



# Can we all be Denmark? The role of civic attitudes in welfare state reforms

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## Abstract

Research has demonstrated the economic effectiveness of welfare state reforms that follow the Danish flexicurity model, broadly specifying the combination of highly flexible labor market policies and generous protection schemes. Notwithstanding, it has also been argued that large and generous welfare states may erode civic attitudes, defined here as people's willingness to cheat on taxes and claim transfers to which they are not entitled. Combining data from all available waves of the World Values Survey and the European Values Study with a self-constructed flexicurity index, this paper finds that welfare state reforms involving a combination of higher benefits, lower labor market regulations, and active labor market policies are not significantly associated with an erosion of civic attitudes.

**Keywords** Welfare state reform · Flexicurity · Civic attitudes · Benefits and tax morale · Social trust

**JEL Classification** I38 · K31 · H55 · H29 · Z18

## 1 Introduction

During the last three decades, the Danish welfare state and its labor market institutions have attracted the attention of scholars and policymakers alike. Its so-called *flexicurity* system, which combines fairly generous unemployment support with flexible hiring and firing rules as well as active labor market policies, has been widely

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recognized as a means to increase an economy's ability to adjust to negative shocks while also offering adequate social safety nets (Andersen and Svarer 2007; Phillips and Eamets 2007; Zhou 2007; Sharkh 2008; Sahnoun and Abdennadher 2019). During the Great Recession, for example, these welfare state institutions ensured high levels of gross job flows and low youth and long-term unemployment rates (Andersen 2015). For this reason, the Danish flexicurity model has become a cornerstone in many of the European Union (EU) and the Organisation for Economic Cooperation and Development (OECD) policy reform guidelines.<sup>1</sup>

However, although its merits have been widely recognised, flexicurity principles have faced some notable resistance making their way into the welfare systems of certain countries. For instance, many Southern EU member states often limited themselves to the introduction of novel contractual forms for new hires, yet without enhancing labor market flexibility in a significant way. Following Boeri et al. (2012), the institutional configuration of many European welfare states has thus remained quite far from the Danish flexicurity model, although this has changed somewhat ever since the Great Recession of 2008.

To explain this mismatch, scholars have focused on the role of social norms in the design and maintenance of welfare state institutions: A prominent strain of literature following Algan and Cahuc (2009) argues that certain informal norms largely determine the design of welfare state institutions. Economies with stronger civic virtues, it is argued, are more prone to provide insurance through unemployment benefits rather than through job protection. In a parallel manner, it has also been argued that welfare state institutions can affect social norms. Scholars such as Lindbeck (1995) warn that generous compensation systems may provide the incentive to abandon social norms over time, thus making the long-run sustainability of the welfare state more difficult. This latter question is especially important, if we are indeed facing a partial harmonization of welfare state institutions across EU and OECD countries during the last fifteen years.

Empirically, Lindbeck's argument is supported by the findings of Heinemann (2008), Halla et al. (2010), and Halla and Schneider (2014), who all associate increasing social expenditure to the progressive erosion of tax morale (and benefits morale). Such a *crowding-out* effect could eventually constitute a concern for the fiscal sustainability of social security schemes. Following this logic, also Zhou (2007) highlights that the Danish flexicurity model may not be suitable for countries facing high unemployment and budgetary difficulties. Notwithstanding, other empirical evidence indicates that exposure to large and well-developed welfare states may actually *crowd-in* civic attitudes, or that it at least does not erode them (Künemund and Rein 1999; Rothstein 2001; Salamon and Sokolowski 2003; Van Oorschot and Arts 2005; Kääriäinen and Lehtonen 2006; Kumlin and Rothstein 2003).

These somewhat contradictory findings, and the fact that quantitative studies on welfare state design as a determinant of civic attitudes are overall quite rare, make this an important topic for further research. In particular, current studies often

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<sup>1</sup> See "Towards Common Principles of Flexicurity: More and better jobs through flexibility and security". At <https://eur-lex.europa.eu>.

consider the generosity of welfare state benefits alone, without taking into account the role of labor market flexibility and active labor market policies (Heinemann 2008; Halla et al. 2010; Halla and Schneider 2014). This is interesting, because the flexicurity concept specifically highlights their complementary nature (Algan and Cahuc 2009; Zhou 2007). In addition, most empirical studies on the welfare state determinants of civic attitudes also largely exclude the role of social trust, which has nonetheless been shown to play an important role in welfare state preferences and design (Bergh and Bjørnskov 2011, 2014; Bjørnskov and Svendsen 2013; Daniele and Geys 2015). As Bergh (2020) recently highlights, high social trust may facilitate welfare states that are characterized by high taxes, but also experimentation and learning, thereby avoiding the knowledge problems associated with high levels of overall regulation.

Our study empirically examines the impact of reforms that integrate more extensive welfare state benefits and increased labor market flexibility, together with active labor market policies, on individual *civic attitudes*. Specifically, we investigate whether such reforms enhance the willingness to engage in tax evasion and to make illegitimate claims for public transfers. Compared to earlier studies, our work develops an innovative way to measure flexicurity at the country level, considering also the mediating role of social trust, as well as the potential dynamic effects proposed by Halla et al. (2010). To this end, we combine data from all available waves of the World Values Survey (WVS) and the European Values Study (EVS) with a flexicurity measure that is constructed from data contained in the Economic Freedom of the World (EFW) project by Gwartney et al. (2020) and OECD statistics on labor market policies. In a nutshell, our results suggest that flexicurity reforms are neither clearly favorable, nor clearly detrimental to the evolution of civic attitudes in the mostly Western high-income economies of OECD countries, as well as in a sample of non-OECD countries. Although social trust seem to partially mediate the association between flexicurity and civic attitudes, we find no systematic indications of flexicurity reforms fomenting tax evasion or welfare state abuse.

The remainder of the paper is structured as follows: Sect. 2 briefly reviews the literature on welfare state organization, civic attitudes, and social trust. Section 3 introduces the data and describes our self-constructed flexicurity measures. Section 4 specifies the empirical strategy and discusses the results, while Sect. 5 concludes.

## 2 Literature review

Compared to other welfare state settings, the Danish flexicurity model has often been praised for its association with overall lower unemployment rates and higher standards of income security (Andersen and Svarer 2007; Phillips and Eamets 2007; Zhou 2007; Sharkh 2008; Sahnoun and Abdennadher 2019). Overall, the flexicurity concept combines fairly generous unemployment support with flexible hiring and firing rules, as well as active labor market policies. Notwithstanding, many economists agree that the main factor behind its success is essentially the combination of generous income support with flexible labor market policies (Scarpetta 1996; Blanchard and Wolfers 2000; Feldmann 2009; Bernal-Verdugo et al. 2012).

Due to the comparatively high level of fiscal requirements, Zhou (2007) cautions that the Danish flexicurity model may not necessarily be suitable for countries facing high unemployment and budgetary difficulties. In general, scholars have warned that an expansion of social security provision without stringent control mechanisms can reduce individual incentive to work, raising the level of reservation wages (Lindbeck 1994). This could increase the incidence of welfare state abuses, boost the informal economy, increase the share and persistence of unemployment, and seriously jeopardize overall fiscal stability (Lemieux et al. 1994; Card et al. 2007; Zhou 2007; Feldstein 2005).

Despite its possible incentives for welfare state abuse, to explain the success and stability of the flexicurity model in Denmark and other Nordic countries, scholars have increasingly focused on the role of culture and social norms. A prominent strain of literature following (Algan and Cahuc 2009) argues that civic attitudes and trust largely determine the social and political viability of providing insurance through unemployment benefits rather than through job protection. In this context, civic attitudes are a cultural feature that can be defined as the declared willingness of an individual to comply with social norms, thereby acting as a barrier to the diffusion of cheating behavior on welfare state provisions (Letki 2006).

Increasingly though, this literature seems to identify social trust as an underlying determinant of preferences for redistribution and welfare state design, rather than civic attitudes (Daniele and Geys 2015; Algan et al. 2016). This is in line with a related strain of literature that identifies social trust as a determinant of welfare state size (Bergh and Bjørnskov 2011, 2014; Bjørnskov and Svendsen 2013). Accordingly, Bjørnskov and Sønderskov (2013) show that social trust and civic attitudes are empirically different concepts. Uslaner (2002) defines social trust as an individual expectation about others' trustworthiness and honest behavior, which is highly dependent on individual feelings of reciprocity. Following this logic, Bjørnskov and Svendsen (2013) highlight that social trust is likely to be a determinant of comparatively larger welfare states precisely by reducing uncivic attitudes.

Another potential reason making social trust relevant for welfare state sustainability is that it may facilitate the necessary underlying political reforms (Heinemann and Tanz 2008; Berggren and Bjørnskov 2017). Along this line, Bergh (2020) highlights that high social trust promotes welfare states that are characterized by high taxes, but also experimentation and learning via relatively low levels of regulation, thereby avoiding the knowledge problems associated with elevated levels of overall economic regulation. In this sense, social trust is a necessary but not sufficient condition for the implementation of generous social security schemes.

Rather than civic attitudes exclusively determining welfare state preferences and design, it has also been argued that welfare state institutions can affect civic attitudes. The existing literature appears rather divided on this point: On the one hand, scholars such as Lindbeck (1995) warn that welfare state systems may be "self-destructive" by providing the incentive to abandon social norms over time. Consequently, expanding social benefits would deteriorate the stock of existing civic attitudes in the long-run, reducing the moral disincentives that keep individuals from cheating on social security provisions, eventually constituting a concern for the fiscal sustainability of social security schemes. Empirically, the crowding-out

hypothesis is supported by the findings of Heinemann (2008) and Halla et al. (2010), who associate increasing social expenditure to the progressive erosion of tax morale. In a much related paper, Halla and Schneider (2014) additionally link comparatively larger welfare state provisions to increasing benefits morale. These studies all have a clear background in economics, employing samples of mostly OECD member countries.

