16 December 2024
WELL-BEING INDEX
2004-2023

WELL-BEING INDEX CLOSE TO THE PRE-PANDEMIC LEVEL

It is estimated that the Portuguese Well-being Index (WBI) have increased in 2023, being close to that of 2019.

The WBI illustrates developments in well-being using ten synthetic indices. These indices reveal two dimensions: Material Living Conditions and Quality of Life.

The two perspectives of well-being analysis showed different behaviours. The Quality of Life index was always higher than that of the Material Living Conditions, except for 2009 and from 2021 onwards.

Eight of the ten areas that make up the WBI showed a positive evolution from 2004 to 2023. The factors that showed the most favourable evolution were personal security, education, knowledge and skills, and economic well-being.

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1. Global analysis

Preliminary data for 2023 points to an increase in the Well-being Index (WBI) compared to the previous year, maintaining a period of continuous growth from 2012, only interrupted in 2020. In this year, which was marked by the COVID-19 pandemic, it was recorded a decrease of 1.5 percentage points (p.p.) compared to the previous year, even lower than in 2012 (2.0 p.p.).

The WBI in Portugal almost always evolved positively between 2004 and 2023, decreasing in 2007, 2011, 2012 and 2020. In that period, the WBI went from 22.7 to 46.0, primarily due to the progress observed in Material Living Conditions.

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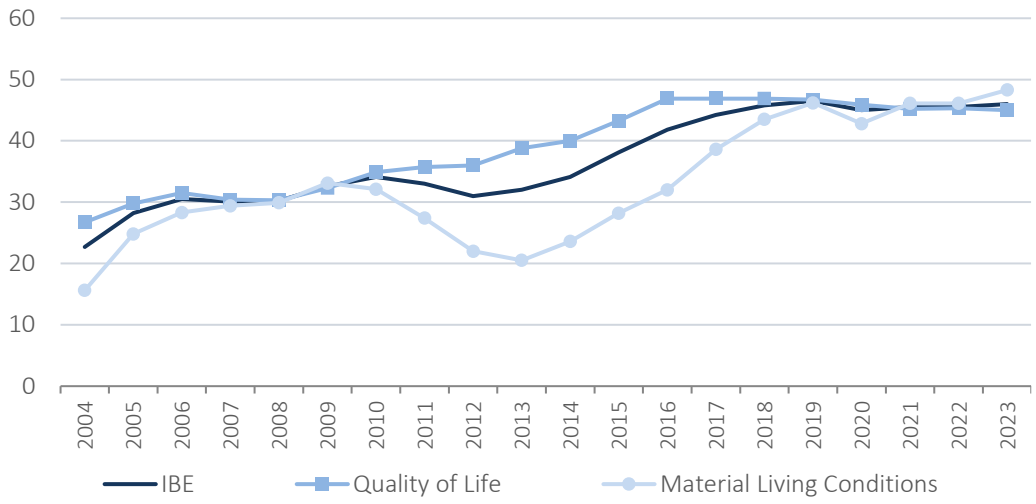
Figure 1. **Well-being Index (IBE): global and by perspective**



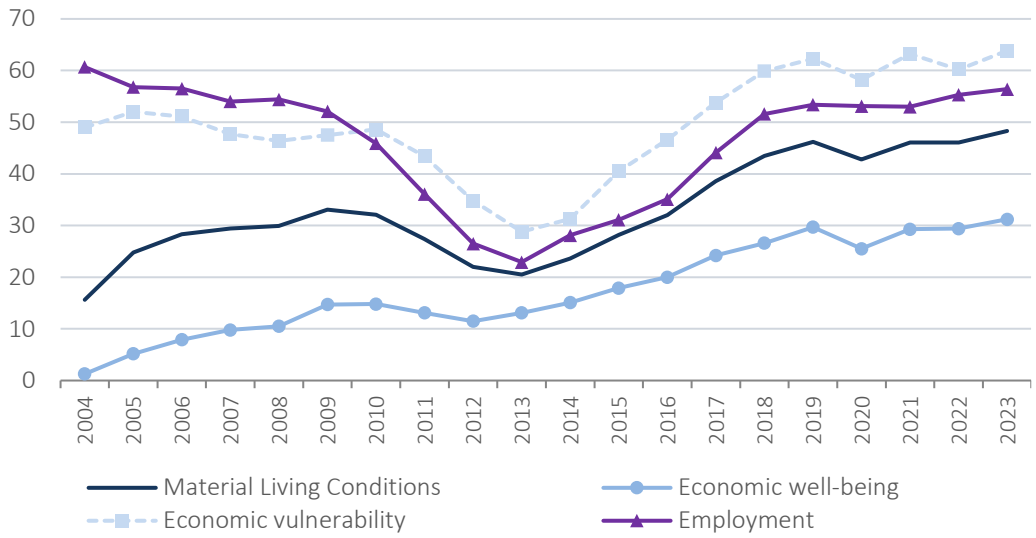
The two perspectives of well-being under analysis – represented by the synthetic indices of Material Living Conditions and Quality of Life – showed different behaviours. The Quality of Life index was always higher than Material Living Conditions, except for 2009 and from 2021 onwards.

The Quality of Life index showed a positive trend until 2016, maintaining approximately constant values between 2016 and 2018. It decreased from that year onwards, except for a slight increase in 2021-2022. The Material Living Conditions index recorded a negative evolution in 2009-2013, reaching a minimum in 2013. From that year, it grew until 2023, only decreasing between 2019 and 2020.

In the evolution of Material Living Conditions, there are four distinct periods:

- Between 2004 and 2009, the index shows a positive development, resulting from the contribution of the evolution of the Economic well-being domain;
- A second period, from 2009 to 2013, in which the index shows a negative evolution as an outcome of the sharp decreases in the Employment and Economic vulnerability indices;
- A period of positive evolution from 2013, as a result of the also positive evolution of the indices of the three domains;
- Moreover, an inflexion in 2020 resulted from these domains' negative behaviour.

Figure 2. **Material Living Conditions and its domains**



Economic well-being shows an approximately linear positive evolution, contrary to what happens to the other two domains of Material Living Conditions. This index has grown almost continuously since 2004 (only with a slight exception in 2010-2012 and 2019-2020). This is the Material Living Conditions domain that showed the most considerable growth in the period under review.

The Employment and Economic vulnerability indices showed very similar behaviours throughout the period: a sharp decrease until 2013, an increase from that year until 2019 and a recovery at the end of the period, after the decrease in 2020.

