Assessing Regional Inequalities in Kazakhstan through Well-Being

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Growing disparities in wealth, well-being, and access to services in Kazakhstan have raised serious concerns among policymakers, especially since the January 2022 protests. This paper evaluates these regional inequalities and presents the findings from Kazakhstan's inaugural well-being survey. The survey, based on global best practices, involves 4,032 face-to-face interviews with a diverse sample across all 20 regions, ensuring representation. The resulting indices—the Subjective Well-Being Index and the Regional Well-Being Index—highlight both within-region and between-region disparities. Notably, the indices reveal significant variations in well-being, with certain regions reporting notably lower satisfaction levels across dimensions like trust in institutions, satisfaction with financial and housing conditions, health care and education quality, and personal security perceptions.

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I.   Introduction

Regional inequalities have been growing across both developed and developing countries. Recent decades have seen a steady increase in the development of spatially targeted policy interventions aimed at reducing disparities across territories within the same countries. The greater number of policies addressing regional development issues point to the rising importance that spatial inequalities have assumed in the design and implementation of development planning at the national and regional levels. The trend can be observed across a variety of countries. For instance, the European Union's (EU) Cohesion Policy has become one of the main tools to fight regional inequalities across countries in Europe.[1] Developing countries, including South Africa and the People's Republic of China, have also implemented policies to combat the growing socioeconomic divides across their regions (Fan, Kanbur, and Zhang 2011; National Planning Commission 2012). The growth of territorial polarization is not just an academic concern, as it can limit both the economic potential of a country and lead to rising discontent which, in turn, can undermine overall economic growth and threaten social and political stability (Iammarino, Rodriguez-Pose, and Storper 2019).

Regional inequalities have also been growing within Kazakhstan. After the collapse of the Soviet Union, Kazakhstan experienced both spurts of regional divergence and convergence. Between 1993 and 2006, gross domestic product (GDP) per capita diverged across regions in the country, while the 2006–2014 period was dominated by regional convergence (Turganbayev and Diener 2018). However, convergence did not last long. Rodríguez-Pose and Bartalucci (2021) show that regional inequalities have risen rapidly in recent times, making the already large gaps in wealth, economic dynamism, and competitiveness even larger. The study shows that, while GDP per capita increased in Kazakhstan over the past 20 years, the additional wealth linked to this economic growth has been concentrated in a limited number of regions. In other regions, the economic gain deriving from Kazakhstan's dynamism and integration into international markets has been limited. These

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[1]Cohesion policy is the EU's investment initiative aimed at fostering regional development. Its primary goal is to narrow economic, social, and territorial gaps among EU regions. Following this objective, the EU directs investments via four main funds: the European Regional Development Fund, the European Social Fund, the Cohesion Fund, and the Just Transition Fund. The European Regional Development Fund allocates EU resources for job creation, business competitiveness, economic growth, sustainable development, and improvements to citizens' quality of life. Moreover, it harmonizes with key EU policies including employment, energy, environment, the single market, research and innovation, education, and culture. It represents the largest territorial development policy in the world (EU. The EU's Main Investment Policy. Cohesion Policy. https://ec.europa.eu/regional_policy/policy/what/investment-policy_en, accessed 30 November 30 2023).

inequalities, in turn, carry nonnegligible opportunity costs and risk fueling social tensions and unrest. Indeed, the presence of lagging regions represents a huge source of untapped socioeconomic development potential. At the same time, there is evidence to suggest that spatial inequalities may result in rising discontent and anti-establishment sentiments, which can quickly unravel and lead to significant unrest (Rodríguez-Pose 2018). In Kazakhstan, the events of January 2022 originated in the distant and relatively wealthy Mangystau Region and rapidly swept across the country, resulting in over 200 deaths. Economic grievances from both rich and poor, but mostly stagnating, regions far removed from the capital city of Astana amplified this violent upheaval, highlighting the pressing problem of spatial inequality within the country.

Although there have been attempts to understand the pattern of regional inequalities across Kazakhstan, previous studies largely focused on input and/or output macro-level measures (Turganbayev and Diener 2018). For instance, the Asian Development Bank assessed regional economies across six dimensions, including labor conditions, education, and health, among others (Rodríguez-Pose and Bartalucci 2021). The variables of choice, however, were confined to inputs and output measures such as the number of universities, infant mortality, and employment rate. As discussed throughout this paper, whereas these variables are usually the most accessible ones across national and regional statistical offices, they do not represent the full picture of inequalities in Kazakhstan. Inefficiencies in the provision of public services often determine variations in outcomes across regions of the same country. Hence, regions with, for example, the same number of universities may exhibit different levels of satisfaction among their respective populations.

Incorporating more perception-laden and outcome-based variables in the assessment of regional economies and societies can provide a far fuller and more realistic picture, while complementing the more traditional approach based on hard economic and endowment measures. In this regard, the concept of well-being is useful to provide a solid conceptual framework. Whereas well-being has only recently started to inform policymaking and regional development policies, there are several guidelines and good practices that can be singled out for the development of well-being measures across regions and countries (see, for instance, Organisation for Economic Co-operation and Development [OECD] 2011). In this paper, we develop both the methodology and the empirics of two complementary well-being indices that can be applied to measure well-being across Kazakhstan's regions. The proposed indices build on a comprehensive literature review of best practices on both the measurement of well-being through survey data—such as the European Social Survey, the World Values Survey, and the European Values Survey—and the computation of

well-being indices such as the OECD Better Life Index. The indices are crafted to enable policymakers to gain a deeper grasp of specific well-being aspects that might not be adequately captured by more conventional indicators such as GDP, productivity, employment, or inequality measures.

The paper presents the analysis resulting from the first Regional Well-Being Survey of Kazakhstan. The survey, conducted by the Economic Research Institute between August and November 2022, gathered novel data on subjective well-being, collected through a countrywide, multidimensional questionnaire. The 4,032 responses across all 20 regions in the country unveiled large differences in well-being levels between regions, with the inhabitants of some regions displaying subpar levels of satisfaction across dimensions ranging from trust in institutions, satisfaction with financial and housing conditions, quality of health care and education, and perceptions of personal security.

The analysis of the data contained in the survey not only confirms the recent presence of high and growing regional polarization in Kazakhstan (Rodríguez-Pose and Bartalucci 2021), but it also added significant detail on the underlying characteristics of such regional imbalances. The scenario depicted by the two indices developed in this study—the Subjective Well-Being Index and the Regional Well-Being Index—exposes the higher levels of well-being of city regions (e.g., Almaty and Astana) and western and northern regions relative to the rest of the country. That said, once a detailed analysis is conducted considering the individual drivers of regional inequality, weaknesses emerge in even stronger regions. Similarly, weaker regions, such as those in the east and south of the country, can have relatively higher scores when other well-being indicators, such as personal security or social connections, are considered. This points to the importance of acknowledging the underlying differences among regions to design and implement informed policy actions that target region-specific bottlenecks.

The paper proceeds as follows. The next section provides the methodology for the collection of data for the Regional Well-Being Survey of Kazakhstan. It explains the survey and the development of a Subjective Well-Being Index for Kazakhstan. Section II also dwells on why measuring well-being is important and relevant. In section III, we introduce the Regional Well-Being Index. This index combines the more subjective measures of well-being with other more objective output indicators, covering different aspects of well-being in Kazakhstan. Several methodological considerations are also introduced to explain the rationale behind specific choices for the calculation of the index. Finally, section IV summarizes and concludes, pulling the different strings of the paper together.

II.   The Regional Well-Being Survey of Kazakhstan: Building a Subjective Well-Being Index

A.   Defining Well-Being and Why It Matters

The measurement of well-being at the regional level in Kazakhstan is a relatively new endeavor, with only sporadic surveys such as the European Bank for Reconstruction and Development's 2016 Life in Transition Survey being conducted on life satisfaction over the last decade. Across the world, the concept of well-being has only become popular in recent decades. Measuring well-being is part of the global effort to overcome hard economic indicators, such as GDP or gross national product, as the dominant measures of prosperity and development. Given the relative novelty of the concept both worldwide and in Kazakhstan, in the next paragraphs, we set the theoretical and conceptual bases for the empirical work that is to follow. This provides the foundation for the collection of data on subjective well-being across Kazakhstan's regions.