On the other hand, a different strand of literature, mainly from political science and sociology, contrasts the crowding-out hypothesis in the context of different welfare state regimes (Künemund and Rein 1999; Rothstein 2001; Salamon and Sokolowski 2003; Van Oorschot and Arts 2005; Kääriäinen and Lehtonen 2006; Kumlin and Rothstein 2003). Following these, larger social expenditure does not necessarily produce a deterioration of the existing social capital stock over time. Many of these studies look at different and rather limited samples of democratic high-income societies though, employing also an ample definition of social capital, which includes organizational membership, social trust, and civic attitudes. For our purpose, an overall conclusion from this literature is that the crowding-out effect of large and generous welfare states on civic attitudes is not clear cut in applied studies across different disciplines. In fact, many of these authors actually argue that large and generous welfare states may crowd-in civic attitudes, rather than eroding them (Van Oorschot and Arts 2005).

### 3 Data

Our empirical analysis relies on different data sources. First, we use the integrated dataset from the World Values Survey/European Values Study (WVS/EVS). This dataset offers comprehensive information on the social characteristics and cultural attitudes of a substantial number of individuals across a wide range of countries.<sup>2</sup> Second, we employ the Economic Freedom of the World (EFW) database by the Fraser Institute to measure the degrees of labor market flexibility and welfare state generosity across countries.<sup>3</sup> Third, we incorporate data from the OECD to capture expenditure on active labor market policies (ALMP).<sup>4</sup>

#### 3.1 World values survey/European values study

The integrated WVS/EVS data offers a much-used source for exploring the individual beliefs, values, and perceptions of people around the world, employing a common questionnaire. Since its start in 1981 it has been conducted in more than 150 countries, containing roughly 90% of the world's population. At present, seven WVS waves and five EVS waves are available, covering the period from 1981 to 2022.

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<sup>2</sup> [www.worldvaluessurvey.org](http://www.worldvaluessurvey.org).

<sup>3</sup> [www.fraserinstitute.org](http://www.fraserinstitute.org).

<sup>4</sup> Public expenditure and participants stocks on LMP (OECD).

Similar to Halla and Schneider (2014), both our dependent variables are coded from two WVS/EVS items that broadly reflect individuals' civic attitudes. These are measured on a 0–10 Likert scale and respond to the following questions:

1. CHEATING ON GOVERNMENT BENEFITS: “How justifiable is it to claim government benefits to which you are not entitled?”, where 1 stands for “Never justifiable”, 10 for “Always justifiable” and 5 is a neutral judgement.
2. CHEATING ON TAXES: “How justifiable is it to cheat on taxes if you have a chance?”, where 1 stands for “Never justifiable”, 10 for “Always justifiable” and 5 is a neutral judgement.

Following the definition given by Uslaner (2002), the survey also offers a measure for social trust, captured by the following question: “Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?”. The resulting variable is a dummy with two possible response categories: “most people can be trusted”, in which case SOCIAL TRUST=1, and “need to be careful”, in which case SOCIAL TRUST=0.

An ample set of individual-level and country-level controls is further included in our study. Individual-level controls from the WVS/EVS include respondent's age, employment status, income levels, education, parental status, health, religiousness, political orientation, and perceptions of life control. As primary country-level controls, we employ the logarithm of GDP per capita, as well as the unemployment rate for OECD countries.<sup>5</sup>

Table 1 shows summary statistics for all variable, where we divide observations into sub-samples of OECD countries and non-OECD countries. Appendix D further contains a list of all countries included in the study. It can be observed in Table 1 that, on average, cheating on government benefits and taxes are considered as unacceptable behavior overall, with only a slightly lower tolerance among respondents of OECD countries. Regarding social trust, respondents from OECD countries, in turn, seem to be substantially more trusting than the rest.

### 3.2 A measure of flexicurity

Following Andersen and Svarer (2007), Zhou (2007), Andersen (2012), the flexicurity concept broadly combines generous unemployment support with flexible hiring and firing rules, as well as active labor market policies. Unfortunately, the difficulty to capture these three rather heterogeneous policy spheres in a concise index has resulted in the lack of a comparative measurement tool that we can readily employ in our empirical setting (Chung 2012; Tangian 2004). In addition, comparative data on active labor market policies is especially difficult to come by for a large set of countries, and when they are available, it is often unclear what exactly these indicators capture (Hujer et al. 2006). For the purpose of this

<sup>5</sup> <https://stats.oecd.org/>.

**Table 1** Summary statistics

	OECD countries					Non-OECD countries				
	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
<i>Individual-level</i>										
Cheat on government benefits	2.274	2.155	1	10	138,582	2.706	2.535	1	10	99,662
Cheat on taxes	2.339	2.163	1	10	138,582	2.370	2.318	1	10	99,662
Female	0.505	0.500	0	1	138,582	0.500	0.500	0	1	99,662
Age 15–30	0.248	0.432	0	1	138,582	0.327	0.469	0	1	99,662
Age 60+	0.216	0.411	0	1	138,582	0.127	0.333	0	1	99,662
Unemployed	0.056	0.230	0	1	138,582	0.119	0.324	0	1	99,662
Low income	0.212	0.409	0	1	138,582	0.267	0.442	0	1	99,662
High income	0.468	0.499	0	1	138,582	0.298	0.457	0	1	99,662
Low education	0.110	0.313	0	1	138,582	0.185	0.388	0	1	99,662
High education	0.499	0.500	0	1	138,582	0.250	0.433	0	1	99,662
Children 1 or 2	0.364	0.481	0	1	138,582	0.379	0.485	0	1	99,662
Good health	0.690	0.462	0	1	138,582	0.669	0.471	0	1	99,662
Religious person	0.592	0.491	0	1	138,582	0.737	0.440	0	1	99,662
Left-wing	5.527	2.121	1	10	138,582	5.364	2.526	1	10	99,662
Life control	7.068	2.104	1	10	138,582	6.922	2.409	1	10	99,662
Social trust	0.367	0.482	0	1	138,582	0.211	0.408	0	1	99,662
Survey wave	4.353	2.111	1	7	138,582	5.487	1.656	2	7	99,662
<i>Country-level</i>										
Labor market regulations	5.642	1.615	2.830	9.160	131,381	6.104	1.402	2.900	9.370	77,215
Transfers & Subsidies	5.311	1.738	1.198	8.834	135,862	7.836	1.614	3.494	10	78,215
Log GDP/PC	9.885	0.828	7.792	11.482	136,483	8.162	1.231	5.478	10.790	85,375
Unemployment rate	7.160	3.719	1.832	22.677	101,282	–	–	–	–	–
Total active measures (% GDP)	0.423	0.322	0	1.790	99,493	–	–	–	–	–

Table 1 (continued)

	OECD countries					Non-OECD countries				
	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
FX index	17.319	8.912	2.973	74.771	98,762	-	-	-	-	-
FX alt. index	0.293	2.011	-4.534	5.100	130,650	-1.746	2.111	-5.540	3.190	73,913



article, we propose a measure of flexicurity that synthesises the three main pillars of the concept into a linear index, namely: (i) security, in the sense of income security and social security; (ii) flexibility, meaning the flexibility of labor relations and of work organization; and (iii) active labor market policies (ALMPs), as the share of public expenditure on labor market activation policies over GDP.

To construct our indicator, we utilize data from two sources: First, the Economic Freedom of the World (EFW) index developed by Gwartney et al. (2020). The EFW is published annually by the Canadian Fraser Institute, reflecting the degree to which the economic institutions and policies of a country correspond to free market principles. The overall index and all of its sub-indicators are measured on zero-to-ten scales, with zero representing the least free and ten the most free. Two sub-sections of this index are relevant to our purposes: (i) the *Labor market regulation* sub-section, in which countries with more flexible labor markets score higher ratings; (ii) the *Transfers and subsidies* sub-section, in which countries with larger public transfer sectors score lower ratings. Second, we use OECD statistics on expenditures concerning active labor market policies. The OECD publishes comparative data with annual frequency that capture national expenditures on a diverse array of labor market policy programs as a percentage of GDP. In particular, we employ the *Total Active Measures* category, which encompasses expenditures on training, employment incentives, sheltered and supported employment and rehabilitation, direct job creation, and start-up incentives.

The calculation of our overall *Flexicurity index* (FX index) involves several steps. First, we take the difference between the EFW *Labor market regulation* and the *Transfers and subsidies* sub-sections. This means that smaller index values indicate a scenario characterized by stricter labor regulations and very limited public transfers, while higher values indicate greater labor market flexibility and comparatively larger transfers. Employing differences between the levels of regulation and the levels of transfers mirrors the substitute goods relationship between compensation and regulation, as described by Posner (1971). In Posner's argumentation, regulation presents distributive and allocative properties that are more generally recognised as belonging to fiscal policies. Although apparently cost-free and therefore attractive to policymakers, labor market regulation actually shifts the cost of employment protection onto labor market outsiders, producing distortions comparable to those of taxation. Second, we rescale this difference to fit the 1–10 range. Third, we multiply the result of this difference by country levels of ALMP expenditure (also rescaled to the 1–10 range). This approach operates under the premise that greater levels of ALMP expenditure correspond to more efficient labor market outcomes, thus taking into account the complementary role of activation policies as enhancers of secure but flexible labor markets in unemployment-to-employment transitions (Kreiner and Svarer 2022). In fact, when ALMPs' scores are equal to one (after the rescaling), our indicator remains unaltered and yields the combined values of labor market flexibility and welfare generosity only. Conversely, when ALMPs' scores exceed one, the overall flexicurity scores exhibit a linear increase of the underlying flexibility-security indicator, reflecting the efficiency enhancing impact of activation policies on labor market functioning. The resulting FX index can theoretically vary between 1 and

100, assigning higher scores to countries that closely align with an ideal flexicurity model, and lower scores to those deviating from it.

One might argue that the EFW transfers and subsidies sub-component is a substantially broader measure than unemployment benefit generosity, which is often perceived to be the key security element of flexicurity. This is undoubtedly an important point. Nonetheless, standardized measures capturing the generosity of unemployment benefits are currently not available for a broad set of countries. In addition, many transfers and subsidies that essentially fulfil similar functions may not run under the heading of unemployment compensation, and a more narrow measure might actually miss out on these. Finally, unemployment benefit generosity correlates highly with the EFW sub-component transfers and subsidies, as shown in Appendix A. In general, Appendix A shows that both the *Labor market regulation* and the *Transfers and subsidies* components of our index strongly correlate with a set of welfare state and labor market features by Brady et al. (2014), which are all judged to be important elements of the flexicurity concept (Bekker et al. 2008).