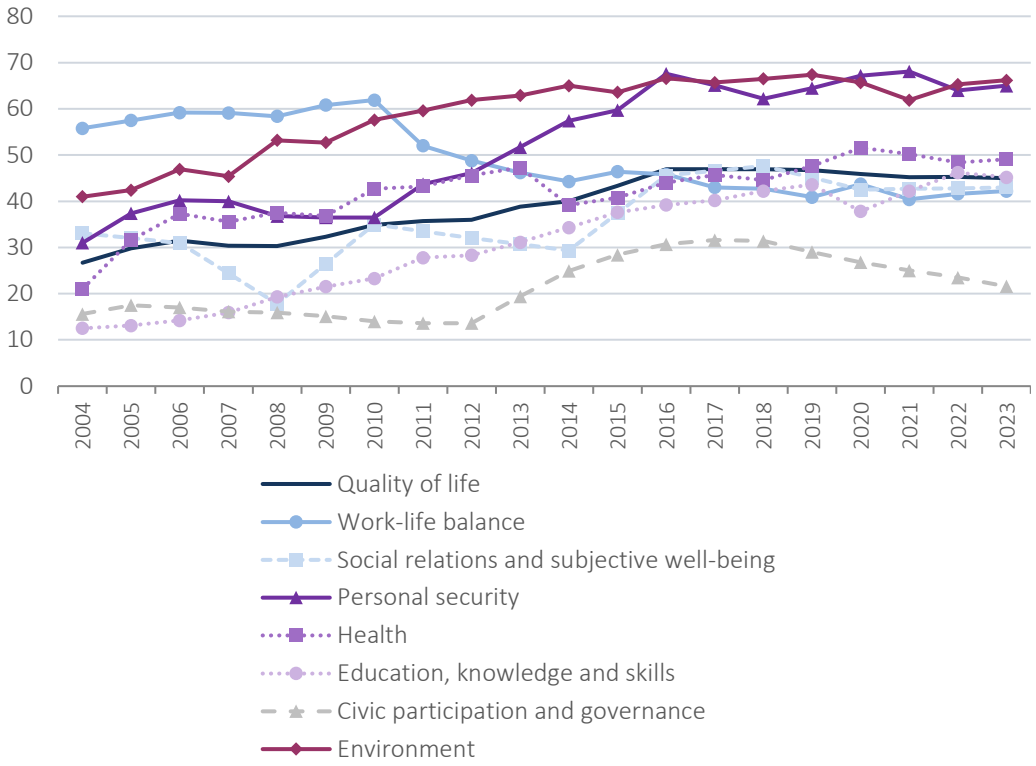
The positive evolution of the Personal security, Education, Environment, and Health indices explains the Quality of Life index growth up to 2016. The evolution observed after 2016 can be attributed mainly to the decrease in the Civic participation, social relations, and subjective well-being domains. Only the Education, Health, and Environment domains showed positive average variations from 2016 onwards.

Finally, from 2012 onwards, the Environment and Personal security domains have recorded the highest values of the Quality of Life index, thus reflecting Portugal's relevant position in these areas internationally.[1]

In the opposite direction, the low values of the Civic participation and governance domain should be highlighted.

[1] The indices have been normalised based on the values of a group of European countries, as explained in the Methodological note. As a result, a high value of an indice indicates that Portugal's performance for that particular indicator is close to the highest values observed among the reference group of countries.

Figure 3. **Quality of Life and its domains**



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2. Material Living Conditions

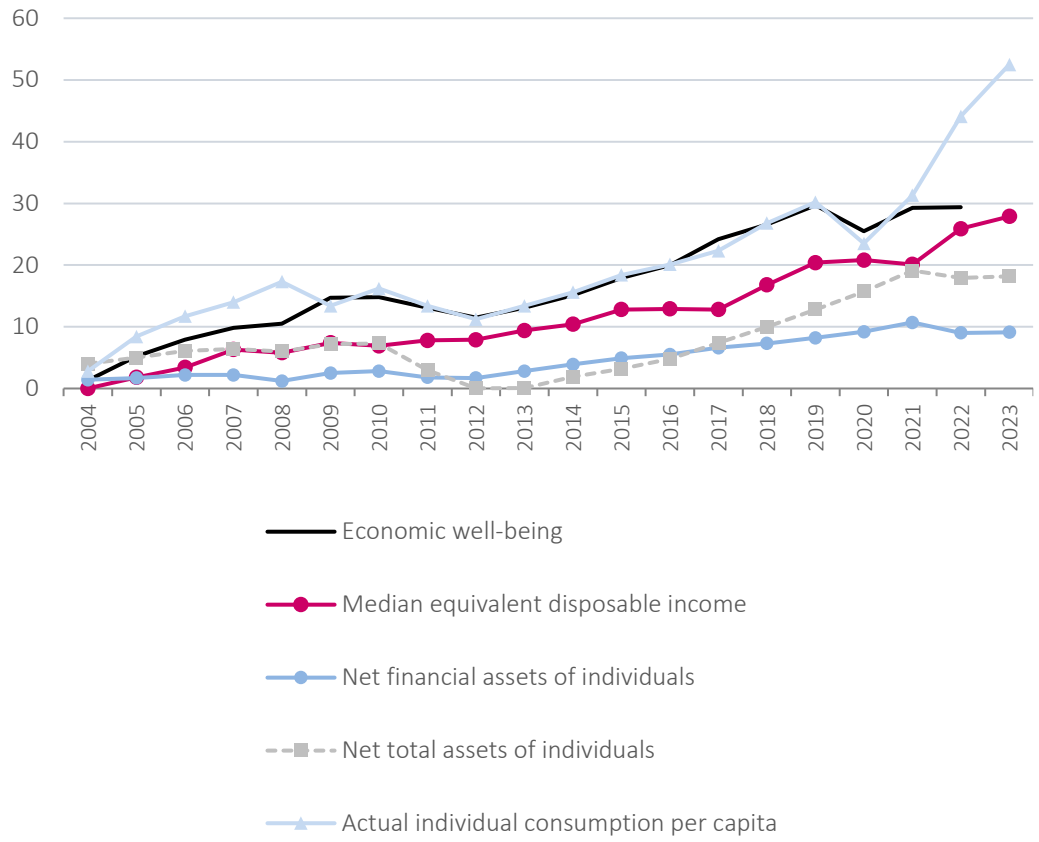
Economic well-being

The Economic well-being domain grew considerably up to 2010, reversed that trend until 2012 and began a recovery, only interrupted in 2020. In the last three years, although there have been increases, the value of this index in 2023 was still lower than that of 2019. The evolution of the inequality and concentration indicators stands out in the behaviour of this index, which took on the highest values in the period. The indicators relating to net assets and employees' net income were not only the ones with the most contained evolution but also the ones with the lowest values during the period.