There are at least three good reasons to measure well-being and dedicate resources to evaluating it. First, measures of well-being can complement other outcome measures. Measuring well-being can be valuable as an indicator of progress when it can alert policymakers to issues that other, more conventional, social, and economic indicators may fail to detect. This important, complementary role of well-being measures has been reinforced by events of the last decade, such as the insurrections that took place across several Arab countries at the beginning of the 2010s: the so-called Arab Spring. Both Tunisia and Egypt experienced a rise in GDP per capita levels in the years immediately before the outbreak of revolts, with Egyptian GDP per capita growing at around 34% in real terms between 2005 and 2010.[2] However, when looking at the trajectory of life satisfaction in the two countries, a downward trend was in evidence. During the same period, the proportion of Tunisians reporting high levels of well-being fell from 24% to 14%. In Egypt, the drop was even steeper, from 29% to 12% (Gallup 2011). The evidence stemming from the trajectories of well-being in the two Arab countries illustrates the type of relevance that data on well-being can assume. In other words, well-being measures can shed light on underlying social issues that would otherwise be overlooked by conventional indicators such as GDP growth, employment, and productivity.

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[2]Data on GDP per capita were retrieved from the International Monetary Fund's World Economic Outlook Database. https://www.imf.org/en/Publications/SPROLLs/world-economic-outlook-databases#sort=%40imfdate%20descending (accessed 30 November 2023).

A second major use of measures of well-being is to help identify what factors are critical for people's well-being. This use of well-being measures can be particularly helpful when attempting to test whether the outcomes used to measure progress align with the factors that shape people's perceptions of their life satisfaction (Halpern 2010). Relatedly, measures of well-being help understand the trade-offs between different outcomes—and, generally, what people are more concerned about. Third and finally, measuring well-being is useful when evaluating the impact and outcomes of specific social and economic policies. A prime example of how this can be done is represented by the *Green Book*, the formal guidance from the Treasury of the United Kingdom to other government agencies on how to evaluate policy proposals (OECD 2013). In 2011, the *Green Book* and its valuation techniques for social cost–benefit analysis were updated to include measures of life satisfaction alongside the more conventional approaches adopted in cost–benefit analysis (Fujiwara and Campbell 2011). In this regard, measures of well-being can be used either prior to policy implementation and design or in their aftermath to determine whether the intended policy outcome has been achieved.

Defining the concept of well-being is crucial to ensure the relevance and accuracy of survey questions. In this study, we use the OECD's (2013, p. 10) definition of well-being as "the good mental states, including all of the various evaluations, positive and negative, that people make of their lives, and the affective reactions of people to their experiences." The definition largely builds on the theoretical work carried out by the OECD and its Better Life Index. It also closely reflects Diener (2006, p. 400), for whom "well-being is an umbrella term for the different valuations people make regarding their lives, the events happening to them, their bodies and minds, and the circumstances in which they live." Moreover, for the collection of survey data, we focus on three key aspects of well-being: (i) life evaluations, (ii) affection, and (iii) psychological flourishing or eudaimonic well-being (Kahneman and Krueger 2006, Clark and Senik 2010, Helliwell and Barrington-Leigh 2010).[3] This means that the survey questions included in the regional well-being survey of Kazakhstan collect data on cognitive and reflective assessments of a person's life or some specific domains of it—for instance, while it is possible to measure "life as a whole" through global judgments, it is also possible for people to provide evaluations of particular aspects of their lives like their health or job (Helliwell and Barrington-Leigh 2010). It also includes measures of affection to assess specific feelings or

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[3]Eudaimonic well-being refers to quality of life derived from the development of a person's best potentials and their application in the fulfillment of personally expressive, self-concordant goals (Ryan and Deci 2001).

emotional states with reference to the present. Finally, in terms of psychological flourishing, our attention shifts to the more "functioning" aspect of well-being. This encompasses autonomy, competence, a thirst for learning, goal orientation, a sense of purpose, resilience, and social engagement (Huppert 2009).

B. Survey Specification

The Regional Well-Being Survey of Kazakhstan collected data between July and November 2022. The field work was conducted by a team of researchers at the Economic Research Institute of Kazakhstan. The survey fully complied with international best practice, which indicates that data should be collected over a period of no less than 5 months. The collection of data was aimed at ensuring a fair representation across Kazakhstan's regions.[4] A total of 4,034 individuals were surveyed, following a preestablished questionnaire inspired by existing well-being surveys (e.g., the World Values Survey, the European Social Survey, and the European Values Survey), but somewhat adapted to the local context. The distribution of observations across each region is reported in Table 1. The questionnaire used is included in Table A.1 of the Appendix.[5] The sample is representative both at the national and regional levels. Sample representation based on age, gender, ethnic group, and income was achieved using a comprehensive five-stage stratification method.[6] The survey follows the updated territorial classification of regions introduced by the government in 2022, which incorporates Kazakhstan's three newly established regions: Abay, Ulytau, and Zhetysu.

Data were collected through personal interviews, meaning that the interviewer was personally present when recording the responses. Personal interviews are considered a fair compromise between telephone interviews, which are usually regarded as the least reliable option for collecting consistent data on well-being, and self-reported interviews, which is when the respondents enter their own data into a computer-generated or online questionnaire. They often do not guarantee

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[4]The country includes 20 administrative regions, of which 17 are provinces and 3 are major cities (Astana, Almaty, and Shymkent).

[5]To view all appendixes, please refer to the supplemental materials that are available at: https://www.worldscientific.com/doi/suppl/10.1142/S0116110524500033.

[6]The sampling process involves five stages. The initial stage employs stratified sampling, dividing Kazakhstan's population into 20 regions based on their population size. In the second stage, a stratified approach is used to select urban and rural areas within each region, accounting for urbanization levels. Moving to the third stage, nest sampling is employed, where regional centers and other localities are chosen based on their distance from the main regional center. The fourth stage involves quota selection, ensuring representation across gender, age, and ethnic groups. Lastly, the fifth stage utilizes mechanical sampling, involving every fifth respondent, akin to the third stage's interval.

Table 1. **Sample Size by Region of Kazakhstan**

Region	Population ('000)	Share of Population (%)	Sample Size
Abay	610.2	3	167
Akmola	786.7	4	164
Aktobe	925.9	5	183
Almaty	1,499.8	8	235
Atyrau	690.8	4	161
West Kazakhstan	687.0	3	163
Zhambyl	1,216.2	6	205
Karaganda	1,134.3	6	180
Kostanay	832.3	4	199
Kyzylorda	831.7	4	161
Mangystau	763.2	4	165
Pavlodar	754.8	4	179
North Kazakhstan	534.7	3	164
Turkestan	2,113.4	11	338
East Kazakhstan	730.6	4	165
Astana City	1,340.8	7	238
Almaty City	2,151.8	11	425
Shymkent City	1,186.5	6	222
Ulytau	221.2	1	166
Zhetysu	698.7	4	161

Source: Authors' compilation.

representativeness and also reduce socially desirable responses (OECD 2013).[7] The target population included individuals aged 18 or older (with no upper age limit) residing within private households in any given region at the date of the beginning of the fieldwork. This practice is in line with other internationally renowned surveys, such as the World Values Survey and the European Social Survey.

Based on the theoretical understanding on what affects well-being, the team introduced the following 10 domains, organized under three headline categories:

(i) Subjective well-being

    (a) Life satisfaction

(ii) Material conditions

    (a) Income

    (b) Jobs

    (c) Housing conditions

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[7]Socially desirable responding is typically defined as the tendency to give positive self-descriptions.

