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Towards FAIR infrastructures of administrative microdata: the Netherlands Integrated Data Infrastructure of Inequality in Organizations (NIDIO)

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We introduce NIDIO, an open-source code infrastructure developed to support research using administrative register data. NIDIO enables the systematic study of labor market inequality within and between organizations by integrating multiple administrative data sources into a harmonized three-level data structure—organizations, individuals, and jobs. Developed on Statistics Netherlands microdata, this structure allows for reconstructing workers' demographic profiles and employment outcomes and links them to organizational characteristics in a transparent and replicable way. NIDIO is distributed as open-access code (osf.io/9b2xh) and ready-to-use datasets stored in the ODISSEI Storage Facility. We present NIDIO as a best practice to address three recurring challenges in working with administrative register data. First, the preparation and linkage of administrative data involve numerous technical and conceptual decisions which often remain undocumented.

NIDIO provides fully transparent and reusable processing routines, ensuring that derived datasets can be reproduced and reused. Second, the steep learning curve and technical barriers to working with CBS microdata limit the accessibility of this rich data source. NIDIO lowers these barriers by offering customizable installation tools and standardized workflows, enabling a broader community of researchers to use administrative register data. Third, translating administrative records into meaningful social science measures (for example, deriving an appropriate measure of wages) is a complex task. NIDIO supplies guidelines to bridge this gap, thereby fostering comparability and scientific rigor. We conclude discussing the importance of transparent infrastructures, such as NIDIO, to advance the principles of open science and FAIRness of research based on administrative register data.