Although the Economic well-being domain and its respective indicators have shown a generally favourable evolution, they reached values in 2023 that are, on average, close to 30 (on a scale of 0 to 100). This fact reveals Portugal's position in this domain vis-à-vis the set of countries that are the reference in this analysis for the normalisation of the indicators.[2]

[2] Some of the indicators do not have actual values for 2023. As mentioned in the Methodological note, a projection of these indicators for 2023 was carried out, with only the value of domain indices being disclosed.

Figure 4A. **Economic well-being and its indicators**[3]



[3] Figures 4, 6, 7, 9 and 13 have been subdivided into two groups (A and B) to make them easier to read.

Figure 4B. **Economic well-being and its indicators**

Economic vulnerability

The Economic vulnerability domain evolution was unfavourable until 2013 and showed an increasing trend thereafter and until 2023. Most indicators decreased sharply between 2010 and 2013. There have been positive developments since 2014, mainly due to the improvements in social and material deprivation rate and the very low work intensity. From that year, most indicators in this area showed a favourable evolution, although with oscillations since 2020.

Figure 5. **Economic vulnerability and its indicators**

Employment

Employment is the well-being domain with the second worst performance considering the entire period 2004-2023. However, if only the period after 2012 is considered, the domain shows one of the most pronounced positive variations. For this evolution, both in the downward phase until 2013 and in the upward phase from that year onwards, the highest contributions came from the unemployment rates of the active population, of young people, and of those with tertiary education level.

Figure 6A. **Employment and its indicators**

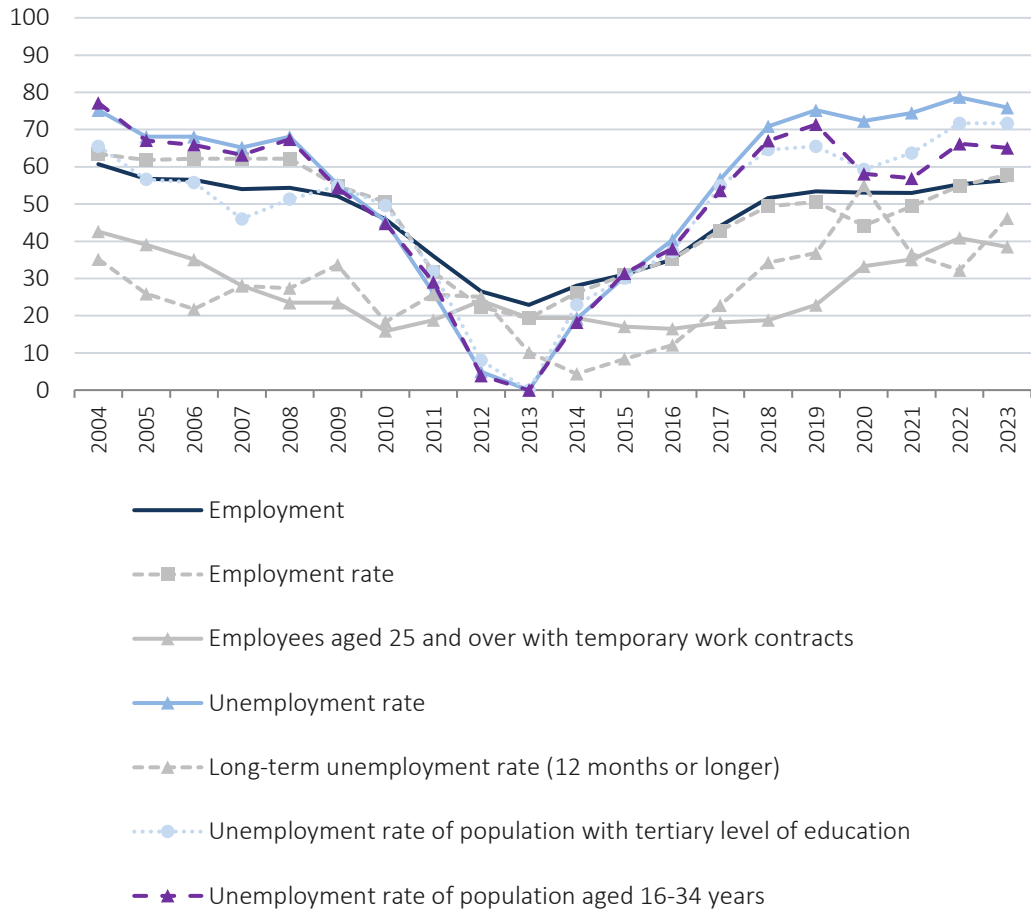
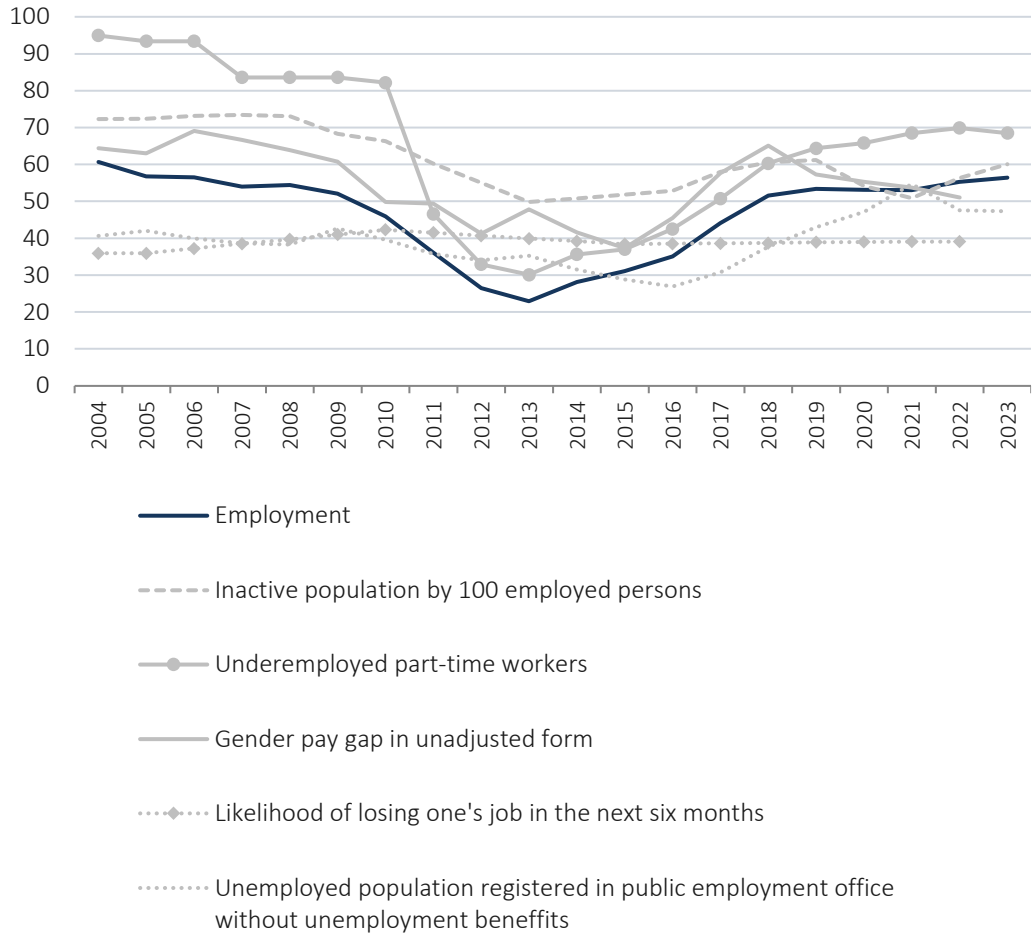