(iii) Quality of life

    (a) Social capital, civic engagement, and governance

    (b) Infrastructure

    (c) Social connections and work–life balance

    (d) Health and education

    (e) Environment and natural capital

    (f) Personal security

Income and wealth capture people's current and future consumption possibilities. Both the availability of jobs and their quality are relevant for material well-being, not only because they increase the number of resources available to people, but also because of the role of personal fulfillment and self-esteem that a job can grant individuals. Housing and its quality are key to meeting basic needs and having a sense of personal security, privacy, and personal space (Oswald et al. 2003, OECD 2011). Health status is important, as it is required to perform a range of activities related to well-being, including work (Dolan, Peasgood, and White 2008). Similarly, education is an asset for raising living standards, but it also represents an aspiration for many people. Work–life balance contributes to well-being as it measures the ability of spending time on nonremunerated activities that help people remain healthy and productive (Helliwell 2008, OECD 2013). Civic engagement and quality of governance matters for well-being, as it allows people to have more control over their lives (Helliwell and Wang 2011). Social connectedness helps fulfill many personal goals, and the quality of the environment also shapes personal health and well-being (Dolan, Peasgood, and White 2008; Boarini et al. 2012). Finally, considering people's feelings and evaluations can serve as a proxy for the degree of overall satisfaction of individual citizens (OECD 2013).

During the postsurvey phase, the data collected were carefully coded and cleaned. The data-cleaning procedures included checking for duplicate records, loss of records, incomplete responses, and out-of-range responses, among other errors. When dealing with subjective and qualitative measures, researchers must look for response sets, that is when respondents provide identical ratings on numerical scales to a series of different items. For instance, this can happen when a respondent answers different questions identically across whole modules. This suggests that respondents are not answering meaningfully. Hence, we treat such responses as nonresponses and discard them. The number of such responses was, however, negligible, fundamentally because the survey was conducted in-person by trained personnel of the Economic Research Institute.

C. Methodology for the Subjective Well-Being Index

Using the collected and cleaned dataset, we proceed to construct an index purely based on the survey results: the Subjective Well-Being Index for Kazakhstan. The computation of aggregate indices has been advocated in the past as a source of easily accessible and comparable data on well-being (see, for example, Stiglitz, Sen, and Fitoussi 2009 for a review). The main objective of such an index is to assess the local and regional perceptions of residents on their living conditions and well-being standards, and also on the quality of the public goods and services provided to them and the life opportunities they have wherever they live in Kazakhstan. Unlike other sources of well-being data, the Subjective Well-Being Index solely captures the outcomes of public services, such as those from regional education and health-care systems, and labor markets, instead of focusing on their outputs. This is also a main factor of differentiation compared to other indices of regional inequality in Kazakhstan developed in the past, such as the Regional Competitiveness and Cohesion Index, which mostly reflected outputs and inputs of public spending. In this sense, the Subjective Well-Being Index—and to a lesser extent, the Regional Well-Being Index that follows—can infer not only on the overall state of well-being but also detect inefficiencies in, for instance, the education and/or health systems across regions. When considering two regions with comparable inputs in, for instance, health expenditure, but notably differing satisfaction levels, this scenario could indicate a more (or less) efficient allocation of public funds between the two areas.

When it comes to the computation technique, the Subjective Well-Being Index follows best practice. The index is built on the three headline categories identified for the collection of data through the survey: subjective well-being, material conditions, and quality of life. Each category includes 10 subdimensions or domains (for a full specification, refer to the previous section). The computation consists of a step-by-step aggregation process. For this study, we choose simple aggregation methods. This implies the use of arithmetic means to calculate the scores of each dimension. First, the individual indicators are normalized using the z-score normalization formula:

$$\frac{\text{value} - \mu}{\sigma}. \tag{1}$$

Each dimension is calculated as the simple arithmetic mean of a region's performance in the indicators selected. The scores for the 10 subdimensions are computed as arithmetic means of the dimension scores. The choice of the simple arithmetic mean helps keep the index as simple as possible with the data gathered. It also makes it relatively straightforward to replicate. This construction of the index

allows for certain dimensions to enter the index with a negative sign, such as perceived corruption. Finally, the last step consists in computing the Subjective Well-Being Index as an average of all dimensions. This process was repeated for all regions in Kazakhstan to have comparable scores. Following best practice, no specific weights were assigned to individual indicators or dimensions. All indicators were thus treated as equally important in the index.

The sampling of the population was a multistage effort. The first stage consisted of a stratified sampling of the total population of Kazakhstan in each region, according to their population share. The volume of strata ranged from 160 to 437 respondents, depending on the population in the regions. The second stage of selection consisted of a stratified selection for cities and villages in each region, according to their level of urbanization. Third, nest sampling was adopted—that is, regional centers themselves and other localities were selected for the survey according to the principle of territorial remoteness from the regional center: cities of regional or district significance, villages located near cities, and remote villages. Fourth, to ensure further the representativeness of the sample, the team conducted a quota selection according to age, gender, and ethnic group. The final stage involved mechanical sampling for every fifth respondent. With a confidence probability of 95% and a proportion of 50%, the sampling error in the survey of 4,000 respondents was $\pm 1.55\%$. The sampling error was calculated according to the formula:

$$\Delta = \pm t\sqrt{\frac{\sigma^2}{n}\left(1 - \frac{n}{N}\right)} * 100\%, \tag{2}$$

where

Δ = sampling error;
σ^2 = variance of the proportion of feature x in the sample population;
n = sample population;
N = general population;
t = normalized deviation, the "confidence coefficient."

Finally, the questionnaire design was formed considering the respondent's cognitive burden; the time and budget of the survey; and the need to produce a questionnaire that is clear, comprehensible, and that flows well across its modules. Question placement can be a crucial factor when setting the design of the questionnaire. Based on the review of best practices, we placed subjective well-being questions at the beginning of the survey, avoiding asking well-being questions immediately after questions that can elicit a strong emotional response (e.g., questions on income or marital status). We thus made use of transition questions and buffer text

to refocus respondent attention (Deaton 2011). Moreover, the insertion of an introductory text helped respondents distinguish between topics. Question order within well-being questions was also considered. We followed the general rule, which is to move from the general to the specific (OECD 2013). Core modules were placed at the beginning, with this normally being a question on the Cantril Ladder self-anchoring striving scale, overall happiness questions, and questions related to affection. The core module served as the primary measure of well-being when a single measure is required. To follow, we introduced domain-specific modules in the questionnaire design. Domain evaluation modules aim to collect people's judgments on how well various aspects of their life are going.

One fundamental advantage of the Subjective Well-Being Index is the possibility to compile aggregate information for each region and list each region according to a ranking of well-being. This provides a relatively straightforward way for policymakers to detect critical areas for improvement in each territory. Indeed, whereas the ranking of regions based on the overall score of the Subjective Well-Being Index depicts the general picture, rankings along each dimension of well-being can help identify the "weaker links" in each region. Although certain regions may exhibit high levels of overall well-being, they may be below average in specific dimensions.

D.   Findings

1.   Overall Scores

The ranking and scores of the Subjective Well-Being Index are illustrated in Table 2, according to the quartiles of distribution. The regions of Zhetysu and Karaganda top the ranking, with scores that stand out from the rest of the distribution. These two regions display high levels of reported well-being. Also in the first quartile but at considerable distance, we find North Kazakhstan, Almaty Region, and Atyrau. These three regions display levels of well-being significantly above the country's average. The five regions that make the top quartile in terms of overall subjective well-being include both high-income regions, such as Atyrau, and more rural regions, such as Zhetysu and Karaganda. The second quartile encompasses two city regions, Almaty City and Shymkent City, together with Aktobe, Kostanay, and Akmola. Finally, the third and fourth quartiles of the distribution include mostly central and southern regions. Astana also appears in the bottom half of the ranking, indicating lower-than-average levels of perceived well-being in the capital of Kazakhstan.