Figure 1 illustrates the evolution of our FX index over the time span of this study for a selection of countries. Here, Denmark displays comparatively higher levels of flexicurity than practically all other European countries, even before the early 1990s. Interestingly, it is precisely in the early 1990s that our index captures a spike in Danish flexicurity levels that permanently converts it into the forerunner of this concept in Europe. This is consistent with scholarly literature arguing that while an “old Danish flexicurity model” was already place during the 1980s,<sup>6</sup> it was the introduction of strong activation mechanisms in the early 1990s that consequently guaranteed the successful labor market outcomes typically associated with the Danish flexicurity model (Kreiner and Svarer 2022).

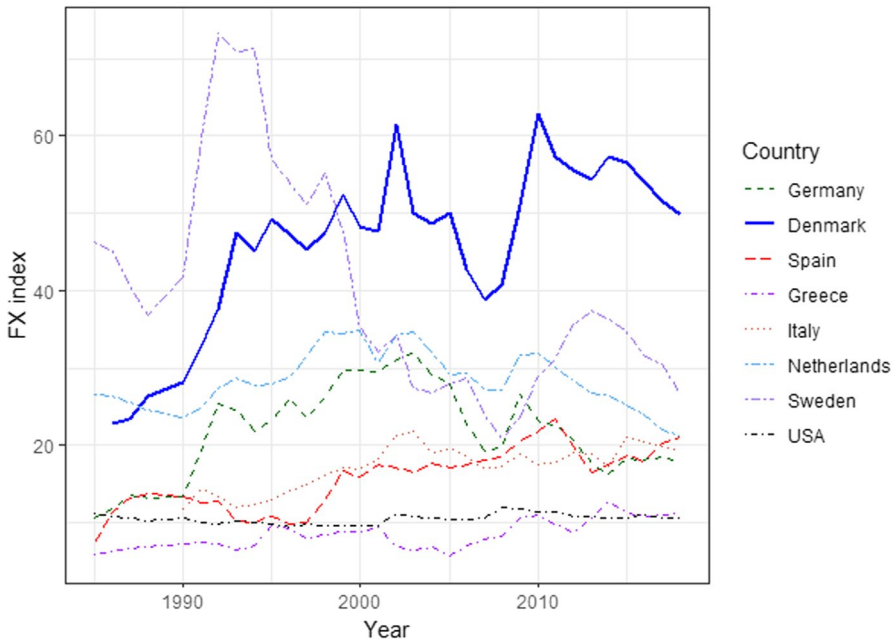
For the time period under observation, Fig. 1 also shows a slightly increasing flexicurity trend for some Southern European countries, notably Italy and Spain. For instance, flexicurity scores for Italy exhibit a local maximum in 2015, coinciding with the implementation of the “Jobs Act” reform in December 2014. This reform not only expanded the coverage and duration of unemployment benefits, but also introduced measures to augment flexibility and security within the labor market.<sup>7</sup> Similarly, the peak achieved in Spanish flexicurity scores after 2010 and its subsequent partial decline can be attributed to two specific reforms concerning temporary employment contracts: First, a labor market reform enacted in 2010, which lifted operational restrictions on temporary employment agencies. Second, the subsequent reform of employment protection legislation in 2012, which aimed again at curtailing the utilization of temporary contracts.<sup>8</sup>

These episodes of anecdotal evidence suggest that the dynamics exhibited by our flexicurity index appear well suited to empirically capture welfare state institutions that are in-line with the concept of flexicurity across a range of different OECD countries. Notwithstanding, it should be explicitly mentioned here that index

<sup>6</sup> The “old Danish flexicurity model” corresponded to a welfare arrangement that combined employment security with labor market flexibility, but lacked a structured system of ALMPs.

<sup>7</sup> OECD Economic Surveys: Italy 2017 pg. 129.

<sup>8</sup> OECD Economic Surveys: Spain 2012, p. 98.



**Fig. 1** Flexicity index evolution over time of selected countries

variation over time in Fig. 1 is obviously also influenced by other non-structural factors, such as economic crises. These have the potential to temporarily affect the composition and relative weight of fiscal spending over GDP, even in the absence of structural welfare state reforms. To alleviate the associated empirical concerns, we employ country- and time fixed effects in all estimations of the following section.

Finally, it should be noted that any compound index of the kind we construct to capture flexicity will always lead to discussions on whether a single scale can adequately capture a multidimensional concept, and how the different dimensions should be aggregated. In many ways, this discussion is mirrored in the debates surrounding other prominent institutional indicators, for example in the initial construction of the EFW index (Gwartney et al. 2020). Obviously, our one-dimensional scale is a somewhat reductionist vision of the multidimensionality that is present in real-world institutions that underlie the flexicity concept. However, we believe that the important question for our purpose is, whether we are able to construct a significantly meaningful proxy to capture the principal welfare state organization underlying this concept on a comparative level, not whether we are able to adequately represent all the institutional interactions that underlie its exact functional form.

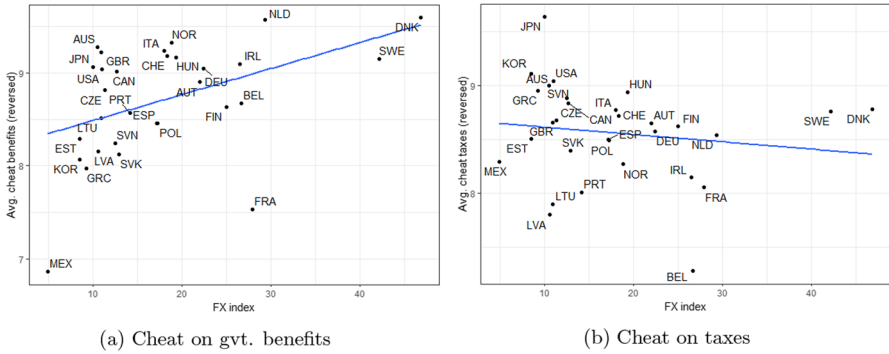
The availability of ALMP data for our flexicity index strictly limits our main study to a sample of OECD countries in next section (i.e. Sect. 4.1). To partially

overcome this limitation and provide a useful robustness check for our main findings, we further employ a proxy measure for our flexicurity index that allows for a much wider geographical coverage in Sect. 4.2. To do so, we simply use the first two pillars of our flexicurity index, namely the flexibility-security axis, disregarding expenditure on ALMPs. In order to avoid any conceptual confusion with our main FX index, we refer to this measure as the *alternative FX index* (FX alt. index). This alternative flexicurity indicator is simply calculate as the difference between regulation levels and public transfers' sector size from the EFW dataset. Theoretically, it can range from  $-10$  to  $10$ , where a value of  $-10$  indicates a hypothetical situation characterized by highly rigid labor markets and no transfers at all, whereas a value of  $10$  represents a system entirely based on high transfers and no labor market regulation. Higher FX alt. index scores are therefore assigned to countries closer to the ideal flexicurity model, while lower scores represent countries that more strongly deviate from it. While it is true that this measure does not directly account for the role played by ALMPs in the flexicurity framework, empirical evidence from Appendix A shows that both components of the FX alt. index strongly correlate with a set of welfare state and labor market features by Brady et al. (2014), which are all judged to be important elements of the flexicurity concept (Bekker et al. 2008).

## 4 Estimation and results

In this section, we empirically test whether flexicurity reforms have the potential to erode *civic attitudes* at the individual level, defined here as people's willingness to cheat on taxes and claim transfers to which they are not entitled. On one hand, in the context of welfare systems characterized by generous unemployment subsidies, benefits morale becomes highly relevant, as it directly relates to the prevalence of moral hazard behavior that has the potential to undermine the sustainability of the system (Algan and Cahuc 2006; Heinemann 2008). In flexicurity contexts, these kinds of undesired effects can be mitigated through the appropriate design of activation policies which reduce individuals' incentive to become voluntarily unemployed and unnecessarily take up unemployment benefits (Kreiner and Svarer 2022). On the other hand, tax morale is also a significant attitude to consider, as it is associated with observed levels of tax compliance (Torgler 2002; Heinemann 2008). Given the relatively higher fiscal burden required to finance generous unemployment benefits and effective activation policies, any adverse dynamics in tax morale may pose sustainability challenges to flexicurity systems, similar to those arising from insufficient levels of benefits morale.

Figure 2 graphically analyzes the relationship between average flexicurity levels and civic attitudes over the time period under consideration in this study. Exhibit 2a suggests a clear trade-off between flexicurity and willingness to cheat on welfare benefits in the sense that countries with elevated levels of flexicurity also demonstrate relatively lower average levels of benefits morale. This is in line with the argument that the successful implementation of flexicurity models is contingent upon a strong and widespread public-spiritedness against welfare state



**Fig. 2** Civic attitudes and flexicurity levels. Note: for illustrative purposes civic attitudes’ scales on the y-axis have been reversed. Higher values indicate higher degrees of civic values while lower values indicate a higher degree of uncivic values. Both the x-axis and the y-axis display average values

abuse (Algan and Cahuc 2006; Heinemann 2008). In contrast, exhibit 2b reveals that countries with elevated levels of flexicurity do not necessarily exhibit significantly higher levels of tax morale. In fact, average levels of tax morale are similar to those observed in countries with considerably lower flexicurity scores. Unlike benefits morale, this suggests that exceptionally high levels of tax morale are not necessarily needed for the effective implementation of flexicurity models.