Figure 6B. **Employment and its indicators**



3. Quality of Life

Health

The Health domain is estimated to occupy the third most favourable place among the seven domains that constitute the Quality of Life perspective in 2004-2023. The generally positive evolution of this domain showed a decrease in 2014 (mainly due to the strongly negative evolution of self-reported limitations in activities because of health problems and of healthy life years) and grew from there on. Life expectancy at birth, infant mortality, mortality from diseases of the circulatory system and positive assessment of health services were the indicators that showed an evolution significantly more favourable than that of the domain index.

Figure 7A. **Health and its indicators**

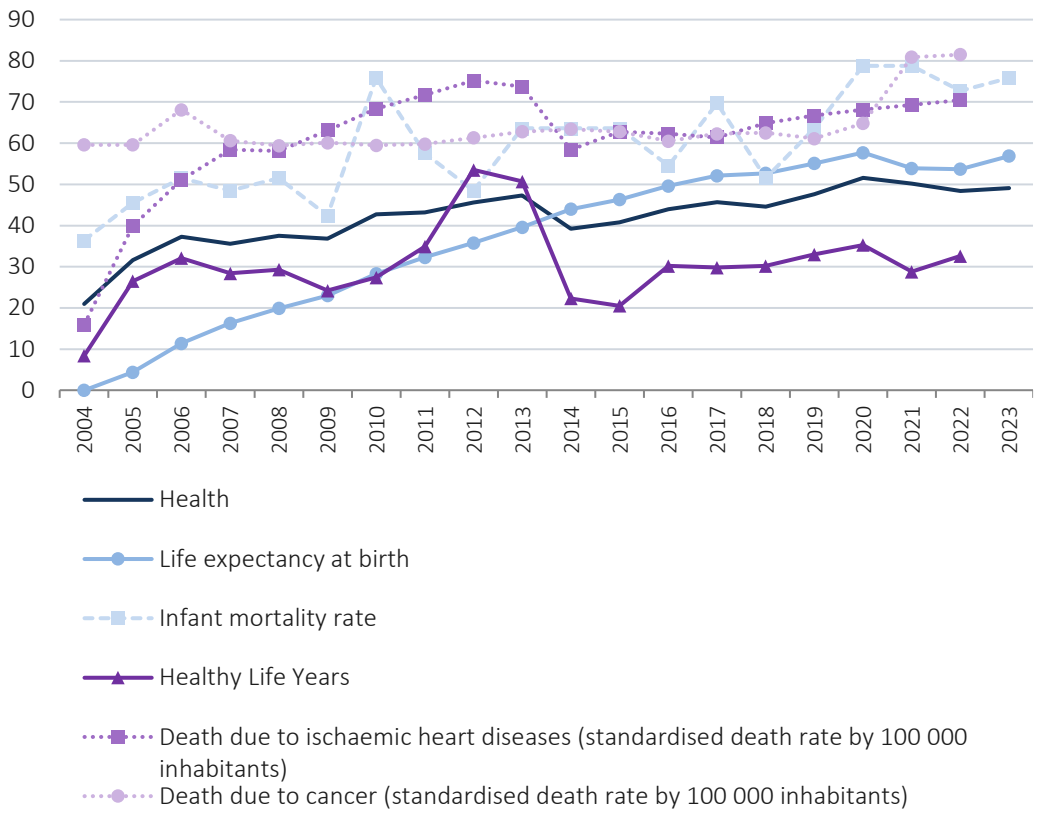
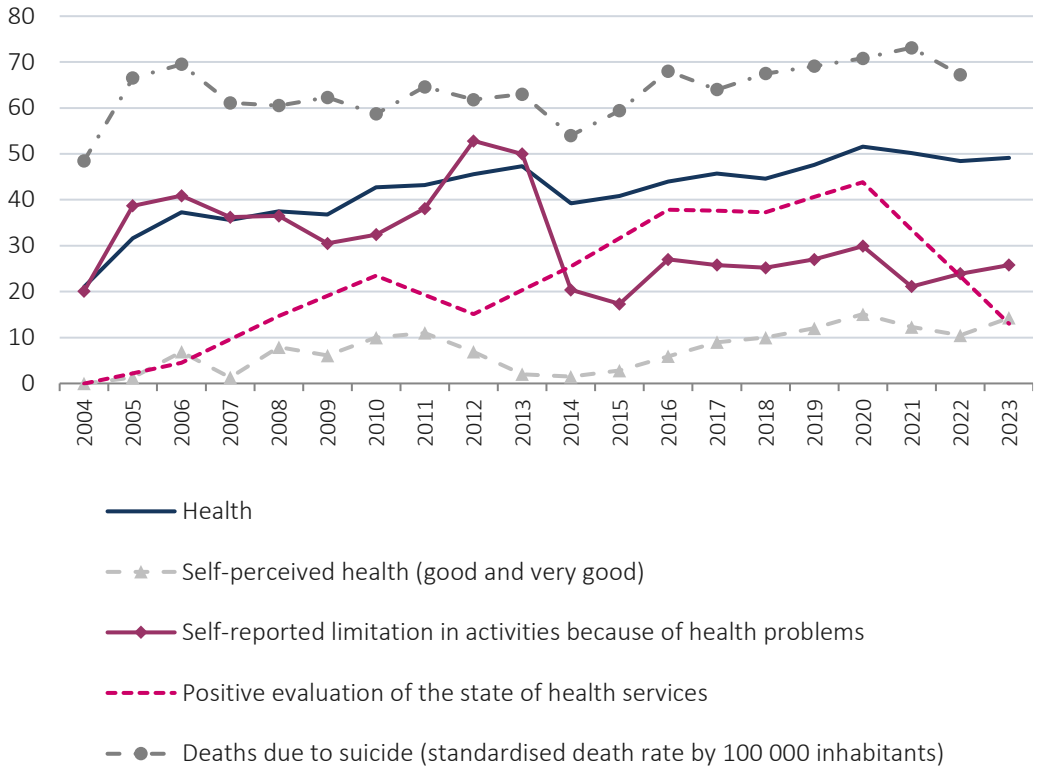