Figure 1 visualizes the distribution of well-being across the 20 regions of Kazakhstan. As can be observed, the regions that display the highest levels of reported

Table 2.   **Ranking and Scores of the Subjective Well-Being Index for Kazakhstan**

Rank	Region	Subjective Well-Being Index
1	Zhetysu	1.07
2	Karaganda	0.94
3	North Kazakhstan	0.82
4	Atyrau	0.76
5	Almaty Region	0.42
6	Almaty City	0.40
7	Aktobe	0.37
8	Shymkent City	0.27
9	Kostanay	0.17
10	Akmola	0.09
11	Mangistau	0.03
12	West Kazakhstan	−0.11
13	East Kazakhstan	−0.21
14	Ulytau	−0.38
15	Turkestan	−0.39
16	Astana City	−0.41
17	Abay	−0.63
18	Kyzylorda	−0.93
19	Pavlodar	−1.10
20	Zhambyl	−1.18

Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

Figure 1.   **Subjective Well-Being Index of Kazakhstan by Region**

■ First quartile   ■ Second quartile   ■ Third quartile   ■ Fourth quartile
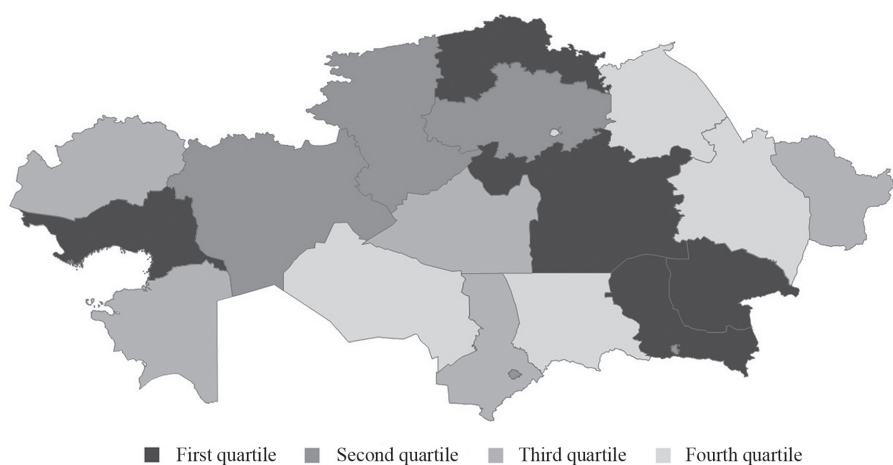
Source: Authors' illustration based on data from the Well-Being Survey of Kazakhstan.

subjective well-being are in the west and north of Kazakhstan. Zhetysu, Almaty Region, Karaganda, and Almaty City display higher well-being levels compared to neighboring regions both in the east and south of the country. In any case, except for the territory once covered by the sole region of Almaty and now divided into Zhetysu and Almaty, and the region of Karaganda, those living in western and northern regions tend to display higher levels of life satisfaction. To better understand the differences across regions in each of the three macro-dimensions, the next three subsections look at the performance of individual regions according to the categorization of their Subjective Well-Being Index score.

2.   Material Conditions

In the Subjective Well-Being Index, material conditions refer to respondents' perceptions and satisfaction on topics such as income, job quality, and housing conditions. Households reporting lower scores in this dimension might have difficulties making ends meet, or they are unsatisfied with the local labor markets and housing options. Table 3 illustrates the ranking of Kazakhstan's regions according to their normalized scores in the material conditions headline dimension. At the top of the ranking, we find many northern and western regions, such as North Kazakhstan, Atyrau, Akmola, Aktobe, and West Kazakhstan. This group of regions is joined by Karaganda and Zhetysu. Eastern and southern regions, instead, generally show lower scores.

A crucial aspect within material conditions is the financial and economic stability of households. Figure 2 illustrates the percentage of individuals who report facing challenges in meeting their financial needs across different regions of Kazakhstan. About 51% of households across the country report having difficulties making ends meet. This percentage reaches over 60% in Almaty Region. Many regions in the east and west display higher-than-average percentages. In the regions of Zhetysu, Almaty City, Ulytau, East Kazakhstan, and Turkestan, between 54% and 62% of respondents are in dire and/or unstable economic circumstances.

Housing conditions and satisfaction also vary across Kazakhstan (Figure 3). In Zhetysu, 87% of respondents claim that they are satisfied with their housing conditions. Most regions in the north and west of the country are above the national average of 78% reporting being satisfied with their housing conditions. In contrast, Turkestan, Kyzylorda, Abay, Pavlodar, and Zhambyl fall below the national average. City regions—Almaty, Shymkent, and Astana—perform worse than the rest, with Almaty City and Astana at the bottom of the distribution. This may indicate the need for better and more inclusive urban housing plans in the largest cities of the country to

Table 3.   **Kazakhstan's Regions Ranked by Material Conditions Score**

Rank	Region	Normalized Score
1	Karaganda	2.23
2	North Kazakhstan	1.71
3	Zhetysu	1.46
4	Atyrau	0.91
5	Aktobe	0.61
6	Kostanay	0.57
7	Almaty Region	0.17
8	Akmola	0.05
9	West Kazakhstan	0.05
10	Ulytau	−0.06
11	Mangistau	−0.06
12	Shymkent City	−0.43
13	Astana City	−0.43
14	East Kazakhstan	−0.64
15	Almaty City	−0.73
16	Abay	−0.85
17	Turkestan	−0.99
18	Kyzylorda	−1.01
19	Pavlodar	−1.07
20	Zhambyl	−1.48

Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

improve the living and housing conditions of residents, especially those at the lowest ends of the income distribution.

Finally, respondents' perceptions varied when asked whether they felt they were better off, worse off, or about the same compared to their parents' living standards. This question, although highly subjective, may point to discontent among the local population when it comes to economic opportunities and, in general, intergenerational social mobility. Figure 4 shows the percentages across each region. First, in many regions, less than 50% of respondents believe that their living conditions are better than those of their parents. Second, there is great variation across regions. In Karaganda, 62% of the sample population report being better off than their parents, while a mere 33% do so in East Kazakhstan and Turkestan. The sense of little or no improvement in intergenerational living conditions affects regions across the board, both in the east and the west. However, it is important to note that the eastern and southern regions consistently fall below the national average. For instance, in East Kazakhstan, Turkestan, Shymkent City, Abay, and Zhetysu, fewer than 40% of the

Figure 2. **Share of Respondents Who Have Difficulties with Making Ends Meet**
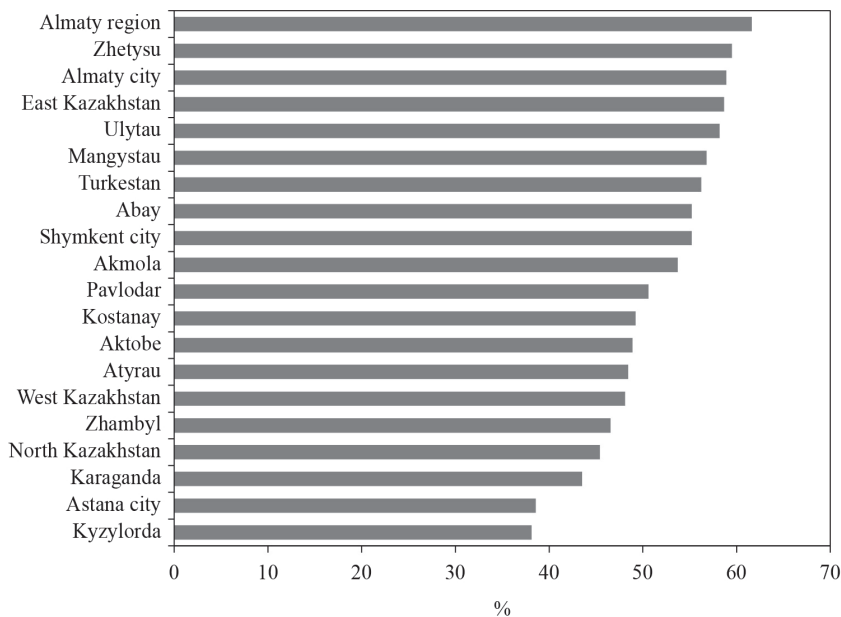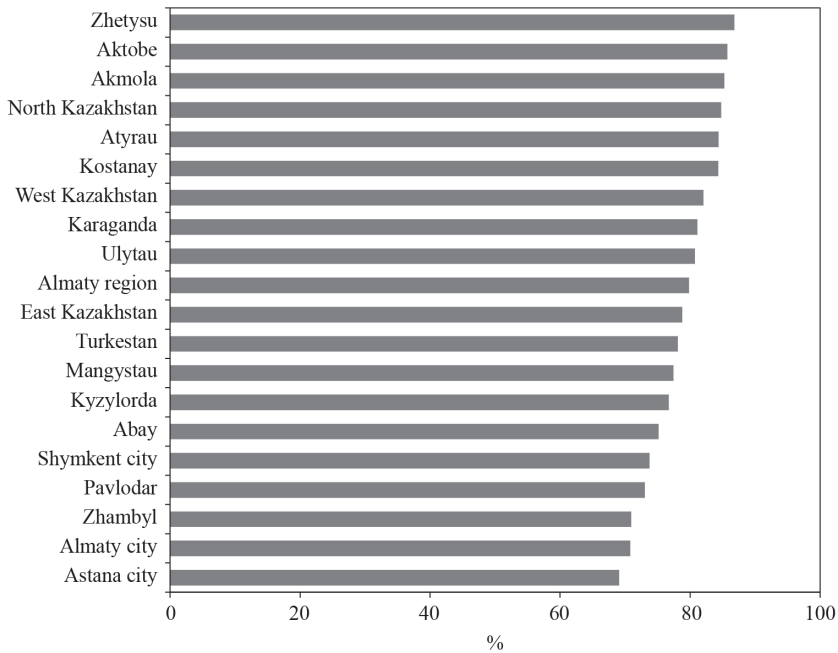

Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

respondents indicate an improvement in living standards compared to their parents. Although these data might appear to conflict with the growth in GDP per capita recorded in the last 2 decades, socioeconomic patterns, like heightened spatial wealth disparities in specific regions of the country, could potentially explain the lower local perceptions of affluence and economic prospects.

