

Automatic Identification and Characterization of Regional Sentiments on Labour Market Policies

Extended Abstract

Public perceptions of labour market policies constitute a decisive yet frequently underexplored dimension in evaluating policy effectiveness and long-term political sustainability. While labour market reforms are typically assessed through objective indicators—such as employment rates, wage dynamics, productivity growth, or unemployment duration—the ways in which citizens interpret, evaluate, and emotionally respond to these policies significantly influence their legitimacy, acceptance, and practical implementation. Policies perceived as unfair, ineffective, or territorially unequal may encounter resistance regardless of their measurable economic outcomes. Consequently, understanding how labour market interventions are socially interpreted represents a critical complement to traditional policy evaluation approaches. Perceptions of labour policies are inherently subjective and socially constructed, shaped by individual economic experiences, regional labour market conditions, political discourse, and media framing. These perceptions are unlikely to be territorially uniform, particularly in countries characterized by persistent regional socioeconomic disparities. Differences in productive structures, employment opportunities, income distribution, and exposure to economic shocks may produce geographically differentiated interpretations of identical policy measures. Capturing such variation requires analytical approaches capable of systematically examining large volumes of qualitative expressions while maintaining sensitivity to spatial context.

This study addresses this challenge by introducing a regionalized framework for analysing public attitudes toward labour market policies in Portugal. Portugal represents an especially relevant case study due to the profound labour market transformations experienced over the past decade and a half. Following the sovereign debt crisis and the financial assistance programme initiated in 2011, the country implemented extensive austerity-oriented reforms aimed at improving labour market flexibility and restoring macroeconomic stability. These measures included revisions to employment protection legislation, changes to dismissal procedures, adjustments to unemployment benefit eligibility and duration, and reforms intended to increase competitiveness and reduce labour market segmentation. In subsequent years, particularly from the mid-2010s onward, successive governments introduced policy initiatives designed to rebalance labour protections and mitigate some of the social consequences associated with earlier reforms. These measures included increases in the statutory minimum wage, reinforcement of collective bargaining mechanisms, and the expansion of active labour market policies targeting long-term unemployment and labour market reintegration. More recently, labour law reform proposals—introduced in response to evolving employment conditions and the socioeconomic effects of the COVID-19 pandemic—have generated intense political debate and social mobilization, including nationwide strikes and polarized public discourse.

Against this backdrop of continuous institutional change, this research seeks to evaluate how labour market policies are perceived across Portuguese regions and how these perceptions relate to regional economic realities. Rather than treating public opinion as homogeneous at the national level, the study assumes that regional economic structures play a central role in shaping dominant narratives surrounding labour reforms. Export-oriented industrial regions, metropolitan labour markets characterized by diversified employment opportunities, and rural or interior regions facing structural job scarcity may generate distinct evaluative patterns regarding employment protection, labour flexibility, and social protection mechanisms. To investigate these dynamics, the study constructs a specialized textual corpus integrating multiple sources of public expression. Data were collected from social media platforms, regional digital news outlets, and parliamentary debate transcripts, enabling the capture of both institutional and citizen-level discourse. This multi-source approach allows the analysis to encompass formal political narratives, mediated public debate, and spontaneous expressions of opinion, thereby providing a more comprehensive representation of societal perceptions.

The analytical framework relies on natural language processing (NLP) techniques, with particular emphasis on lexicon-based sentiment analysis. Specialized sentiment lexicons were developed and adapted to the Portuguese linguistic and institutional context, incorporating terminology specific to labour market regulation, employment protection, unemployment benefits, and working conditions. The lexicon construction process involved iterative validation procedures designed to ensure semantic relevance and contextual accuracy, recognizing that general-

purpose sentiment dictionaries often fail to adequately capture policy-related evaluative language. Using these lexicons, textual data were processed to identify sentiment polarity—positive, negative, or neutral—as well as evaluative intensity and recurring emotional patterns associated with labour policy instruments. Beyond simple polarity classification, the analysis aims to detect thematic associations linking sentiment expressions to specific reform measures, such as employment protection revisions or activation policies. This enables a more nuanced understanding of how particular policy components generate approval, concern, or contestation within public discourse.

A central innovation of the study lies in embedding sentiment analysis within a spatial analytical framework. Whenever possible, textual observations were geolocated using regional identifiers derived from metadata, source attribution, or contextual references. Sentiment patterns were subsequently analysed across mainland Portuguese regions, based on a selection of regions, and interpreted alongside socioeconomic indicators, including regional unemployment rates, income disparities, sectoral specialization, and labour market vulnerability measures. This integration of computational text analysis with territorial socioeconomic data allows for the identification of geographically differentiated perception patterns.

Expected findings suggest that public evaluations of labour market reforms cannot be explained solely through ideological or partisan divisions. Instead, sentiments appear closely linked to lived economic experiences and regional labour market conditions. Regions characterized by stronger industrial export bases and relatively dynamic employment structures tend to exhibit more pragmatic or balanced evaluations of flexibility-oriented reforms, often emphasizing competitiveness and job creation. In contrast, regions facing persistent unemployment or demographic decline demonstrate more critical sentiment patterns, frequently associating labour reforms with precarity, insecurity, or diminished worker protections. These expected results highlight the importance of considering territorial heterogeneity in both policy design and policy communication. Labour market reforms formulated at the national level may produce uneven symbolic and material effects across regions, influencing how policies are interpreted and contested. Failure to account for such differences may contribute to declining institutional trust or resistance to reform implementation, even when aggregate economic indicators suggest positive outcomes.

Methodologically, the study contributes to the growing intersection between computational social science and public policy analysis. By combining sentiment analysis techniques with spatial socioeconomic contextualization, the research proposes a scalable and replicable methodology for monitoring geographically differentiated public opinion in near real time. Such an approach may support policymakers in identifying emerging tensions, communication gaps, or unintended distributive consequences associated with reform processes. Furthermore, the study advances the analytical use of sentiment analysis beyond descriptive monitoring toward interpretative policy evaluation. Rather than treating sentiment as an isolated metric, emotional and evaluative expressions are interpreted as indicators of perceived fairness, security, and opportunity within labour market institutions. This perspective acknowledges that policy effectiveness encompasses not only measurable economic performance but also social legitimacy and perceived responsiveness to citizens' economic realities.

The paper therefore presents in detail the methodological procedures adopted to evaluate public perceptions of labour market policies. These include corpus construction strategies, lexicon development and validation criteria, sentiment classification processes, geolocation techniques, and analytical integration with regional socioeconomic indicators. We also discuss the methodological limitations, including representativeness challenges associated with digital data sources and potential biases arising from unequal regional participation in online discourse. Overall, the findings reinforce the argument that labour market reforms are interpreted through territorially embedded economic experiences rather than exclusively ideological frameworks. Public sentiment toward labour policies reflects how individuals perceive the interaction between institutional regulation and local employment opportunities, economic security, and social mobility prospects. Consequently, effective labour policy design requires not only economic efficiency but also sensitivity to regional contexts and differentiated communication strategies capable of addressing localized concerns. By demonstrating how computational text analysis can be operationalized within a spatial policy framework, this study contributes to ongoing debates on evidence-based policymaking and democratic responsiveness. The proposed methodology offers policymakers and researchers a tool for systematically capturing evolving public perceptions, enabling more adaptive and socially informed labour market governance in contexts characterized by economic transformation and regional inequality.