Figure 7B. **Health and its indicators**



From another perspective, distinct from the analysis of the evolution of the indicators, which reflects Portugal's position vis-à-vis the countries taken as a reference, it should be mentioned the higher rank of infant mortality rate, death due to cancer, diseases of the circulatory system and deaths due to suicide, all having a positive effect on well-being, since these indices have negative polarity[4]. Conversely, the low values of self-perceived health or self-reported limitation in activities because of health problems should be stressed, as should the proportion of the population that positively evaluates health services, an indicator that has shown a sharp decrease since 2020.

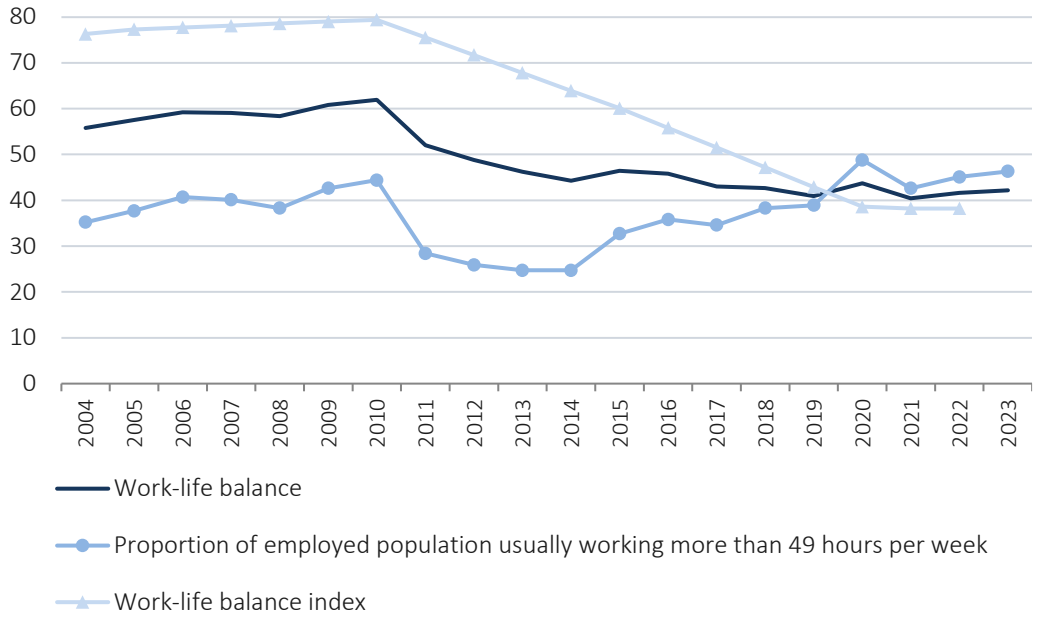
[4] A rise in the indices always denotes an improvement in well-being, while a decline denotes the worsening of well-being. Thus, the decrease of the Economic vulnerability index means a greater economic vulnerability and, therefore, worse well-being.

Work-life balance

The capacity to reconcile time dedicated to working with other aspects of personal life, such as family, friends, or leisure, is a critical characterisation factor of well-being.

Work-life balance evolved positively until 2010. From this year until 2019, it has decreased, showing from then on fluctuations in its evolution. This behaviour results from the movement, in opposite directions, of the following indicators: the unfavourable development of the work-life balance index, not sufficiently compensated by the improvement, from 2014 onwards, of the indicator's performance of workers working more than 49 hours per week.

Figure 8. **Work-life balance and its indicators**



Education, knowledge and skills

Education was the well-being component with the second best performance between 2004 and 2023. This index recorded a positive evolution, except for a decrease in 2020 and 2023.

The very sharp and positive evolution of the early leavers from education and training indicator is the main reason for the index's positive progress. This is followed by the evolution of the indicators related to the proportion of people (30-34 years old) having attained the tertiary education, the average number of years of schooling completed by the active population, and the scientific publications.