3. Quality of Life

The second pillar of the Subjective Well-Being Index is defined as quality of life and it encompasses a variety of subdimensions, including social capital, civic engagement, and governance; infrastructure; social connections and work–life balance; health and education; environment and natural capital; and personal security. This pillar captures the more indirect factors that affect individual perceptions of well-being. Table 4 illustrates the ranking of Kazakhstan's regions according to normalized scores of quality of life that are computed by aggregating scores under each subdimension. The results show North Kazakhstan, Zhetysu, Akmola, West Kazakhstan, and Shymkent City at the top of the ranking, while a diverse group of

Figure 3.   **Share of Respondents Who Are Satisfied with Their Housing Conditions**
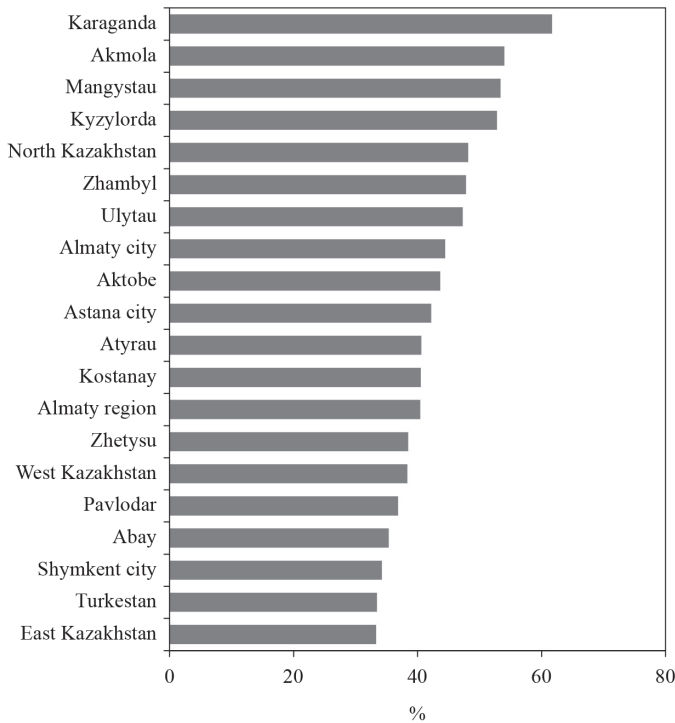

Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

regions comprising northern, eastern, and central regions is stuck at the bottom. Interestingly, Astana is the worst-performing city among the three city regions, and its score is even lower than those of some lagging regions such as Turkestan and East Kazakhstan.

Whereas the headline dimension of quality of life can be a useful aggregate measure of well-being related to a diverse set of topics, an analysis of each region's performances in the underlying subdimensions can shed light on the strengths and weaknesses of the 20 regions of Kazakhstan. Looking at the performance of each region in all six subdimensions of the quality of life pillar, we can note that several regions tend to consistently outperform others, while even regions with high headline scores display lower scores in individual dimensions. For instance, North Kazakhstan's scores fall in the top quartile of the distribution across all six dimensions, but its score for infrastructure reflects an average performance. Similarly, East Kazakhstan's scores are in the bottom half of the table in almost all dimensions. That said, respondents in the region are relatively satisfied with the quality of their local governance and with security standards and law enforcement.

Figure 4. **Share of Respondents Who Report Being Better Off than Their Parents in Terms of Living Standards**

Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

At least two other factors are worth noting. First, we observe how the ranking is relatively unrelated to each region's GDP per capita levels. If we take for instance the oil-rich region of Atyrau, its performance is below average in three out of six dimensions: social capital, civic engagement, and governance; health and education; and environment and natural capital. The region tops the ranking only in social connections and work–life balance, while it has average scores when it comes to infrastructure. Such a performance reiterates the importance of collecting this type of granular data vis-à-vis widely available data such as GDP. In addition, a diverse regional performance points to those areas of a person's life that, with time, could fuel discontent in any given region. In this sense, discontent in each region may be driven by slightly different causes, whether it is poor infrastructure, the lack of adequate health care and education, or perceived corruption and lack of trust in local governance.

Table 4.   **Ranking of Regions According to Their Performance in the Quality of Life Pillar**

Rank	Region	Normalized Score
1	North Kazakhstan	1.29
2	Zhetysu	1.27
3	Akmola	0.42
4	West Kazakhstan	0.26
5	Shymkent City	0.23
6	Atyrau	0.14
7	Almaty City	0.11
8	Almaty Region	0.09
9	Aktobe	0.03
10	Turkestan	0.02
11	Mangistau	−0.01
12	Kyzylorda	−0.20
13	East Kazakhstan	−0.21
14	Astana City	−0.24
15	Zhambyl	−0.31
16	Pavlodar	−0.32
17	Karaganda	−0.37
18	Abay	−0.55
19	Kostanay	−0.58
20	Ulytau	−1.05

Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

Second, it is worth observing the performance of some lagging regions, as identified by previous studies through the computation of convergence indices (see, for example, Rodríguez-Pose and Bartalucci 2021). Turkestan, for instance, lies around the national average in terms of the overall quality of life score; however, its scores vary quite significantly across each dimension. Turkestan's best performance can be observed in dimensions such as social connections and work–life balance, environment and natural capital, and infrastructure. In contrast, the region performs below average in social capital, civic engagement, and governance; health and education; and personal security (Figure 5). The identification of such strengths and weaknesses can inform future policy actions aimed at improving socioeconomic living conditions in the region, while also tackling pockets of local discontent among its population. For instance, large infrastructure investments in the form of new roads, railways, and/or airports are unlikely to constitute "silver bullets" that will raise, on their own, well-being levels in the region, given the relative satisfaction expressed by residents with available infrastructure. Instead, future policy and investment decisions

Figure 5.   **Share of Respondents Who Are Satisfied with the Quality of Health Care in Their Region**
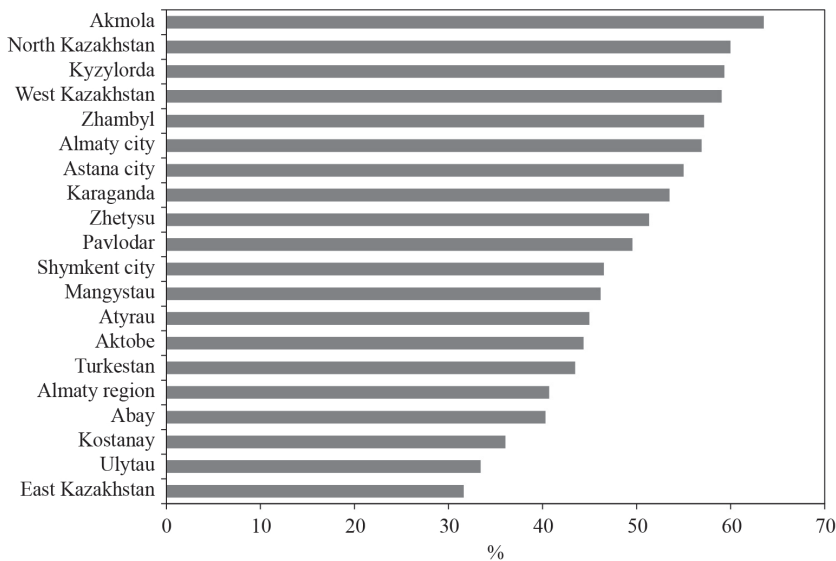
Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

may need to be multidimensional in their scope, addressing the low-performing areas of, for example, governance, health, and education.