Equation 1 specifies our baseline model to empirically test for the relationship between individual civic attitudes and country levels of flexicurity. In particular, we regress each of the two dependent variables ( $Civ.Att_{ijt}$ ), benefits morale and tax morale, on our flexicurity measure ( $FX_{jt}$ ), a set of individual-level covariates ( $X_{ijt}$ ), and a vector of country level controls ( $Z_{jt}$ ). To control for unobserved heterogeneity, all specifications include country ( $\alpha_j$ ) and time ( $\gamma_t$ ) fixed-effects, while ( $\epsilon_i$ ) denotes the error term. Suffixes  $i$ ,  $j$ , and  $t$  indicate the respondent ( $i$ ), country ( $j$ ), and observation year ( $t$ ).

$$Civ.Att_{ijt} = \beta_0 + \beta_1 FX_{jt} + \beta_2 X_{ijt} + \beta_3 Z_{jt} + \alpha_j + \gamma_t + \epsilon_i \tag{1}$$

Eq. 2 follows Halla et al. (2010) by accounting for the possibility of dynamic flexicurity effects on the dependent variables over time. To do so, we further introduce the three- and five-year lags of our flexicurity index to the basic model, as well as the three- and five-year lags of the country-level controls. This should account for those effects of flexicurity reforms that impact individual attitudes beyond the immediate time period in which they are conducted, and that may not be adequately captured by the inclusion of time fixed effects.

$$Civ.Att_{ijt} = \beta_0 + \beta_1 FX_{jt} + \beta_2 X_{ijt} + \beta_3 FX_{jt-3} + \beta_4 FX_{jt-5} + \beta_5 Z_{jt} + \beta_6 Z_{jt-3} + \beta_7 Z_{jt-5} + \alpha_j + \gamma_t + \epsilon_i \tag{2}$$

As to identification, concerns regarding potential reverse causality between our flexicurity index and civic attitudes should be partially alleviated by the fact that both dependent variables are observed at the individual-level, while the FX index reflects

country-level institutional designs. On the margin, it is highly improbable that an individual's civic attitudes influence the establishment of national institutional arrangements, unless the surveyed individual is the head of government. Of course, this does not rule out the potential existence of unobserved sources of heterogeneity that may correlate with both, overall civic attitudes among the population and institutional degrees of flexicurity. The inclusion of fixed effects and control variables should substantially reduce the importance of these factors.

Yet, the possibility that some country-specific time-varying factors are not accounted for by fixed effects does persist: For instance, the evolution of generalized social norms could impact both, individual behavior and decisions on welfare state reforms by policymakers. Similarly, the timing of welfare state reforms might be endogenous if, for instance, it is influenced by shifts in national public opinion. These represent potential confounders, whose effect on our estimations cannot be completely ruled out. It is therefore advisable to consider our findings as correlational evidence, acknowledging the potential limitations and complexities inherent in drawing causal inferences in a cross-country empirical setting.

#### 4.1 Main results: the FX index

Table 2 shows baseline results from estimating Eqs. 1 and 2 for the sample of OECD countries. All estimations cluster standard errors at the country level to correct for the Moulton bias, which would otherwise cause the standard errors of our countrywide macro-variables to be far too small (Moulton 1990). Before analyzing our main covariates of interest, we briefly describe estimates obtained for the control variables: In all estimations, women, older individuals, those with a higher education, people declaring to be in a good or very good state of health, the religious, and individuals with a high sensation of life control are all negatively associated with tolerance towards “immoral behavior” on taxes and transfers. These findings are in accordance with the existing literature (Letki 2006; Clark and Eisenstein 2013; Dingemans and Van Ingen 2015). Interestingly, parents of children display a significantly higher benefits morale, but are unrelated to tax morale. Table 2 provides further evidences that being relatively younger or unemployed is associated with a relatively higher tolerance towards cheating on taxes and transfers. Low levels of education do not significantly relate to attitudes towards public transfers and taxation. Being self-employed is associated with a significantly higher tolerance towards cheating on taxes, but insignificant for cheating on government benefits. Notably, a high degree of social trust is not significantly related to any of the two dependent variables.

Table 2 provides only limited evidence to support the existence of any robust association between variations in the degree of flexicurity and changes in civic attitudes: Regarding tax morale, all the estimated coefficients are essentially indistinguishable from zero in models (4) to (6). With respect to benefits morale, the negative sign on the FX index in specifications (1) to (3) may suggest the potential existence of a crowding-in effect in the short-run. Still, coefficients are only significant when also considering a 3-year delayed effect in model (2). Here, a one

**Table 2** Flexicurity and civic attitudes - baseline model

	Cheat on government benefits			Cheat on taxes		
	(1)	(2)	(3)	(4)	(5)	(6)
Female	− 0.109*** (0.0152)	− 0.112*** (0.0139)	− 0.114*** (0.0137)	− 0.315*** (0.0336)	− 0.322*** (0.0327)	− 0.324*** (0.0331)
Age 15–30	0.490*** (0.0434)	0.492*** (0.0429)	0.486*** (0.0429)	0.380*** (0.0355)	0.383*** (0.0349)	0.374*** (0.0339)
Age 60+	− 0.367*** (0.0335)	− 0.365*** (0.0318)	− 0.361*** (0.0316)	− 0.366*** (0.0270)	− 0.387*** (0.0270)	− 0.386*** (0.0275)
Self employed	0.00399 (0.0395)	− 0.00757 (0.0375)	− 0.00648 (0.0373)	0.319*** (0.0663)	0.321*** (0.0613)	0.316*** (0.0613)
Unemployed	0.249*** (0.0563)	0.250*** (0.0583)	0.244*** (0.0580)	0.152*** (0.0324)	0.156*** (0.0328)	0.149*** (0.0317)
Low income	0.105*** (0.0378)	0.0977*** (0.0349)	0.103*** (0.0363)	− 0.0158 (0.0280)	− 0.0240 (0.0255)	− 0.0190 (0.0239)
High income	− 0.0218 (0.0377)	− 0.0226 (0.0373)	− 0.0314 (0.0372)	0.0784* (0.0412)	0.0846** (0.0406)	0.0762* (0.0409)
Low education	0.105 (0.0808)	0.103 (0.0727)	0.0874 (0.0735)	− 0.0315 (0.0488)	− 0.0224 (0.0503)	− 0.0325 (0.0498)
High education	− 0.187*** (0.0326)	− 0.179*** (0.0308)	− 0.181*** (0.0330)	− 0.174*** (0.0293)	− 0.0958*** (0.0264)	− 0.102*** (0.0268)
Children1 or 2	− 0.0634*** (0.0194)	− 0.0633*** (0.0194)	− 0.0656*** (0.0202)	0.00236 (0.0204)	0.00283 (0.0220)	0.00117 (0.0225)
Good health	− 0.0617** (0.0228)	− 0.0641*** (0.0214)	− 0.0618*** (0.0207)	− 0.0303 (0.0211)	− 0.0301 (0.0211)	− 0.0311 (0.0200)
Religious person	− 0.111*** (0.0250)	− 0.117*** (0.0260)	− 0.124*** (0.0258)	− 0.270*** (0.0295)	− 0.276*** (0.0313)	− 0.280*** (0.0317)
Left-wing	0.0199*** (0.00704)	0.0223*** (0.00670)	0.0231*** (0.00667)	− 0.00591 (0.0108)	− 0.00488 (0.0108)	− 0.00507 (0.0108)
Life control	− 0.0343*** (0.00615)	− 0.0346*** (0.00604)	− 0.0352*** (0.00617)	− 0.0381*** (0.00638)	− 0.0378*** (0.00640)	− 0.0376*** (0.00650)
Social trust	− 0.0596 (0.0406)	− 0.0535 (0.0396)	− 0.0539 (0.0388)	− 0.0560 (0.0358)	− 0.0498 (0.0348)	− 0.0543 (0.0338)
FX index	− 0.0144 (0.00929)	− 0.0299** (0.0136)	− 0.0256 (0.0154)	− 0.000721 (0.00894)	0.00159 (0.0127)	0.00426 (0.0168)
FX lag 3	−	0.0120 (0.00858)	0.00877 (0.0139)	−	− 0.00367 (0.00553)	− 0.00421 (0.0155)
FX lag 5	−	−	0.00468 (0.0154)	−	−	0.00268 (0.0176)
Log GDPPC	0.451 (0.297)	0.851** (0.397)	1.161** (0.519)	− 0.0180 (0.307)	0.110 (0.318)	0.449 (0.456)
Log GDPPC lag 3	−	− 0.664* (0.397)	− 0.521 (0.519)	−	− 0.119 (0.318)	− 0.167 (0.456)

**Table 2** (continued)

	Cheat on government benefits			Cheat on taxes		
	(1)	(2)	(3)	(4)	(5)	(6)
Log GDPPC	–	(0.386)	(0.425)	–	(0.305)	(0.293)
lag 5			– 0.288			– 0.170
Unemployment	– 0.0430	– 0.0102	0.00782	– 0.0203	– 0.0126	0.0183
	(0.0339)	(0.0253)	(0.0407)	(0.0187)	(0.0187)	(0.0314)
Unemployment	–	– 0.0409	– 0.0691	–	– 0.00489	– 0.0708
lag 3		(0.0326)	(0.0444)		(0.0113)	(0.0483)
Unemployment	–	–	0.0299	–	–	0.0610
lag 5			(0.0438)			(0.0469)
Constant	– 1.052	1.441	– 0.578	3.779	3.670	2.089
	(3.031)	(3.018)	(3.964)	(3.219)	(3.817)	(4.715)
Observations	98,762	94,975	93,236	98,762	94,975	93,236
Nr. of countries	31	31	31	31	31	31
Country & year	✓	✓	✓	✓	✓	✓
F.E						
R-squared	0.133	0.136	0.138	0.078	0.080	0.081

Robust standard errors in parentheses; \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$

standard deviation increase in the FX index at time  $t$  is related to a statistically significant reduction in the willingness to cheat on benefits by approximately a mere 3 percentage points of a standard deviation, and this effect loses statistical significance when further introducing a 5-year delayed effect in model (3). Nonetheless, results suggest, a priori, that flexicurity oriented welfare state reforms are not associated with an erosion of civic attitudes.