Figure 9A. **Education, knowledge and skills and its indicators**

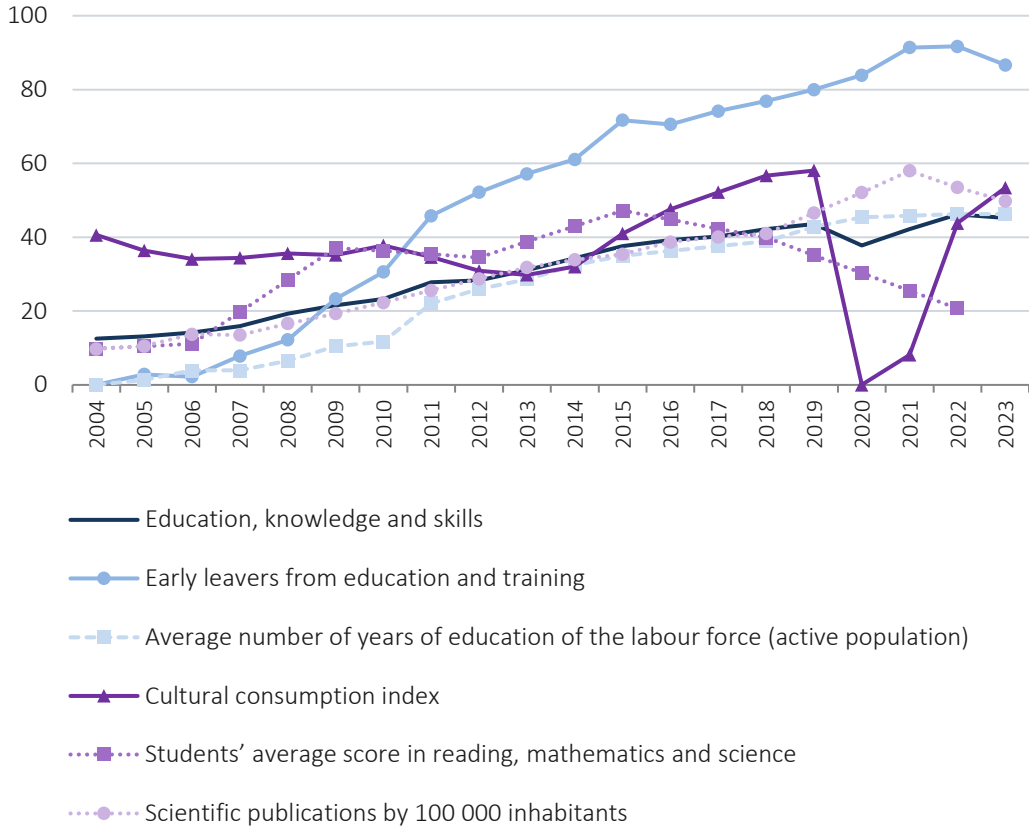
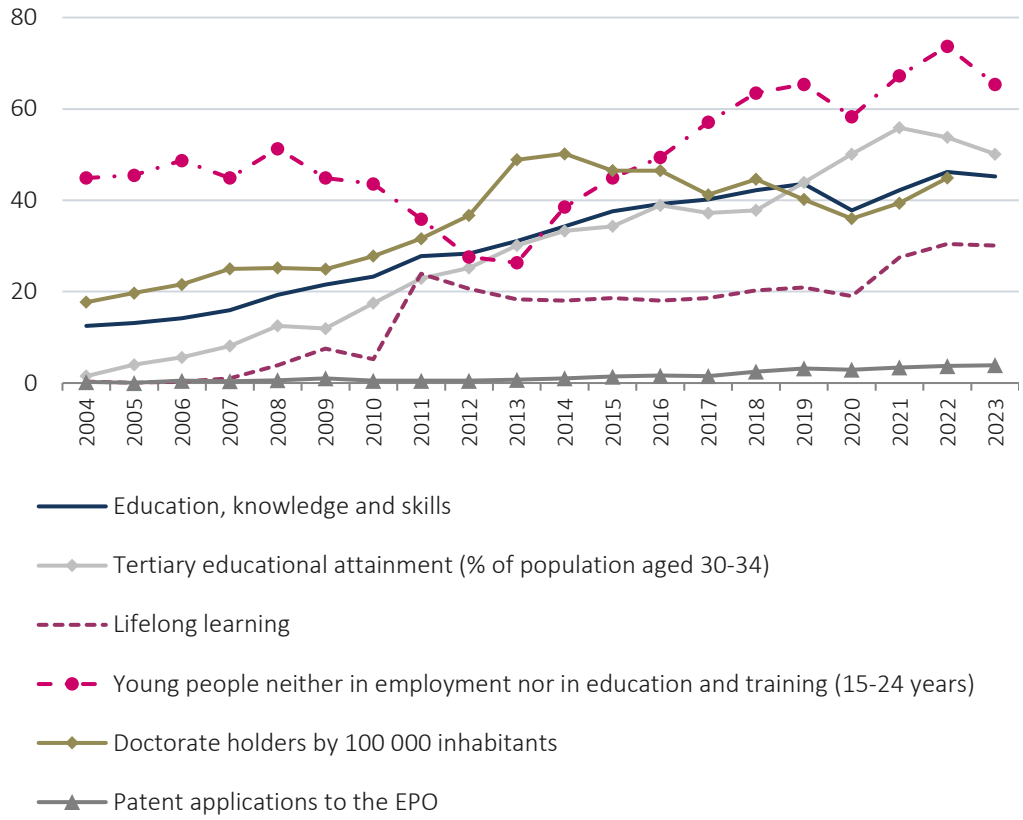


Figure 9B. Education, knowledge and skills and its indicators

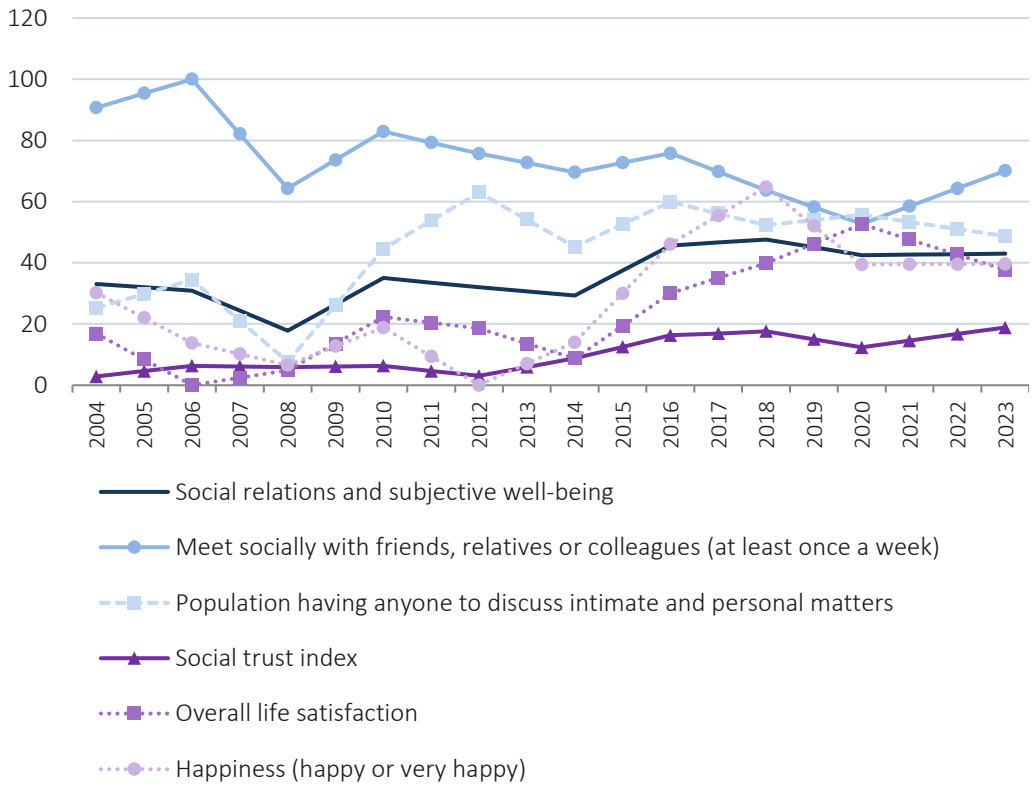


The evolution of the indicator on patents stands out for negative reasons, with small values, although growing, throughout the period. Reference should also be made to the evolution of the indicator of doctorate holders, which, after a positive evolution up to 2014, has evolved with oscillations, increasing after 2020. The abrupt reduction in the index of cultural activities consumption in 2020 was due to the pandemic situation experienced at the time. This index recovered in the following years. However, it did not reach the level of 2019.

