Economic Democracy Index: methodological note

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The aim of this note is to provide background on the methodological aspects associated with the construction of the Economic Democracy Index (EDI). A key argument advanced here is that dominant economic policy regimes in many OECD countries - where decision-making is increasingly monopolised and centralised among financial and economic elites and "experts" - have had negative effects in terms of greater income and wealth inequalities, increasing susceptibility to financial crises and fragility, and arguably a failure to effectively address the causes of climate change.

We draw on this background to discuss a number of aspects of the construction of an index of economic democracy as both a tool to test this research hypothesis and as a key indicator of individual country performance in the pursuit of open and democratic governance of the economy.

On what concerns the construction of the EDI, this is a dynamic and open process, as we intend to critically revisit each dimension (and indicators) of the index and, if necessary, revise/ expand our work. A composite indicator is formed when a number of individual indicators are compiled into a single index. The main aim of composite indicators is to capture multi-dimensional concepts, using a theoretical framework which will guide the construction of the index, reflecting the dimensions of the underlying concept.

In terms of geographical coverage, in a first instance, we covered Organisation for Economic Cooperation and Development (OECD) member countries and, depending on data availability, we will expand our dataset to include more countries/ time periods (currently we focus on the period 2000-present). One of our specific objectives is to stimulate a wider debate on the concept of economic democracy and the challenges of measuring it.

A crucially important element in the creation of composite indicators relates to the conceptualization and theoretical framework that informs all stages of the construction of the index. This stage is normally seen as the starting point of the process and the definition of an explicit conceptual framework serves as the basis for the selection and aggregation of the individual indicators (Figure 1).

Freudenberg (2003) adds to this perspective by highlighting the importance of the theoretical background to data selection: "this framework will allow variables to be selected, combined and weighted in a manner which reflects the dimensions or structures of the phenomena being measured" (2003: 7). If this is not the case, a "composite based on a weak theoretical background or on soft data containing large measurement errors can lead to disputable policy messages" (OECD and JCR, 2008). It is also important to recognise the fact that composite indicators are not a panacea for the study of complex, multidimensional concepts but instead can be used a tool to comparatively assess the performance of different units.

Contrary to some approaches in the literature focusing only on specific themes or institutional features of economic democracy, we subscribe to a broad definition of the concept, which encompasses four dimensions: (i) workplace and individual employment rights; (ii) degree of associational economic governance; (iii) distribution of decision-making powers across space and sector; (iv) engagement of broader population in macro-economic decision-making. Our approach is informed conceptually by linking traditional concerns around economic democracy with philosophical concerns about how we conceive of democracy as a process rather than majoritarian position (or outcome) and recognising the importance of democracy in terms of economic and social rights.

Figure 1 – EDI dimensions and indicators

Dimension	Workplace and individual employment rights	Degree of associational economic democracy	Distribution of economic decision-making powers across space and sector	Transparency and democratic engagement of broader population in macro-economic decision-making
Indicators	**Specification 1**: labour market insecurity; long-term unemployment; employment protection – individual dismissal; annual leave entitlements **Specification 2**: labour market insecurity; long-term unemployment; gender wage gap; employment protection – individual dismissal; employment protection – temporary contracts; annual leave entitlements; max. daily working time	**Specification 1**: Trade union density; employers' organisation density; credit union and financial coops **Specification 2**: Trade union density; collective bargaining coverage rate; status of work councils; employers' organisation density; credit union and financial coops	Financial net worth of financial corporations, as % of GDP; attribution of tax revenues to regional and local government as % of total tax revenue; total government expenditure as % of GDP	**Specification 1**: Involvement of unions and employers in government decisions - social and econ. policy; voice and accountability; control of corruption **Specification 2**: Involvement of unions and employers in government decisions - social and econ. policy; Signing a petition; voice and accountability; control of corruption; Central Bank transparency index
	EU specification 1: involved in improving the organisation; long-term unemployment; manager/supervisor encourages you to participate; employment protection – individual dismissal; annual leave entitlements **EU specification 2:** involved in improving the organisation; labour market insecurity; long-term unemployment; gender wage gap; employment protection – individual dismissal; employment protection – temporary contracts; manager/supervisor is good at resolving conflicts; manager/ supervisor is good at planning and organising the work; manager/ supervisor encourages you to participate; manager/ supervisor respects you as person; annual leave entitlements; max. daily working time	**EU specification 1** Trade union density; employers' organisation density; credit union and financial co-ops; employees' stake in ownership structure **EU specification 2** Trade union density; employers' organisation density; credit union and financial coops; employee owners in % of employees; employees' stake in ownership structure		

Source: own elaboration.

Looking at Figure 1, it is clear that the boundaries delineated between dimensions serve mainly analytical purposes, as these dimensions are inter-related. Adams et al. (2016) note that the indicators included in composite indicators capture distinct but interlocking aspects of the underlying concept in

an empirical exercise where "the issue is not whether the index is a precise match for social reality, but whether it is a good enough approximation, given resource constraints" (2016: 10)[1].

This starting point allowed the definition of the scope of the EDI and the selection and grouping of individual indicators in dimensions or sub-indices. As noted, some sub-indices or dimensions have more than one specification, in order to allow the evaluation of the differences that each combination produces in the scores. The subsequent step involved data collection from several sources: OECD, International Monetary Fund, Eurostat, World Bank, Amsterdam Institute for Advanced Labour Studies, World Wealth and Income database, among other.

A further step was the examination of the statistical properties of the data selected undertaking a correlation analysis to determine the strength and direction of the relationship between the indicators. This stage of the construction of the index allowed us to start evaluating if the individual indicators reinforce each other or if there were negative correlations between particular indicators. In parallel, we focused in the latent features of the data, undertaking a principal component analysis. The purpose of using this technique was to check if there was a close match between the components of variables identified and the proposed grouping into four dimensions or sub-indices. The results showed that some individual indicators are associated with different components (compared to the initial definition of the dimensions). Nonetheless, following Adams et al. (2016: 19), this is not a reason for concern: "if associations of variables arrived at through factor analysis or component analysis are to be used in econometric studies, they should, we suggest, be justifiable on theoretical grounds".

Additional robustness checks included multivariate analysis to test if our research hypotheses were empirically sound. We started by running OLS regressions, being the EDI our main predictor of interest (the control variables included were 1-year lag GDP, per head, constant prices, constant PPP and total population (log). The dependent variables in our models corresponded to proxy measures of key variables in our analysis: economic stability and resilience (harmonised consumer prices and government bonds, long-term interest rates); environmental policy and climate change (environmental stringency index); wealth and income inequalities and deprivation (poverty rate and Gini coefficient); and access to adequate healthcare (current expenditure on health by governmental schemes, life expectancy at birth). Overall, the initial findings appear to support our propositions. We will also use fixed-effects models to account for specific country effects (the assumption is that there are country specific effects correlated with the independent variables).

The potential uses of the EDI open many possibilities in terms of the comparative study of the participation and inclusiveness in the economic sphere and may also help understand other developments (for example, effects and reactions to the economic crisis, attitudes towards the welfare state, participatory budgeting, etc.). The EDI provides a starting point to explore these and other issues, but future studies should strive to expand the existing dataset to include where possible other countries and time periods, thus complementing a larger research program that can potentially include other research methods.

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[1] Adams, Zoe, Parisa Bastani, Louise Bishop and Simon Deakin (2016), "The CBR-LRI dataset: methods, properties and potential of Lexicometric coding of labour laws". Centre for Business Research working paper, University of Cambridge.