As outlined in Sect. 2, a notable body of applied literature highlights the relevance of social trust in the context of welfare state reforms. Building upon this premise, we examine the potential mediating role of social trust in the relationship between flexicurity and individuals civic attitudes in Table 3. To do so, we replicate the estimations from Table 2, further introducing an interaction term between the social trust dummy and the FX index in each specification. Although all the control variables used in the previous analysis are incorporated to the analysis, they are omitted from Table 3 for reasons of space. Because conventional fixed effects (FE) models may yield biased estimations when applied to cross-level interaction terms (Giesselmann and Schmidt-Catran 2019, 2022), we following the methodology



**Table 3** Interacting flexicurity with individual social trust

	Cheat on government benefits			Cheat on taxes		
	(1)	(2)	(3)	(4)	(5)	(6)
FX alt	– 0.0146 (0.0116)	– 0.0269* (0.0134)	– 0.0206 (0.0157)	– 0.00130 (0.0105)	– 0.00269 (0.0139)	0.000351 (0.0172)
FX alt lag 3	–	0.0116 (0.0114)	– 0.00243 (0.0174)	–	– 0.000296 (0.00592)	– 0.00366 (0.0159)
FX alt lag 5	–	–	0.0170 (0.0195)	–	–	0.00558 (0.0186)
Social trust	– 0.00377 (0.0984)	0.0448 (0.101)	0.0427 (0.1000)	0.0359 (0.0711)	0.0227 (0.0640)	0.00661 (0.0591)
Social trust × FX	0.000315 (0.00872)	– 0.00594 (0.00972)	– 0.00707 (0.0104)	0.00109 (0.00511)	0.00761 (0.00619)	0.00789 (0.00576)
Social trust × FX lag3	–	0.00119 (0.00816)	0.0202* (0.0117)	–	– 0.00564 (0.00452)	0.000400 (0.00757)
Social trust × FX lag5	–	–	– 0.0233* (0.0129)	–	–	– 0.00689 (0.00838)
Controls	✓	✓	✓	✓	✓	✓
Country dummies × social trust	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Observations	98,762	94,975	93,236	98,762	94,975	93,236
Nr. of countries	31	31	31	31	31	31
R-squared	0.136	0.138	0.140	0.079	0.082	0.082

Robust standard errors in parentheses; \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$

outlined by Giesselmann and Schmidt-Catran (2019) in order to account for effect heterogeneity in the individual-level component of the interaction term.<sup>9</sup>

Findings derived from Table 3 support ideas on the mediating role of social trust, and results remain consistent with the findings of Table 2. First of all, we again find no associations between our FX index and tax morale in models (4) to (6). Moving on to attitudes towards public transfers, model (2) suggests that an increase in flexicurity may be associated with an immediate enhancement of benefits morale among individuals with low levels of trust, particularly when accounting for 3-year delayed effects in model (2). Model (3), on the other hand, indicates that when also considering a 5-year time lag, flexicurity is not significantly associated with changes in benefits morale among individuals with low levels of trust, but delayed effects may emerge among those with high levels of trust. Nevertheless, the contrasting signs

<sup>9</sup> This approach is referred to as the country fixed effects and slopes (cFES) model, which involves introducing an interaction term between country-specific dummy variables and individual social trust levels. By doing so, we aim to account for the heterogeneity arising from unobserved factors at the country level that potentially influence the impact of individual perceptions of others’ trustworthiness and/or labor market arrangements on individuals attitudes.

observed in the estimations using 3-year and 5-year lags in model (3) prevent us from drawing any clear conclusions in this aspect.

Overall, our findings provide no evidence supporting the presence of a crowding-out effect resulting from flexicurity reforms on civic attitudes among OECD member countries. If anything, there is some weak and non-robust evidence for a crowding-in effect between flexicurity reforms and benefits morale. However, the long-run association among individuals with high levels of trust remains uncertain. With respect to the previous literature, the absence of a crowding-out effect somewhat contrasts with past studies that find welfare state expansion to erode benefits morale (Heinemann 2008; Halla et al. 2010). It is important to note, however, that while our analysis investigates the combined effects of active/passive labor market policies and labor regulation, these previous studies have primarily focused on expansions in the generosity of welfare benefits.

In order to mitigate the possibility that the results from our baseline model may be driven by some country-specific observations, Appendix C provides a jackknife analysis that iteratively replicates specifications (1) and (3) of Table 2, excluding individual country observations one at a time. Tables 9 and 10 show that results align with our findings from the baseline model.

## 4.2 Expanding the geographical coverage: the alternative FX index

So far, all findings are based on a sample of OECD countries only, due to the limited availability of ALMPs data. In this section, we use the FX alt. index described in Sect. 3.2 to overcome this restriction, as well as to check the robustness of our results. To this end, Table 4 repeats estimations from Eqs. 1 and 2 for a wider set of countries, where results are presented by splitting the whole sample into OECD and non-OECD countries. As another noteworthy difference, also the unemployment rate is excluded from the vector of controls, because we would otherwise lose a large set of observations in the non-OECD country sample.

Also the evidence presented in Table 4 does not provide any systematic support for the crowding-out hypothesis. Regarding benefits morale in OECD countries, a significant negative association is observed between the propensity to cheat on public transfers and increasing levels of the FX alt. index in model (1) for the short-run, which fades away when controlling for delayed effects in model (2). In non-OECD countries, the appearance of contrasting signs when introducing 3- and 5-year lags in model (6) does not allow us to support either the crowding-in or crowding-out hypothesis. Regarding tax morale, a significant negative correlation is found in both the OECD and non-OECD samples between the inclination to evade taxes and increasing levels of the alternative FX index in models (3) and (7) for the short-run. However, this effect loses statistical significance when considering delayed effects in models (4) and (8). Significant variability is evident in the results between the two samples: In OECD countries, a one standard deviation increase in the alternative FX index is associated with a reduction of 12 percentage points of a standard deviation in attitudes against abusing public transfers in model (1). In contrast, this effect is

**Table 4** The alternative flexicurity index and civic attitudes in OECD and non-OECD countries

	OECD countries				Non-OECD countries			
	Cheat on gov. benefits		Cheat on taxes		Cheat on gov. benefits		Cheat on taxes	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	- 0.109*** (0.0152)	- 0.114*** (0.0132)	- 0.315*** (0.0335)	- 0.324*** (0.0335)	- 0.0598** (0.0235)	- 0.0353 (0.0333)	- 0.142*** (0.0247)	- 0.117*** (0.0344)
Age 15–30	0.491*** (0.0431)	0.487*** (0.0420)	0.381*** (0.0350)	0.378*** (0.0331)	0.264*** (0.0540)	0.243*** (0.0535)	0.271*** (0.0400)	0.254*** (0.0453)
Age 60+	- 0.364*** (0.0332)	- 0.361*** (0.0314)	- 0.390*** (0.0270)	- 0.387*** (0.0271)	- 0.362*** (0.0578)	- 0.333*** (0.0468)	- 0.396*** (0.0552)	- 0.384*** (0.0572)
Self employed	0.00643 (0.0393)	- 0.000851 (0.0385)	0.319*** (0.0659)	0.320*** (0.0608)	- 0.00503 (0.0607)	- 0.00873 (0.0500)	0.0497 (0.0580)	0.0434 (0.0629)
Unemployed	0.234*** (0.0585)	0.233*** (0.0597)	0.150*** (0.0331)	0.149*** (0.0320)	0.0844 (0.0614)	0.121** (0.0524)	0.0831*** (0.0329)	0.0879*** (0.0280)
Low income	0.105** (0.0411)	0.105*** (0.0366)	- 0.0218 (0.0311)	- 0.0267 (0.0298)	- 0.0297 (0.0644)	- 0.131** (0.0567)	- 0.0204 (0.0499)	- 0.0797 (0.0573)
High income	- 0.00382 (0.0311)	- 0.0222 (0.0342)	0.0893*** (0.0403)	0.0973*** (0.0408)	0.123* (0.0712)	0.129 (0.0837)	0.190** (0.0703)	0.185** (0.0788)
Low education	0.0911 (0.0799)	0.0853 (0.0707)	- 0.0296 (0.0491)	- 0.0179 (0.0487)	0.179** (0.0697)	0.184** (0.0700)	0.153** (0.0726)	0.155** (0.0702)
High education	- 0.190*** (0.0341)	- 0.178*** (0.0323)	- 0.107*** (0.0297)	- 0.0968*** (0.0270)	- 0.153** (0.0573)	- 0.0936* (0.0490)	- 0.0298 (0.0414)	0.00460 (0.0416)
Children 1 or 2	- 0.0644*** (0.0214)	- 0.0640*** (0.0212)	0.000896 (0.0214)	- 0.000562 (0.0232)	- 0.00233 (0.0297)	- 0.0172 (0.0326)	- 0.00315 (0.0260)	- 0.00904 (0.0307)
Good health	- 0.0645*** (0.0215)	- 0.0641*** (0.0190)	- 0.0297 (0.0202)	- 0.0357* (0.0199)	- 0.102* (0.0541)	- 0.0998* (0.0536)	- 0.0888* (0.0464)	- 0.0691 (0.0512)
Religious person	- 0.109*** (0.0332)	- 0.122*** (0.0314)	- 0.270*** (0.0202)	- 0.278*** (0.0199)	0.0929 (0.0614)	0.0398 (0.0536)	- 0.0878 (0.0464)	- 0.101 (0.0512)

Table 4 (continued)

	OECD countries				Non-OECD countries			
	Cheat on gvt. benefits		Cheat on taxes		Cheat on gvt. benefits		Cheat on taxes	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Left-wing	(0.0248) 0.0171** (0.00719)	(0.0264) 0.0211*** (0.00652)	(0.0306) -0.00740 (0.0102)	(0.0331) -0.00589 (0.0105)	(0.102) -0.00805 (0.0137)	(0.0967) -0.0173 (0.0151)	(0.0865) -0.00486 (0.0109)	(0.0864) -0.0120 (0.0125)
Life control	-0.0343*** (0.00632)	-0.0350*** (0.00630)	-0.0384*** (0.00639)	-0.0379*** (0.00627)	-0.0375*** (0.0108)	-0.0282*** (0.00949)	-0.0392*** (0.00882)	-0.0378*** (0.00947)
Social trust	-0.0553 (0.0415)	-0.0502 (0.0396)	-0.0528 (0.0369)	-0.0513 (0.0358)	0.0872 (0.0524)	0.0832 (0.0537)	0.0540 (0.0477)	0.0688 (0.0532)
FX alt. index	-0.117*** (0.0421)	-0.114 (0.0671)	-0.0932** (0.0441)	-0.101 (0.0636)	-0.0340 (0.0864)	0.205 (0.176)	-0.185** (0.0691)	-0.175 (0.125)
FX alt. lag 3	-	0.110 (0.0713)	-	-0.0648 (0.0463)	-	-0.427** (0.186)	-	-0.222 (0.147)
FX alt. lag 5	-	-0.112 (0.0858)	-	0.0629 (0.0665)	-	0.398** (0.165)	-	0.108 (0.104)
Log GDPPC	0.655 (0.422)	1.209** (0.561)	0.0201 (0.246)	0.109 (0.299)	-0.698 (0.575)	-0.476 (0.880)	-0.184 (0.596)	-0.581 (0.888)
Log GDPPC lag 3	-	-0.305 (0.499)	-	-0.358 (0.279)	-	-0.946 (0.971)	-	-0.161 (0.696)
Log GDPPC lag 5	-	-0.220 (0.392)	-	0.195 (0.266)	-	1.323*** (0.435)	-	0.914*** (0.291)
Observations	98,762	93,236	98,762	93,236	73,913	61,431	73,913	61,431
Nr. of countries	31	31	31	31	39	32	39	32
Country & year F.E.	✓	✓	✓	✓	✓	✓	✓	✓