Social relations and subjective well-being

The variation of the Social relations and subjective well-being index over the 2004-2023 period was positive, albeit with fluctuations (decrease between 2005 and 2008, from 2010 to 2014, and from 2018 to 2020). The favourable evolution from 2014 until 2018 results mainly from the overall happiness and life satisfaction indicators. Regardless of the analysis of their contribution to the evolution of the index, the almost permanent low values of the social trust index and the regular high values of meeting with family, friends, or colleagues should be stressed.

Figure 10. **Social relations and subjective well-being and its indicators**



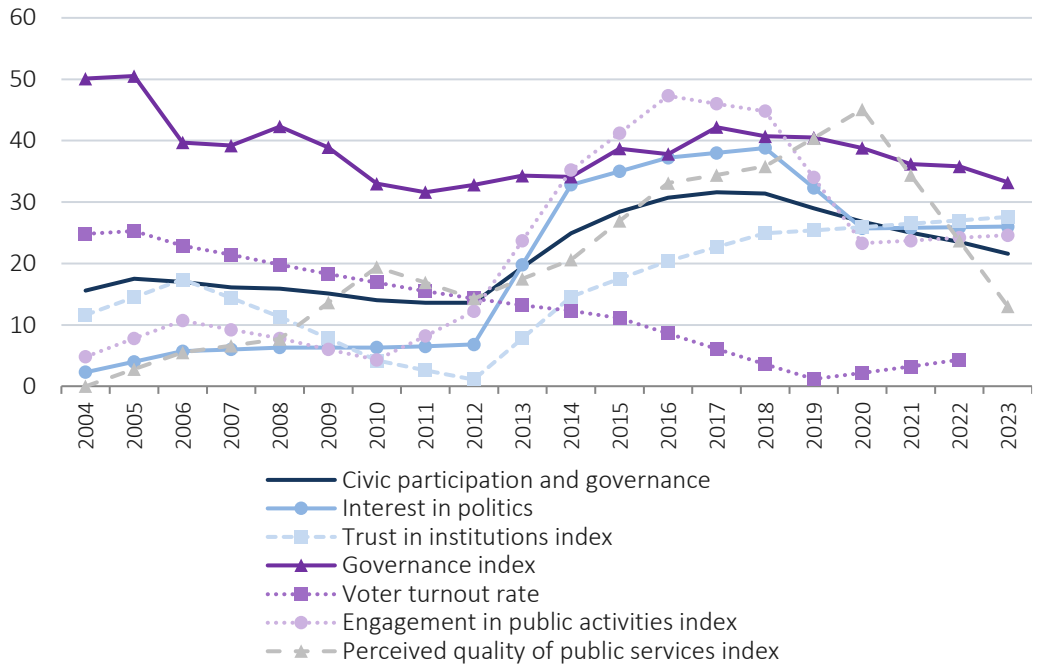
Civic participation and governance

This domain index decreased smoothly until 2011 and grew from 2012 to 2017, the year after which it showed a negative evolution.

The positive evolution between 2012 and 2017 results from the evolution of all domain indicators, except for the voter turnout index, which decreased throughout the period.

Since 2017, the governance index has decreased, as has the perceived quality of public services from 2020 onwards. The voter turnout rate, which has decreased almost linearly throughout the period, was, in the end, minimal when compared to the group of reference countries.

Figure 11. **Civic participation and governance and its indicators**



Personal security

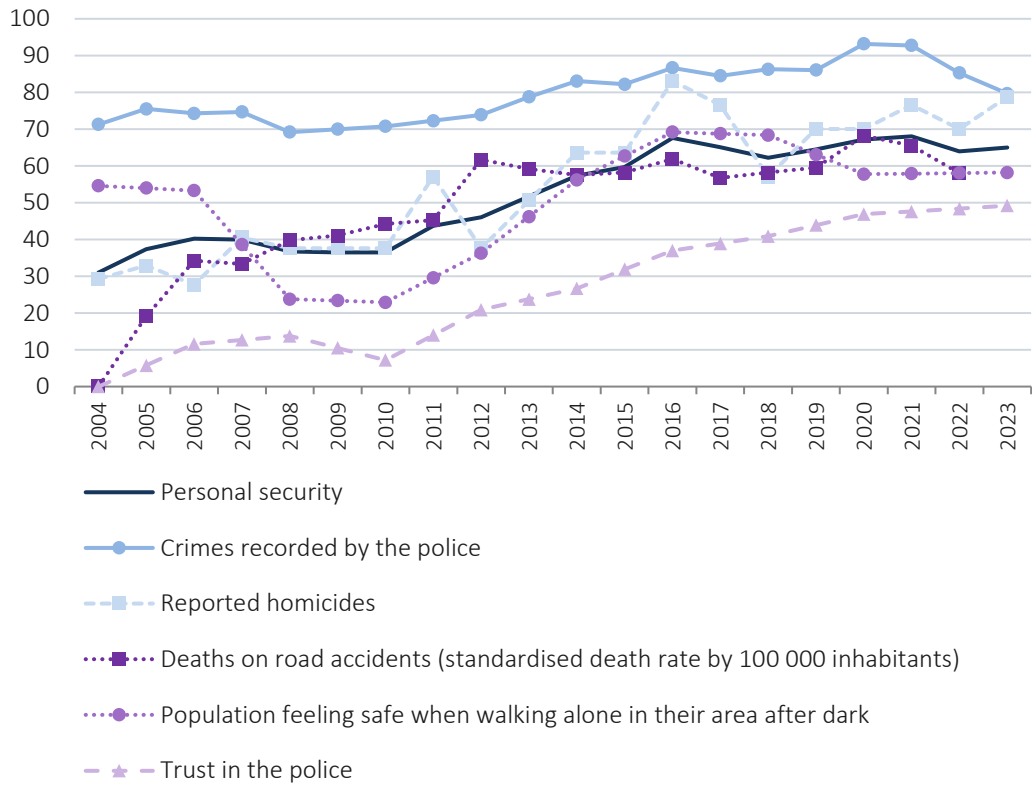
Personal security was the domain with the best performance among the ten domains of the WBI.

The trend of this domain is positive, although it sharply decreased from 2006 to 2009, 2016 to 2018, and 2021 to 2022. After reaching its highest values in the years most affected by the pandemic, it decreased in 2022 and was slightly above the 2019 level in 2023.

All indicators showed a positive evolution. Those relating to deaths in road accidents, the homicide rate and the indicator of trust in the police should be highlighted.