4.   Subjective Well-Being

The last pillar of the Subjective Well-Being Index is a pure measure of well-being, defining well-being as the combination of life satisfaction and affection. The ranking of Kazakhstan's regions according to their performance in the subjective well-being headline dimension is displayed in Table 5. A spatial visualization of the ranking is portrayed in Figure 6. At the top of the ranking, we find two city regions, Almaty and Shymkent, together with Atyrau, Karaganda, and Almaty Region. In the second quartile, there is a diverse group of both western and eastern regions: Kostanay, Zhetysu, Aktobe, East Kazakhstan, and Mangistau. The rest of the regions are below the national average.

As frequently discussed in well-being literature, measuring subjective well-being through life satisfaction does not always mirror income distribution or GDP per capita. This phenomenon is distinctly evident in the context of Kazakhstan (Figure 7). Whereas there are some regions that display both high GDP per capita levels and high scores in the subjective well-being pillar—Atyrau is a prime example—high scores in

Table 5. **Kazakhstan's Regions Ranked by Subjective Well-Being Score**

| Rank	Region	Normalized Score
1	Almaty City	1.81
2	Atyrau	1.23
3	Shymkent City	1.01
4	Almaty Region	1.00
5	Karaganda	0.97
6	Kostanay	0.53
7	Zhetysu	0.48
8	Aktobe	0.46
9	East Kazakhstan	0.22
10	Mangistau	0.17
11	Ulytau	−0.04
12	Turkestan	−0.20
13	Akmola	−0.20
14	Abay	−0.49
15	North Kazakhstan	−0.53
16	Astana City	−0.58
17	West Kazakhstan	−0.65
18	Kyzylorda	−1.58
19	Zhambyl	−1.73
20	Pavlodar	−1.90

Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

Figure 6. **Representation of Normalized Scores in the Subjective Well-Being Pillar by Region**
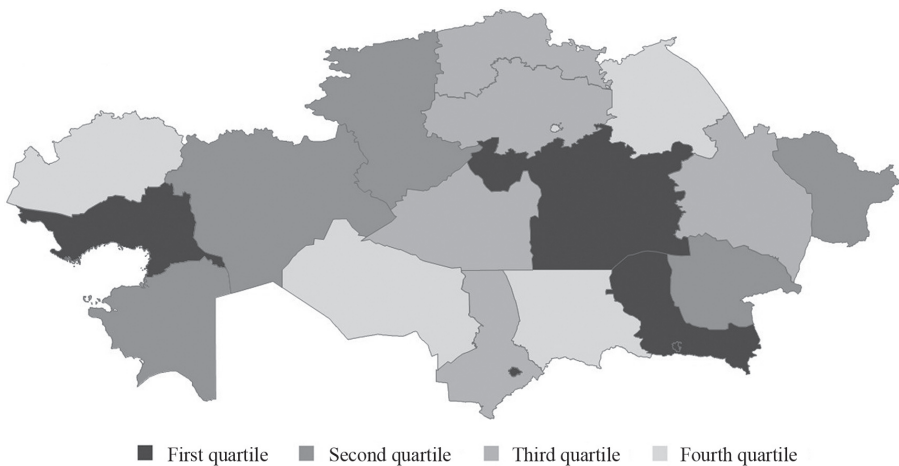
■ First quartile ■ Second quartile ■ Third quartile ■ Fourth quartile

Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

Figure 7.   **Share of People Claiming They Are Satisfied with Their Life**
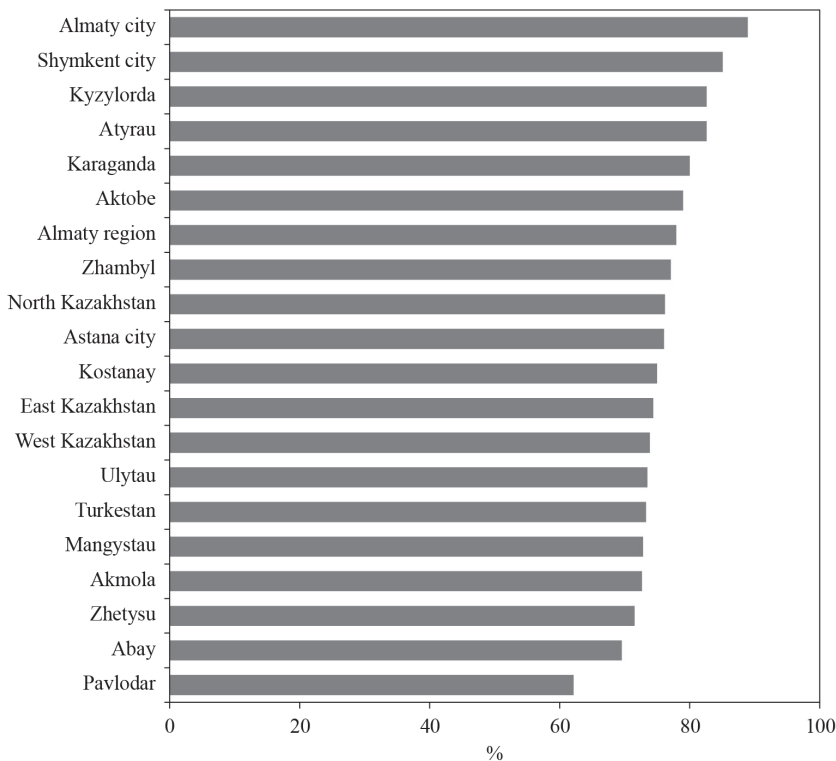
Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

subjective well-being are also enjoyed by regions such as Karaganda and Shymkent City that are well below the country's average income level. In contrast, regions such as West Kazakhstan, which have above average income levels, perform poorly when it comes to the subjective well-being pillar, indicating relatively low levels of satisfaction with life opportunities. Overall, the deviation from the mean is large across the distribution: In regions such as Almaty City and Shymkent City, almost 90% of the respondents claim that they are satisfied with their life, while in Pavlodar and Abay, that figure is 62% and 70%, respectively. This may point to large differences in living standards, comprising not only material conditions but also social interactions, professional growth opportunities, and the possibility of establishing valuable relationships.

This section has illustrated the results of the Subjective Well-Being Index. As observed, the aggregate scores of the index can be disaggregated by pillar, and important insights can be derived from the performance of the regions on each

dimension. The next section introduces another index, the Regional Well-Being Index, which addresses the need for combining subjective measures of well-being, collected through the countrywide survey, and more objective data related to the same pillars of interest, as a way to obtain a balanced aggregate measure of well-being that bridges the picture provided by macro-level, objective indicators and that of well-being perceptions. Hence, the next part of the report showcases the methodology of the Regional Well-Being Index—which in many ways recalls that of the Subjective Well-Being Index—and the results stemming from the computation of the new index.

III.   The Regional Well-Being Index

A.   Methodology for the Regional Well-Being Index

After considering the scores of the Subjective Well-Being Index, we introduce another measure of well-being, the Regional Well-Being Index, which displays several similarities and differences with the Subjective Well-Being Index. First, both indices aim at assessing levels of well-being across Kazakhstan, going beyond hard economic measures of socioeconomic prosperity such as GDP. Second, the methodology behind the construction of the Regional Well-Being Index recalls largely the computation techniques employed for the Subjective Well-Being Index. In practice, this means that the Regional Well-Being Index is built upon 10 pillars and averages are calculated to find an aggregate score that can be used for comparative purposes across regions. Third, both indices introduce novel data on subjective well-being in Kazakhstan, differentiating themselves significantly from existing measures of prosperity across the population of Kazakhstan.