**Table 4** (continued)

	OECD countries		Non-OECD countries					
	Cheat on gvt. benefits (1)	Cheat on taxes (2)	Cheat on gvt. benefits (3)	Cheat on taxes (4)	Cheat on gvt. benefits (5)	Cheat on taxes (6)	Cheat on gvt. benefits (7)	Cheat on taxes (8)
R-squared	0.133	0.137	0.078	0.081	0.086	0.109	0.088	0.099

Robust standard errors in parentheses; \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

statistically indistinguishable from zero in the non-OECD sample of model (4). Conversely, the beneficial effect on attitudes towards taxation resulting from flexicurity-inspired reforms is twice as pronounced in model (7) representing non-OECD countries, as compared to OECD countries in model (3).

Table 5 again tests for the potentially moderating effect of individual social trust in the association between flexicurity and civic attitudes. Also here, the moderating role of social trust is confirmed, as both sub-samples presented in Table 5 show that flexicurity reforms are not significantly associated with the benefits morale of trusting individuals in models (1), (2), (5), and (6). Conversely, for individuals with low levels of trust, such reforms are related to immediate improvements in benefits morale in OECD countries (models (1) and (2)), while the long-run association in non-OECD countries remains uncertain in model (6). Increases in the FX alt. index are also positively associated with immediate improvements in the tax morale of non-trusting individuals, both in OECD and non-OECD countries (models (3), (4), and (7)). The contrasting signs observed in the estimations using 3-year and 5-year lags for trusting individuals in OECD countries in model (4) again prevents us from drawing any clear conclusions here.

Overall, findings with our alternative index clearly confirm the absence of an apparent crowding-out effect following flexicurity oriented welfare state reforms, although some minor inconsistencies emerge in the temporal dimensions. Results further suggest that flexicurity reforms may have positive short-run implications for civic attitudes of individuals with low levels of trust, although these are again not particularly robust outside the context of OECD countries. In contrast, the evidence supporting a crowding-out effect is minimal, non-robust and primarily limited to individuals with high levels of social trust in OECD countries.

Finally, an important issue when dealing with survey data on behavioral norms is the question, to what degree verbal declarations are representative of actual behavior. Respondents incur no costs in the answers they give (Bertrand and Mullainathan 2001), and some may thus formulate expressive responses based on an identity and moral convictions that are not necessarily consistent with actual behavior (Hillman 2010). Although this problem has been shown to be small in a recent study by Berinsky (2018), we interpret expressiveness as a deeply rooted personality trait that potentially presents a direct association with opinions on tax morale and benefits morale. To this end, Table 8 in Appendix B repeats all estimations using the FX alt. index on a sub-sample of observations that excludes potentially expressive individuals, which we identify by a selection of survey questions following Rode and Sáenz de Viteri (2018). Findings in Appendix B show that our basic results are clearly not driven by the presence of expressive individuals.

**Table 5** Interacting the FX alt. index with individual social trust

	OECD countries				Non-OECD countries			
	Cheat on gvt. benefits		Cheat on taxes		Cheat on gvt. benefits		Cheat on taxes	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FX alt. index	-0.122*** (0.0408)	-0.132** (0.0610)	-0.104** (0.0465)	-0.144** (0.0535)	-0.0232 (0.0877)	0.214 (0.189)	-0.172** (0.0728)	-0.159 (0.139)
FX alt. lag 3	-	0.134 (0.0845)	-	-0.0244 (0.0516)	-	-0.438** (0.187)	-	-0.225 (0.147)
FX alt. lag 5	-	-0.120 (0.0860)	-	0.0691 (0.0641)	-	0.377** (0.169)	-	0.0942 (0.113)
Social trust	-0.0130 (0.0234)	-0.00203 (0.0331)	0.0325 (0.0220)	0.0466* (0.0265)	0.475* (0.249)	0.492 (0.753)	0.210 (0.215)	0.195 (0.662)
Social trust × FX alt. index	0.00864 (0.0248)	0.0345 (0.0424)	0.0214 (0.0238)	0.0989*** (0.0318)	-0.0214 (0.0824)	-0.0530 (0.166)	-0.0405 (0.0751)	-0.0523 (0.167)
Social trust × FX alt. lag 3	-	-0.0532 (0.0498)	-	-0.0767* (0.0405)	-	0.00822 (0.138)	-	-0.0546 (0.0914)
Social trust × FX alt. lag 5	-	0.0197 (0.0355)	-	-0.0257 (0.0327)	-	0.0737 (0.125)	-	0.0716 (0.0832)
Constant	-4.156 (4.087)	-4.870 (4.729)	2.861 (2.474)	3.239 (2.532)	6.493 (4.601)	2.440 (5.680)	3.048 (4.678)	-0.623 (4.735)
Controls	✓	✓	✓	✓	✓	✓	✓	✓
Country dummies × social trust	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	98,762	93,236	98,762	93,236	73,913	61,431	73,913	61,431
Nf. of countries	31	31	31	31	39	32	39	32
R-squared	0.135	0.140	0.080	0.083	0.088	0.111	0.090	0.101

Robust standard errors in parentheses; \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$

## 5 Conclusions

The Danish flexicurity model has often been praised for its association with overall lower unemployment rates and higher standards of income security. However, scholars have warned that with its generous compensation schemes, welfare state institutions that follow the flexicurity model may crowd-out the civic norms necessary for its fiscal sustainability over time. In contrast to this, other scholars have argued though that exposure to large and well-developed welfare states may actually crowd-in civic attitudes.

This paper empirically tests whether reforms in line with the Danish flexicurity concept erode individual civic attitudes with regards to taxation and publicly provided welfare benefits. Compared to earlier studies, our work develops an innovative way to measure flexicurity at the country level, allowing us to also employ a much more extended set of observations. Combining data from all the available waves of the WVS and the EVS, we further consider the role of social trust, as well as the potential dynamic impact of flexicurity reforms.

Findings provide support for the idea that the implementation of flexicurity reforms does not lead to a deterioration of civic attitudes. This proposition is consistently verified in estimations across both OECD and non-OECD countries. If anything, there is some weak evidence of crowding-in for tax morale in the short-run. However, when considering the delayed effects of flexicurity on tax and benefit morale, the estimations yield mixed evidence, thereby preventing us from definitively establishing the presence of either a crowding-out or a crowding-in effect. Further research is certainly needed to clarify, if flexicurity reforms may suffer from retarded crowding-out effects for civic attitudes. In addition, our findings show individual social trust to potentially act as a moderating factor in the relationship between flexicurity oriented welfare state reforms and civic attitudes. Although social trust seem to partially mediate the association, we also find no systematic indications of flexicurity reforms fomenting tax evasion or welfare state abuse among individuals with low trust levels.

The absence of a crowding-out effect somewhat contrasts with past studies in economics that find welfare state expansion to erode benefits morale (Heinemann 2008; Halla et al. 2010). While our analysis looks at the combined effects of unemployment compensation, labor regulation, and activation policies, previous studies primarily focus on welfare state expansion. Perhaps, the incentives to abuse welfare states are relatively more reduced in flexicurity contexts, because they can be mitigated via the appropriate design of activation policies that reduce individuals' incentive to become voluntarily unemployed (Kreiner and Svarer 2022). In that case, the question becomes why some societies are willing and capable of constructing the necessary bureaucratic capabilities to efficiently administer labor market activation policies, while others are not.



The overall implication from our findings is that arguments considering the impossibility of successfully implementing flexicurity type reforms in countries where citizens are endowed with a relatively lower levels of social responsibility (Algan and Cahuc 2006) are not really verified by our results. This leaves us with the question of explaining the political resistance to such reforms in the context of European welfare state reforms (Van Kersbergen 2002). In this context, future research might want to focus on the presence of cognitive biases that favor the status quo of welfare state organization over diffused societal benefits, which are perceived to be risky for overall fiscal sustainability by the electorate. In addition, voters may also not have the necessary confidence in the bureaucratic capabilities of governments to efficiently administer a system of this kind.

## Appendix A

### EFW subcomponents and flexicurity features

Flexicurity is a multi-dimensional concept that combines generous unemployment protection, flexible hiring and firing rules, and active labor market policies. Despite the attention it received over the last decade, an agreed upon framework to empirically measure flexicurity has not been achieved (Chung 2012). As flexicurity entails different scopes of public policy making and it can manifest both at the public and at the employer level, it is difficult to summarize it into a synthetic indicator that consistently addresses these many specificities.

We dedicate this section to test the capability of our FX alt. index to proxy the key features of flexicurity. To this purpose, we study the pairwise correlations between this proxy of flexicurity, its subcomponents, and a set of welfare state statistics from the 2020 version of the Comparative Welfare States Dataset (CWS) by Brady et al. (2014).

The CWS provides a wide array of country-level welfare state, economic, institutional, political, policy, and demographic indicators for 22 developed economies from 1960 to 2018. We select from the CWS a subset of variables that can be directly used as proxies of each one of the three pillars of the flexicurity concept. These are the generosity of unemployment benefits, the level of public expenditure on unemployment benefits, the level of public expenditure on ALMP, the level of public expenditure on job training, and the strictness of permanent and temporary employment protection legislation (EPL). Higher values in the social benefits and ALMP variables indicate larger spending in each of these fields, while higher values for regulation variables indicate higher strictness of labor legislation.

