicator in CWED with data on Turkey. We observe a significant wedge between standard pension replacement rates for the APW (the blue series) and those for the minimum wage earner (the red series).

All we wish to emphasize is that the APW used to compute social security benefits in SCIP and CWED is far from representative of the typical worker in countries beyond the three worlds. We thus propose to complement the APW with other 'model workers' who are more representative of the actual typical worker in these countries. These alternative 'model workers' may differ from the APW in terms of their incomes as well as their employment histories. In fact, the 'need for more model workers' (Danforth & Stephens, 2013, p. 1293) has been emphasized also by the researchers developing SCIP (Ferrarini et al., 2013, p. 1257) and CWED (Kuitto, 2018, p. 219). In its latest update, CWED also started to provide replacement rate data for some additional households with lower or higher earnings. This should allow researchers to conduct what Kvist et al. (2013, p. 327) have called 'profiling' analysis: comparing benefits for different income levels at the same time. The fact that researchers working on classic welfare states recognize this issue indicates that the challenge is not just peculiar to new additions to the datasets, but also for the old cases.

5 | CONCLUSIONS

In this article, we explored how to equip two state-of-the-art tools in comparative welfare state research, SCIP and CWED, to the challenge of geographical expansion of the literature. We showed that the datasets face a number of challenges when measuring welfare states beyond the three worlds. Collectively, these challenges may mislead researchers, particularly when they use popular composite indexes, such as the DI and BGI, to understand welfare state generosity and decommodification. This does not mean that we should give up on using the datasets to study new cases, however. On the contrary, we believe that much can be learned through generating disaggregated social rights data for new cases. That is why we proposed a set of remedies to refine these tools. Yet, it is vital that researchers remain aware of the challenges that these datasets face in capturing new cases, as not all issues can be solved by constructing new indicators. Furthermore, in light of the challenges that SCIP and CWED face, researchers may also benefit from complementing social rights data with expenditure-based or other forms of data.

As a first challenge, we showed there exist two types of conditionalities which lead to gaps between coverage and take-up rates of social security. First, *hidden conditionalities* effectively deter potential claimants from taking up their legislated rights. This issue manifests itself particularly in the measurement of sick pay programs. Due to different industrial relations in countries beyond the three worlds, workers develop a sense they could be replaced at the discretion of the employer and thus refrain from absenteeism. Because of this behavioural pattern, the coverage indicator overestimates the real extent of social protection against sickness. Second, we showed that there also exist *overt conditionalities* that appear in the letter of the legislation, but are not measured by SCIP and CWED. We illustrated these conditionalities by exploring unemployment insurance programs. In many countries beyond the three worlds, employees who leave their job voluntarily cannot claim unemployment benefits. This leads to lower take-up for unemployment insurance. Therefore, we submit the datasets would benefit from an additional indicator that measures unemployment insurance take-up rates.

While conditionalities lead to an overestimation of generosity, other challenges have the opposite effect. Many countries rely on *unconventional instruments* to protect workers against social risks that are not captured by SCIP and CWED. For instance, many countries beyond the three worlds have generous severance pay programs that serve as functional equivalents of unemployment insurance. As the datasets do not account for such programs, they underreport the protection provided by the social security system. Therefore, scholars should interpret SCIP and CWED scores with some additional care.

Informal practices, which are more prevalent in new cases, constitute a third challenge for the datasets. We illustrated this issue by exploring a common informal practice that may significantly influence replacement rates. In many countries, a significant share of formal sector employees receives under-the-table payments in addition to reported

wages. Commonly known as 'envelope payments', these top-ups result in a gap between computed replacement rates and replacement rates that employees perceive. As we do not have sound comparable data on the extent of envelope payments, it is difficult to estimate their impact on replacement rates. Nevertheless, researchers should keep these wage practices in mind in interpreting SCIP and CWED indicators for countries where this practice is widespread.

A fourth challenge relates to the *measurement of pension take-up rates* in contexts where the statutory retirement age is significantly altered. While established welfare states usually adjust retirement age only gradually, other countries witness significant increases in this parameter. These swift retirement age increases (themselves elements of welfare *retrenchment*) would lead SCIP and CWED to report significant *increases* in pension take-up rates and would thus be interpreted as welfare state *expansion*. To overcome this challenge in longitudinal analyses, one could use an alternative pension take-up rate calculated in SCIP. However, this alternative indicator faces a separate challenge, as it overestimates the scope of pensions in countries with low retirement age.

The last challenge relates to *identifying a representative worker*. In order to calculate benefit entitlements, the datasets rely on a fictitious model worker, the APW, with a set of representative characteristics. Yet, this model worker is unlikely to be representative of an average worker in countries beyond the three worlds. To the extent that these countries have skewed wage distributions, the APW wages are higher than the mean or median wages. Moreover, the APW has a long contribution history, which is not at all typical for workers in many countries. Thus, benefit levels and replacement rates that SCIP and CWED would report may differ significantly from what typical workers in these countries actually receive.

We explored a diverse set of challenges that arise when measuring 'new' and 'emerging' welfare states. Some of these challenges are grounded in differences in legislation. This is the case for overt conditionalities, unconventional instruments and the difficulties in tracing the scope of pensions over time. Other intricate challenges, however, are more deeply rooted in the interaction of formal rules and behavioural dynamics. Hidden conditionalities, informal practices and identifying representative workers are examples that are more difficult to detect. Most new additions to SCIP and CWED are from Europe's periphery and the structural features of these countries are not too different to allow for a comparison with classic welfare states. However, in the near future the datasets will probably cover more middle-income countries that are structurally more dissimilar. Thus, there is reason to believe that the challenges we touched upon will aggravate in future analyses that integrate the Global North and the Global South.

At the same time, there are grounds to argue that the challenges also apply to core countries of the Global North, even if to a lower extent. We may expect to encounter instances of unconventional instruments, informal practices and difficulties in tracing the scope of pensions less frequently in classic welfare states. Yet, in the course of post-industrial restructuring of labour markets and social protection, issues such as the gap between coverage and take-up rates or the problem of non-standard contribution histories are becoming increasingly salient in classic welfare states. Therefore, we believe that the issues we raised are not only of interest for specialists of countries beyond the three worlds, but for the entire comparative welfare state research enterprise.

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ENDNOTES

[1] SCIP has been re-launched under the name Social Insurance Entitlements Dataset (SIED) as part of the Social Policy Indicators Dataset (SPIN). CWED has been re-launched under the name CWED 2. In the article, we use SCIP and CWED for all versions of these datasets.

[2] Personal communication with the developing teams of SCIP (March 14, 2016) and CWED (April 22, 2016).

[3] In fact, it is likely that overt or hidden conditionalities, to varying degrees, also apply to classic welfare states.

[4] SCIP calculates benefits for four different model workers (minimum, maximum, standard and full).

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