Figure 8 illustrates the 10 pillars that correspond to the subdimensions of the Regional Well-Being Index. Like the Subjective Well-Being Index, the Regional Well-Being Index is built around three key headline dimensions. These are material conditions, quality of life, and subjective well-being. For the full specification of the variables in the index, please refer to Table A.2 of the Appendix. In practice, the Regional Well-Being Index includes the same indicators already present in the Subjective Well-Being Index, while also incorporating a new set of macro-level variables sourced from the Kazakhstan Statistical Office. In this sense, the Regional Well-Being Index is a comprehensive assessment of both perceptions (collected through the survey) and outputs of public services. Best practice, such as the OECD Better Life Index, informs the construction of the index to ensure it is consistent with both the theoretical understanding of well-being and the most robust empirical

Figure 8.   **The 10 Pillars of the Regional Well-Being Index for Kazakhstan**
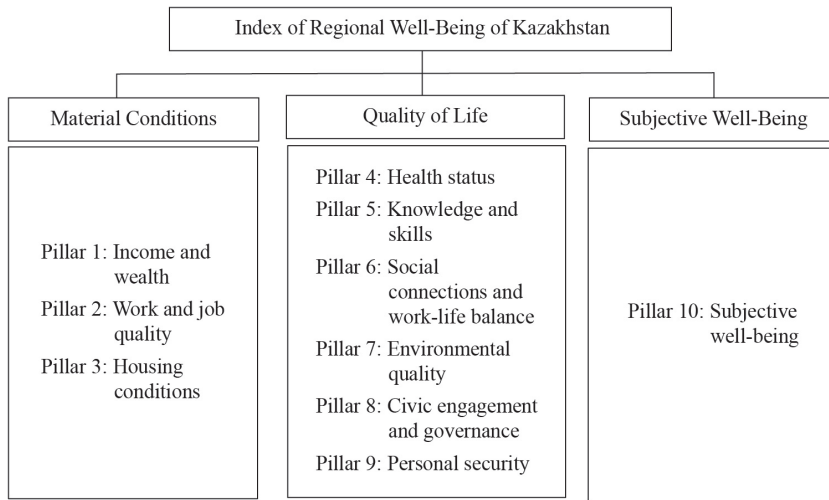
Source: Authors' compilation.

computation techniques. The aggregation techniques, such as the score normalization procedure, reflect the ones also adopted for the Subjective Well-Being Index.

B.   Findings

1.   Overall Scores

This section presents the results of estimating the Regional Well-Being Index. Table 6 shows the ranking of Kazakhstan's regions according to their scores on the Regional Well-Being Index. Similar to the approach taken for the Subjective Well-Being Index, normalized z-scores are presented to enable easy comparison between regions. However, unlike the Subjective Well-Being Index, the Regional Well-Being Index utilizes the pre-2022 classification of the 17 regions due to the absence of certain macro-level indicators. In the first quartile of the distribution, we find North Kazakhstan, Atyrau, Aktobe, Astana City, and Almaty City. These are followed by Karaganda, Shymkent City, and Mangistau, all of which exceed the country average. Zhambyl, Pavlodar, Kyzylorda, and Turkestan lie at the bottom of the distribution, representing the lowest levels of well-being across the country.

A first look at the scores of the Regional Well-Being Index reveals a different picture than that presented by the scores of the Subjective Well-Being Index. For comparison, Table 7 illustrates the rankings of Kazakhstan's regions for the two indices. Most regions fall in the same half of the distribution in both indices; that is, if

Table 6.   **Kazakhstan's Regions Ranked by Their**
Regional Well-Being Index Scores

Rank	Region	Regional Well-Being Index
1	North Kazakhstan	0.27
2	Atyrau	0.26
3	Aktobe	0.19
4	Astana City	0.14
5	Almaty City	0.14
6	Karaganda	0.11
7	Shymkent City	0.11
8	Mangistau	0.02
9	Almaty Region	−0.01
10	East Kazakhstan	−0.04
11	West Kazakhstan	−0.05
12	Kostanay	−0.12
13	Akmola	−0.14
14	Turkestan	−0.18
15	Kyzylorda	−0.24
16	Pavlodar	−0.27
17	Zhambyl	−0.41

Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

a region has an above-average score in the Subjective Well-Being Index, it is likely to also be above-average in the Regional Well-Being Index. That said, there are notable exceptions. For instance, Almaty Region appears in the top quartile of the Subjective Well-Being Index, ranking fourth. Once more objective macro-level indicators are added to the index specification, however, the region falls to the ninth position, placing it just below the country average on the Regional Well-Being Index. Another exception is that of the capital city, Astana. Astana performs much better once macro-level indicators—such as household disposable income, poverty levels, health status, and educational attainment—enter the formula of the Regional Well-Being Index. In contrast, when people's perceptions only are considered, Astana falls to the bottom of the rankings.[8] Such differences however should not be easily dismissed. Low levels of

[8]Discrepancies between well-being perceptions and objective well-being conditions are not uncommon. These disparities occur for various reasons. Individuals in prosperous places may have higher expectations for their quality of life, and they evaluate their well-being relative to others and so may feel less well-off when surrounded by more affluent individuals. Urban issues such as high living costs, congestion, pollution, and social challenges also negatively affect daily experiences and can result in lower well-being perceptions. The case of Astana is therefore not unique in exemplifying how perceived well-being can be at odds with objective well-being conditions. These discrepancies underscore the importance of considering both subjective perceptions and objective indicators for a holistic assessment of overall well-being.

Table 7.   **Regional Rankings for the Well-Being Index versus the Subjective Well-Being Index**

| Rank	Regional Well-Being Index	Subjective Well-Being Index
1	North Kazakhstan	Karaganda
2	Atyrau	North Kazakhstan
3	Aktobe	Atyrau
4	Astana City	Almaty Region
5	Almaty City	Almaty City
6	Karaganda	Aktobe
7	Shymkent City	Shymkent City
8	Mangistau	Kostanay
9	Almaty Region	Akmola
10	East Kazakhstan	Mangistau
11	West Kazakhstan	West Kazakhstan
12	Kostanay	East Kazakhstan
13	Akmola	Turkestan
14	Turkestan	Astana City
15	Kyzylorda	Kyzylorda
16	Pavlodar	Pavlodar
17	Zhambyl	Zhambyl

Note: The three additional regions under the new classification—Ulytau, Abay, and Zhetysu—have been removed from the ranking of the Subjective Well-Being Index to facilitate comparison with the Regional Well-Being Index.
Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

subjective well-being can indeed be the source of social unrest that, if not adequately addressed, may lead to the emergence of violent manifestation of discontent, even though the more objective indicators point to a more positive situation.

All three city regions—Almaty, Astana and Shymkent—have scores above the country average. Astana displays the highest score among the three, followed by Almaty and Shymkent. The aggregate scores, however, hide significant differences among the three cities under each dimension. Figure 9 illustrates the performance of the three cities in the 10 dimensions of the Regional Well-Being Index. For instance, Shymkent performs better than the rest in dimensions such as environmental quality, social connections, and civic engagement and governance; while it lags when it comes to income and wealth, knowledge and skills, and health. Astana, on the other hand, has high scores in income and wealth, work and job quality, and personal safety. However, it has low scores in social connections, civic engagement and governance, and, importantly, life satisfaction. Finally, Almaty performs relatively better in life satisfaction, health, and knowledge and skills, while it lags in work and job quality, civic engagement and governance, and life satisfaction. These differences reveal a very

Figure 9.   **Dimensional Scores for the City Regions of Almaty, Astana, and Shymkent**
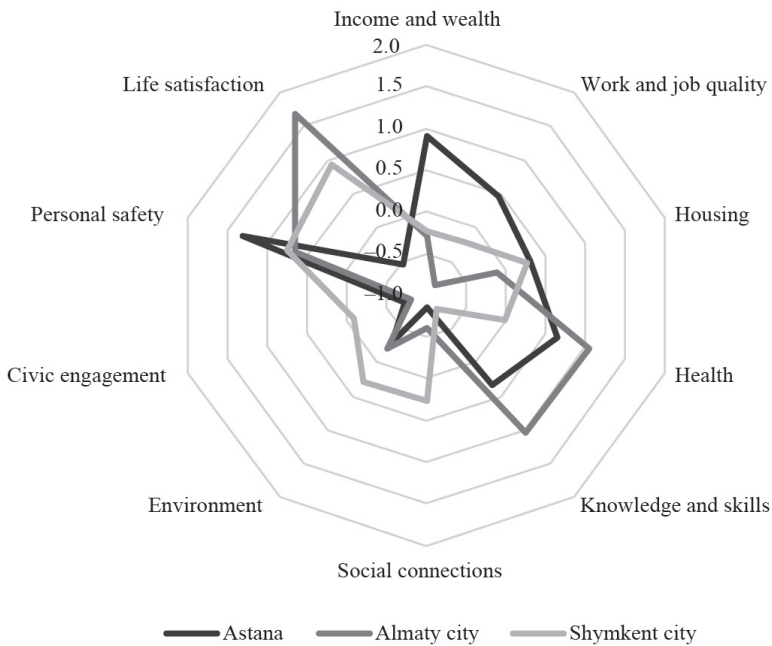
Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

heterogeneous scenario and can drive policy actions aimed at addressing the bottlenecks and weaknesses of each of these regions. The following subsections introduce individual scores under the three headline categories of the index: material conditions, quality of life, and subjective well-being.