Table 6 shows the cross-sectional correlation coefficients. Overall, both the sub-components of our indicator correlate strongly in the expected directions: the

**Table 6** Pairwise correlations

Social benefits	FX alt. index	Transfers and subsidies	Labor market regulations
Unemployment benefits generosity	– 0.072 (0.000)	– 0.221 (0.000)	– 0.276 (0.000)
Public expenditure on unemployment benefits (%GDP)	0.074 (0.000)	– 0.503 (0.000)	– 0.422 (0.000)
Active labor market policies			
Public expenditure on ALMP (%GDP)	– 0.051 (0.000)	– 0.681 (0.000)	– 0.687 (0.000)
Public expenditure on job training (%GDP)	– 0.245 (0.000)	– 0.456 (0.000)	– 0.616 (0.000)
Labor market regulation			
EPL for temporary employment	– 0.095 (0.000)	– 0.673 (0.000)	– 0.710 (0.000)
EPL for permanent employment	– 0.180 (0.000)	– 0.595 (0.000)	– 0.698 (0.000)

Test for zero correlation p-values in parenthesis

transfers component is negatively associated with larger expenditure for unemployment benefits and ALMP, and the labor market regulation component is negatively associated with stricter EPL. Although the first column shows little correlations between the flexicurity index and the selected welfare state variables these should not be worrisome: The indicator is not supposed to proxy individual welfare state characteristics, instead, it should be capable of synthesizing them jointly.

To further investigate whether the index captures the main areas of flexicurity we show in Table 7 the correlation coefficients by country. In order to reduce the possibility of spurious correlations due to the presence of trends in the country series we take the first differences of each of the variables considered.

The suitability of the indicator to capture the concept of flexicurity as originally framed in the Danish case emerges when looking at the correlation coefficients for Denmark: Higher flexicurity is positively associated with increasing expenditure on unemployment benefits and active labor market policies, while it is negatively associated with labor market regulation strictness. This result is confirmed by the coefficients obtained for the rest of the Nordic countries which historically shared several aspects of their welfare state organization with Denmark. Results for the remaining

**Table 7** FX alt. index pairwise correlations by country

Country	Public expenditure on unemployment ben.	Unemployment generosity	Public expenditure on job training	Public expenditure on ALMP	EPL for temp. employment	EPL for perm. employment
Australia	0.38	0.42	0.54	0.31	-	-0.25
Austria	0.04	0.21	0.57	0.64	-	-0.00
Belgium	0.30	-0.02	0.04	-0.07	-0.21	0.00
Canada	0.43	-0.79	0.57	0.57	-	-
Denmark	0.37	0.27	0.51	0.52	-0.43	-0.52
Finland	0.87	0.59	0.85	0.75	-0.26	-0.69
France	0.24	-0.36	0.31	0.36	0.31	0.22
Germany	0.24	-0.09	0.34	0.34	-0.31	0.35
Greece	0.32	0.03	-0.22	-0.18	0.23	-0.22
Ireland	0.11	0.17	-0.08	-0.02	0.03	0.19
Italy	0.73	-0.64	-0.51	-0.53	0.47	-0.01
Japan	-0.06	0.41	-0.01	-0.08	-0.01	0.07
Luxembourg	0.38	-	-0.37	0.46	-	-
Netherlands	0.02	-0.05	-0.17	0.09	-0.10	-0.44
Norway	0.76	-0.23	0.57	0.41	-0.14	-
New Zealand	0.86	0.17	0.83	0.53	-0.06	-0.12
Portugal	0.131	0.380	-0.470	-0.267	-0.232	-0.026
Spain	0.29	-0.61	-0.36	-0.13	-0.64	-0.74
Sweden	0.81	0.58	-0.52	0.41	-0.36	0.64
Switzerland	0.48	-0.38	0.51	0.52	-	-
United States	0.03	0.04	-0.22	0.10	-	-

Correlation coefficients are calculated on first differences to avoid spurious correlations

countries vary depending on the national specificities but they are also reasonable. As an example, for countries that have traditionally relied on passive labor market policies rather than active ones such as the Mediterranean countries, the flexicurity indicator displays negative correlations to the variables about ALMPs and positive associations to unemployment benefits expenditures. All in all, the results confirm that the construction of the index is consistent with the Danish concept of flexicurity.

## Appendix B

### Respondents' expressiveness

In this appendix we briefly address the issue of respondents' expressiveness. Do people truly behave as they supposedly declare in the surveys? In this sense, an expressive response is given when a respondent declares an answer to a survey question which is not consistent with his or her real behavior.

As emerges from the work of several scholars, expressiveness mainly arises because of the combination of two factors: First, respondents do not incur any cost for the answers they provide (Bertrand and Mullainathan 2001); Second, people receive "expressive-utility" from responding in a way which substantiates their personal identity or set of beliefs (Hillman 2010). As an example, people receive expressive utility when confirming their trustworthiness, generosity, religiousness and so on. If responding to the survey does not imply any cost, expressive responses could be diffused and may potentially reduce the reliability of the survey itself. However, there are pieces of evidence showing that the incidence of expressive responses is rather small, especially in the context of politics, where survey responses reflect quite well the real preferences of the mass public (Berinsky 2018).

We try to limit the problem of expressiveness excluding from the sample individuals' responses who may be more likely to be expressive, given their personal, social and cultural profile. Following Rode and Sáenz de Viteri (2018), we summarize a variable for expressiveness considering the following survey items:

1. How important is in your life: Friends
2. How important is in your life: Family
3. How important is in your life: Religion

4. Which qualities do you consider to be especially important in children: Feeling of responsibility
5. Which qualities do you consider to be especially important in children: Tolerance and respect for other people
6. Level of income: High
7. Level of income: Low

Questions 1 to 3 were originally answered on a 1 to 4 scale in which 1 indicates “Very important” and 4 indicates “Not at all important”. We re-coded these variables into 0–1 dummies, with 1 assigned to answers higher than 3 and 0 assigned to answers lower or equal to 3. Questions 4 and 5 were responded on a binary scale, with 1 for individuals considering the specific quality as important, and 2 alternatively. Again, we re-coded these variables into 0–1 dummies. Finally, questions 6 and 7 were responded on a 0–1 scale, where 1 indicated enjoying either high or low income, 0 differently. Finally, our expressiveness variable is obtained from the mean of the summation of the six resulting dummy variables.

In order to discard survey responses potentially more likely to be biased from expressiveness we drop from our sample all those observations with a value of expressiveness above the average and we repeat the estimations according to equations 1 and 2.

Results in Table 8 are in line with our previous findings: among OECD countries, benefits morale is not crowded-out from by reforms inspired to the flexicurity model. The picture is not clear for the sample of non-OECD countries. As for tax morale, there is no evidence of a significant crowding-out effect in both the samples considered.

**Table 8** The combination of labor market flexibility and welfare state size on individuals' attitudes - Non-expressive respondents

	OECD countries				Non-OECD countries			
	Cheat on gov't. benefits		Cheat on taxes		Cheat on gov't. benefits		Cheat on taxes	
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Female	- 0.116*** (0.0161)	- 0.121*** (0.0152)	- 0.342*** (0.0387)	- 0.353*** (0.0388)	- 0.0439* (0.0228)	0.000379 (0.0356)	- 0.131*** (0.0288)	- 0.105*** (0.0371)
Age 15-30	0.449*** (0.0534)	0.451*** (0.0531)	0.402*** (0.0419)	0.402*** (0.0400)	0.235*** (0.0660)	0.195*** (0.0675)	0.278*** (0.0483)	0.264*** (0.0502)
Age 60+	- 0.371*** (0.0372)	- 0.374*** (0.0358)	- 0.423*** (0.0318)	- 0.422*** (0.0330)	- 0.383*** (0.0683)	- 0.359*** (0.0574)	- 0.412*** (0.0662)	- 0.400*** (0.0680)
Self employed	- 0.0328 (0.0508)	- 0.0374 (0.0496)	0.377*** (0.0748)	0.388*** (0.0668)	0.0106 (0.0763)	- 0.00608 (0.0762)	0.0623 (0.0513)	0.0479 (0.0588)
Unemployed	0.261** (0.104)	0.244** (0.109)	0.198*** (0.0549)	0.191*** (0.0568)	0.121 (0.0797)	0.143* (0.0830)	0.0894** (0.0404)	0.114*** (0.0352)
Low income	0.144*** (0.0496)	0.139*** (0.0420)	0.0336 (0.0312)	0.0286 (0.0307)	- 0.0593 (0.0946)	- 0.175*** (0.0786)	0.00486 (0.0555)	- 0.0670 (0.0626)
High income	0.0347 (0.0387)	- 0.0101 (0.0462)	0.160** (0.0603)	0.161** (0.0635)	0.174** (0.0680)	0.207** (0.0841)	0.290*** (0.0772)	0.320*** (0.0959)
Low education	0.0860 (0.0991)	0.0819 (0.0826)	- 0.0421 (0.0789)	- 0.0286 (0.0764)	0.131* (0.0709)	0.136** (0.0589)	0.107 (0.0645)	0.0883 (0.0571)
High education	- 0.221*** (0.0334)	- 0.207*** (0.0335)	- 0.134*** (0.0314)	- 0.121*** (0.0305)	- 0.145*** (0.0588)	- 0.100*** (0.0477)	- 0.120 (0.0514)	0.0262 (0.0550)
Children 1 or 2	- 0.0997*** (0.0229)	- 0.0983*** (0.0234)	- 0.0343 (0.0312)	- 0.0375 (0.0344)	- 0.00513 (0.0399)	- 0.00814 (0.0476)	0.00145 (0.0332)	0.0118 (0.0407)
Good health	- 0.0758*** (0.0266)	- 0.0829*** (0.0228)	- 0.0481 (0.0303)	- 0.0546 (0.0325)	- 0.108 (0.0640)	- 0.0915 (0.0666)	- 0.119** (0.0508)	- 0.108* (0.0573)
Religious person	- 0.0925*** (0.0991)	- 0.107*** (0.0991)	- 0.257*** (0.0912)	- 0.266*** (0.0912)	0.0912 (0.0912)	0.0303 (0.0912)	- 0.0595 (0.0912)	- 0.0755 (0.0912)

Table 8 (continued)