2.   Material Conditions

The material conditions headline dimension of the Regional Well-Being Index considers macro-level economic indicators such as household disposable income and poverty rates. This results in scores that notably differ from those within the same dimension of the Subjective Well-Being Index. At the forefront of the Table 8 ranking, we observe Karaganda, Astana, Kyzylorda, and Atyrau. However, the rankings do not precisely mirror the income distribution across Kazakhstan's regions, as half of the final score is still based on perceptions gathered from the survey, including data on managing expenses and contentment with financial circumstances (see Table A.2 of the Appendix for the full specification). Above the country average, we find many western and northern regions such as Aktobe, North Kazakhstan, Mangistau, and

Table 8.   **Regional Rankings for Material Conditions in the Regional Well-Being Index**

Rank	Region	Normalized Score
1	Karaganda	1.05
2	Astana City	0.90
3	Kyzylorda	0.48
4	Atyrau	0.43
5	Aktobe	0.31
6	North Kazakhstan	0.24
7	Mangistau	0.04
8	Kostanay	0.03
9	West Kazakhstan	−0.10
10	Akmola	−0.18
11	Shymkent City	−0.23
12	Almaty City	−0.28
13	Almaty Region	−0.37
14	Zhambyl	−0.38
15	Pavlodar	−0.40
16	East Kazakhstan	−0.77
17	Turkestan	−0.77

Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

Kostanay. In contrast, Turkestan, East Kazakhstan, Pavlodar, Zhambyl, and Almaty Region lie at the bottom of the distribution, indicating both low satisfaction among respondents with their financial situation and low levels of wealth.

3.   Quality of Life

As mentioned in the introduction, well-being can seldom be captured by purely economic measures. Instead, it is often considered as a multidimensional concept that incorporates other aspects of people's lives such as health and education, social connections, and civic engagement. Table 9 illustrates the performance of Kazakhstan's regions in the quality of life headline dimension. Some regions perform well under the material conditions headline only to lie below the country average in the quality of life dimension. For instance, Karaganda tops the ranking of material conditions; however, it ranks only 13th in Table 9. In contrast, East Kazakhstan lies at the bottom of the distribution in material conditions, whereas it performs much better once a variety of factors such as civic engagement and education are considered. This points, once again, to the importance of going beyond purely economic measures of well-being and collecting data on alternative measures that can inform the actions of policymakers aimed at addressing the bottlenecks of specific territories.

Table 9.   **Regional Rankings for Quality of Life in the Regional Well-Being Index**

Rank	Region	Normalized Score
1	North Kazakhstan	0.38
2	Aktobe	0.15
3	Astana City	0.14
4	Atyrau	0.13
5	Shymkent City	0.05
6	West Kazakhstan	0.03
7	East Kazakhstan	0.03
8	Mangistau	0.01
9	Almaty City	0.01
10	Pavlodar	−0.06
11	Almaty Region	−0.08
12	Turkestan	−0.11
13	Karaganda	−0.10
14	Akmola	−0.13
15	Kyzylorda	−0.17
16	Kostanay	−0.21
17	Zhambyl	−0.26

Source: Authors' calculations based on data from the Well-Being Survey of Kazakhstan.

IV.   Conclusions and Policy Recommendations

Studying regional inequality in Kazakhstan is becoming increasingly important, particularly in light of the escalating territorial imbalances observed over the past 4 years (Rodríguez-Pose and Bartalucci 2021). While earlier research underscored the scope and enduring nature of these inequalities, there has been limited exploration into the underlying nature and qualitative aspects that contribute to diverse regional performance across the various pillars of the well-being indices. This paper has benchmarked the nature and features of inequalities among Kazakhstan's regions through the analysis of a new dataset of primary data stemming from a countrywide survey. This work contributes to a deeper understanding of regional inequality in Kazakhstan by suggesting an updated Regional Well-Being Index that incorporates both secondary economic data and primary data from a Subjective Well-Being assessment collected from 4,034 individuals across the country. Whereas the methodology of the study follows global best practices, some limitations include the total number of individuals interviewed and the fact that most macroeconomic indicators were sourced from the prepandemic period.

The analysis presented here portrays a multifaceted scenario that does not easily align with traditional, one-size-fits-all development interventions. This incongruity stems from the reality that each region and territory possesses distinct strengths and weaknesses, spanning from income levels to the quality of health care and education. The case of the city region of Astana, for instance, is representative of such an eclectic panorama. Astana performs well in the overall scores of the Regional Well-Being Index once a range of macro-level, objective indicators are considered. That said, residents in Astana express little satisfaction with the levels of health care and education provided in the city. Additionally, the city performs badly when it comes to social connections and work–life balance. This poor performance in such indicators contributes to Astana's low scores in well-being aggregate measures.

The primary takeaway from the analysis carried out on well-being across Kazakhstan's regions is that no region is alike and each region has its own set of challenges and areas for improvement when it comes to well-being and living standards. This has major implications for policymakers. Attempts to address regional shortcomings through countrywide blanket policies—such as the implementation of large infrastructure investments or the establishment of minimum quota systems for the provision of public services—may fail to raise the living standards of all regions. Instead, a much more articulated and demanding undertaking is likely needed to design tailored policy interventions that truly address the most pressing issues that persist in Kazakhstan's territories. These interventions may include the identification of regional targets and priorities based on each region's well-being performance and the provision of conditional funding allocated specifically to tackle areas of deficiency.[9] In this sense, the adoption of location-sensitive policies can be an important step toward the fulfillment of the economic potential of each region, as discussed in Rodríguez-Pose and Bartalucci (2021).

In practice, the scores of the Subjective Well-Being Index and the Regional Well-Being Index can inform a wide range of policies and redistribution policies. One example is that of fiscal redistribution policies—that is, the transfer of resources from central to regional governments. For the most part, current systems of redistribution in Kazakhstan take into consideration output measures of public services determined by the needs of a certain region due to, for instance, population density or age. The scores of the two indices presented here can instead serve as important outcome indicators of the quality of public goods and services offered; hence, identifying those territories in greater need of resources. These scores can enter formula-based redistribution systems

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[9]For a full list of policy recommendations stemming from the study, please refer to ADB (2023).

and become part of the rationale upon which decisions regarding fiscal equalization can be made.

In the end, the risks of overlooking low levels of satisfaction with both social and economic outcomes are high. Worldwide, the growing regional imbalances and related discontent that has characterized lagging and declining territories has been a major source of political and social unrest, at times leading to violent manifestation of dissatisfaction such as in the case of the "yellow vest" movement in France. Kazakhstan has also witnessed a surge in discontent that cannot solely be attributed to economic constraints. In fact, various factors linked to socioeconomic well-being frequently underlie such unrest. For instance, the violent upheaval in January 2022 in the country originated in the oil-rich, affluent region of Mangystau. All this calls for renewed attention to the different levels of well-being across Kazakhstan's regions and a deep understanding of what drives those levels of satisfaction (or discontent). In this regard, regular well-being surveys can become a tool for policymakers to design, implement, and monitor targeted policy actions that will contribute to more equitable, inclusive, and sustainable economic growth in Kazakhstan.

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Appendix

To view all appendixes, please refer to the supplemental materials that are available at: https://www.worldscientific.com/doi/suppl/10.1142/S0116110524500033.