	OECD countries				Non-OECD countries			
	Cheat on gov. benefits		Cheat on taxes		Cheat on gov. benefits		Cheat on taxes	
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Left-wing	(0.0316) 0.0148* (0.00845)	(0.0344) 0.0192** (0.00757)	(0.0379) -0.0153 (0.0104)	(0.0406) -0.0139 (0.0107)	(0.0942) -0.00827 (0.0130)	(0.0877) -0.0183 (0.0156)	(0.0877) -0.00796 (0.0111)	(0.0863) -0.0153 (0.0141)
Life control	-0.0362*** (0.00783)	-0.0369*** (0.00843)	-0.0410*** (0.00660)	-0.0407*** (0.00672)	-0.0386*** (0.0132)	-0.0280*** (0.0130)	-0.0426*** (0.0111)	-0.0430*** (0.0118)
Social trust	-0.0426 (0.0449)	-0.0353 (0.0433)	-0.0464 (0.0491)	-0.0436 (0.0485)	0.199*** (0.0601)	0.156** (0.0626)	0.104* (0.0555)	0.0983 (0.0625)
FX alt. index	-0.1126*** (0.0435)	-0.136** (0.0662)	-0.0959*** (0.0464)	-0.124* (0.0700)	-0.0212 (0.0910)	0.308*** (0.147)	-0.187** (0.0805)	-0.114 (0.158)
FX alt. lag 3	-	0.179** (0.0834)	-	-0.00278 (0.0411)	-	-0.479*** (0.177)	-	-0.278 (0.173)
FX alt. lag 5	-	-0.154 (0.100)	-	0.0413 (0.0694)	-	0.474** (0.176)	-	0.199 (0.135)
Log GDPPC	0.686 (0.460)	1.270** (0.612)	0.0820 (0.245)	0.0542 (0.356)	-0.885 (0.591)	-0.342 (0.868)	-0.284 (0.667)	-0.415 (0.990)
Log GDPPC lag 3	-	-0.134 (0.547)	-	-0.0740 (0.405)	-	-0.951 (1.057)	-	-0.192 (0.818)
Log GDPPC lag 5	-	-0.383 (0.425)	-	-0.0146 (0.365)	-	1.324** (0.496)	-	0.984** (0.372)
Constant	-3.850 (4.465)	-4.888 (5.017)	2.727 (2.434)	3.848 (2.641)	8.528* (4.546)	2.582 (4.704)	3.736 (5.201)	-1.275 (5.502)
Observations	55,844	52,475	55,844	52,475	39,197	32,290	39,197	32,290

Table 8 (continued)

	OECD countries				Non-OECD countries			
	Cheat on gvt. benefits		Cheat on taxes		Cheat on gvt. benefits		Cheat on taxes	
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Nr. of countries	34	34	34	34	39	32	39	32
Country & year F.E	✓	✓	✓	✓	✓	✓	✓	✓
R-squared	0.128	0.134	0.084	0.087	0.086	0.111	0.090	0.104

Robust standard errors in parentheses; \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$



## Appendix C

### Jackknife analyses

See Tables 9 and 10.

**Table 9** Effect of flexicurity on benefits morale

Country	Specification (1)		Specification (3)			Nr. Obs
	FX index	Nr. Obs	FX index	FX index lag 3	FX index lag 5	
AUS	– 0.015	92,025	– 0.027*	0.011	0.003	86,499
AUT	– 0.014	96,038	– 0.025	0.009	0.004	90,512
BEL	– 0.013	94,093	– 0.021	0.012	– 0.003	88,567
CAN	– 0.014	93,076	– 0.025	0.009	0.004	87,550
CHE	– 0.014	94,636	– 0.026*	0.011	0.004	89,110
CZE	– 0.012	95,122	– 0.025	0.009	0.004	90,350
DEU	– 0.023***	84,969	– 0.038***	0.016	– 0.013	79,443
DNK	– 0.015	94,934	– 0.025	0.009	0.004	89,408
ESP	– 0.017*	91,332	– 0.036**	0.006	0.015	85,806
EST	– 0.015	95,001	– 0.027*	0.013	– 0.001	89,475
FIN	– 0.009	94,389	– 0.015	0.000	0.011	88,863
FRA	– 0.014	94,325	– 0.025	0.010	0.004	88,799
GBR	– 0.014	94,125	– 0.025	0.010	0.004	88,599
GRC	– 0.015	95,171	– 0.024	0.018	– 0.005	89,645
HUN	– 0.015	95,081	– 0.028*	0.012	0.002	89,555
IRL	– 0.016*	95,691	– 0.026	0.006	0.006	90,165
ITA	– 0.014	94,282	– 0.025	0.010	0.003	90,142
JPN	– 0.015	94,800	– 0.026	0.009	0.004	89,274
KOR	– 0.015	94,857	– 0.025	0.009	0.004	90,452
LTU	– 0.014	96,442	– 0.025	0.009	0.004	90,916
LVA	– 0.014	96,174	– 0.025	0.009	0.004	90,648
MEX	– 0.013	92,149	– 0.022	0.008	0.003	87,371
NLD	– 0.014	92,969	– 0.025	0.010	0.003	87,443
NOR	– 0.012	93,242	– 0.025	0.008	0.006	87,716
NZL	– 0.014	97,223	– 0.025	0.009	0.004	91,697
POL	– 0.014	94,777	– 0.028	0.013	0.003	89,251
PRT	– 0.014	95,189	– 0.023	0.010	0.002	89,663
SVK	– 0.014	96,201	– 0.025	0.009	0.004	90,675
SVN	– 0.015	95,081	– 0.025	0.009	0.004	91,072
SWE	– 0.009	92,949	– 0.014	0.009	0.009	87,423
USA	– 0.018*	90,347	– 0.029*	0.001	0.013	84,821

**Table 10** Effect of flexicurity tax on morale

Country	Specification (1)		Specification (3)			
	FX index alt	Nr. Obs	FX alt	FX index lag 3	FX index lag 5	Nr. Obs
AUS	- 0.0004	92,025	0.0057	- 0.0015	0.0003	86,499
AUT	- 0.0008	96,038	0.0037	- 0.0044	0.0043	90,512
BEL	0.0007	94,093	0.0151	0.003	- 0.0135	88,567
CAN	- 0.0007	93,076	0.0039	- 0.0045	0.0043	87,550
CHE	- 0.0009	94,636	0.0037	- 0.0045	0.004	89,110
CZE	- 0.0008	95,122	0.0037	- 0.0044	0.0043	90,350
DEU	- 0.0058	84,969	- 0.0107	- 0.0006	0.0007	79,443
DNK	- 0.0005	94,934	0.0036	- 0.0044	0.0042	89,408
ESP	- 0.004	91,332	- 0.0046	- 0.0103	0.0146	85,806
EST	- 0.0009	95,001	0.0036	- 0.0042	0.004	89,475
FIN	- 0.0003	94,389	0.0033	- 0.0018	0.0075	88,863
FRA	- 0.0011	94,325	0.0035	- 0.0039	0.0034	88,799
GBR	- 0.0006	94,125	0.004	- 0.0041	0.0046	88,599
GRC	- 0.0009	95,171	0.0039	- 0.002	0.0019	89,645
HUN	- 0.0015	95,081	0.0019	- 0.0025	0.0031	89,555
IRL	- 0.0007	95,691	0.0037	- 0.004	0.004	90,165
ITA	- 0.0015	94,282	0.0037	- 0.0042	0.004	90,142
JPN	- 0.0014	94,800	0.0027	- 0.0043	0.0044	89,274
KOR	- 0.0017	94,857	0.0036	- 0.0044	0.0043	90,452
LTU	- 0.0008	96,442	0.0037	- 0.0044	0.0042	90,916
LVA	- 0.0008	96,174	0.0037	- 0.0043	0.0042	90,648
MEX	0.001	92,149	0.0068	- 0.0054	0.0019	87,371
NLD	- 0.0007	92,969	0.0024	0.0001	0.0001	87,443
NOR	- 0.0034	93,242	- 0.0056	0.0035	0.0013	87,716
NZL	- 0.0008	97,223	0.0036	- 0.0044	0.0042	91,697
POL	- 0.0007	94,777	0.0021	- 0.0012	0.0028	89,251
PRT	0.0009	95,189	0.0089	- 0.0026	- 0.0001	89,663
SVK	- 0.0008	96,201	0.0036	- 0.0044	0.0043	90,675
SVN	- 0.0011	95,081	0.0036	- 0.0044	0.0042	91,072
SWE	0.0134	92,949	0.0241**	- 0.025	0.0226	87,423
USA	- 0.0038	90347	- 0.0025	- 0.0158	0.0179	84,821

## Appendix D

### List of countries

Country	Observations
Albania	2393
Algeria	748

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Country	Observations
Argentina	2033
Australia	5198
Austria	2300
Azerbaijan	3278
Belgium	3643
Bosnia and Herzegovina	1922
Brazil	4688
Bulgaria	2630
Burkina Faso	480
Canada	5041
Chile	3418
Colombia	5361
Croatia	1132
Cyprus	2451
Czech Republic	3756
Denmark	3129
Ecuador	2122
Egypt	2000
El Salvador	780
Estonia	2920
Ethiopia	965
Finland	2834
France	3767
Georgia	1661
Germany	13170
Ghana	2055
Greece	2052
Hong Kong SAR, China	3462
Hungary	2142
Iceland	2163
India	4379
Indonesia	4246
Iran	648
Ireland	2354
Italy	3897
Japan	2423
Jordan	362
Korea, Rep.	3523
Kyrgyz Republic	2273
Latvia	1830
Lebanon	663
Libya	1093
Lithuania	1361

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Country	Observations
Malaysia	2557
Mexico	6547
Morocco	318
Netherlands	5086
New Zealand	1539
North Macedonia	1971
Norway	4792
Philippines	2229
Poland	2446
Portugal	2034
Romania	684
Russian Federation	3809
Rwanda	1963
Serbia	746
Slovak Republic	2397
Slovenia	2723
South Africa	8299
Spain	7296
Sweden	5037
Switzerland	3086
Trinidad and Tobago	1139
Tunisia	499
Turkey	5887
Uganda	457
Ukraine	3575
United Kingdom	4004
United States	8866
Uruguay	2169
Venezuela, RB	777
Vietnam	2049
Zimbabwe	2131
Total	238244

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