Similarly, the importance of the crimes recorded by the police indicator should be highlighted. This indicator assumes very high values throughout the period, contributing to higher values and the behaviour of the Personal security index.

Figure 12. **Personal security and its indicators**



Environment

The Environment domain shows positive developments with minor fluctuations. It showed a continuous growth trend until 2016, practically stagnated until 2019, decreased between 2019 and 2021 and grew until 2023.

The indicator that contributed the most to the positive evolution of the index was the population connected to wastewater collection and treatment systems. With positive, albeit minor, contributions, it is possible to point out the evolution of indicators such as premature deaths due to air pollution, Blue Flag beaches and population reporting exposure to pollution, grime, or other environmental problems in the neighbourhood of their living place.

In the 2020-2021 period, the negative evolution of the indicator related to the population reporting noise problems stands out, following the pandemic situation, increasing onwards.

Figure 13A. **Environment and its indicators**

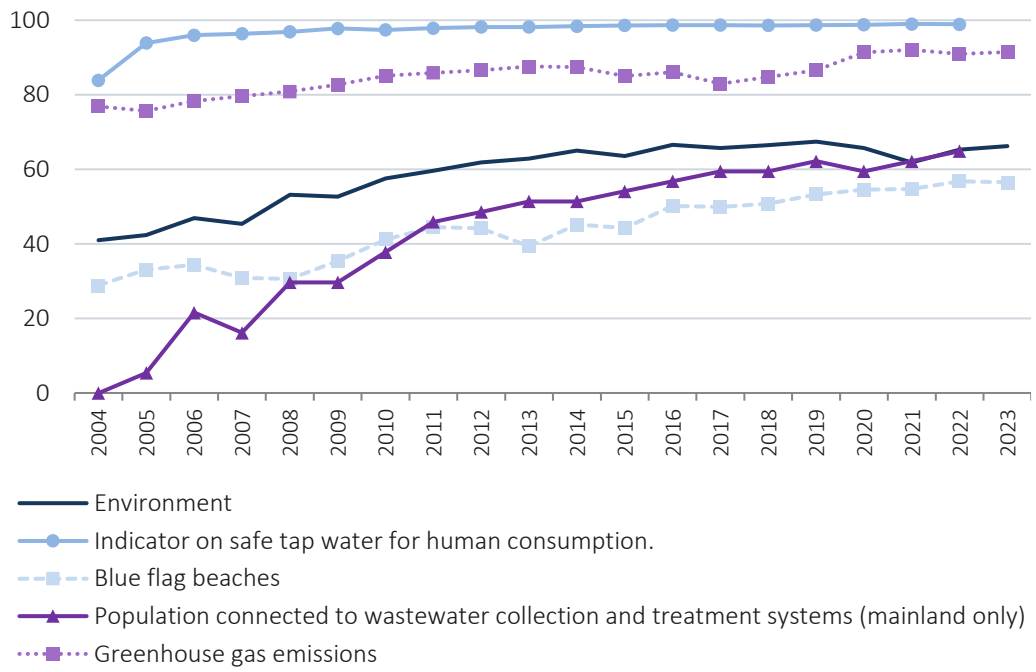
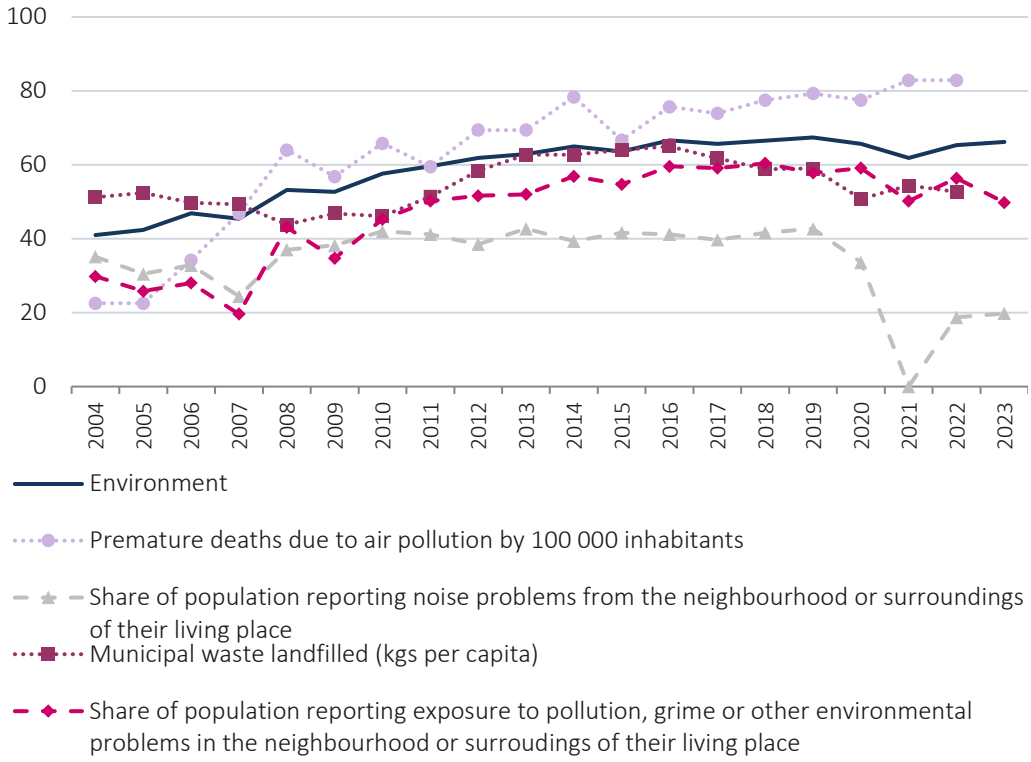


Figure 13B. **Environment and its indicators**



TECHNICAL NOTE

The Well-being Index (WBI) is an annual statistical study whose geographical scope is the country. The variables integrating the construction of the WBI stem from administrative procedures and statistical operations developed within the scope of the National Statistical System, the European Statistical System, the World Bank, and others.

From the conceptual viewpoint, household Material living conditions and Quality of life were considered key perspectives in assessing well-being change. In this context, the intention was that every perspective was represented with indicators, which can be found in the attached Tables, grouped into domains, which would correspond as faithfully as possible to the definition set out.

From the **Material living conditions** perspective, three domains have been considered:

Economic well-being – captures current and future possibilities of consumption, material well-being, and inequality in income distribution;

Economic vulnerability – measures monetary poverty, material deprivation, indebtedness and housing vulnerability;

Labour and income – assesses participation and social inclusion, labour vulnerability, and gender pay gap, as well as quality of work.

From the **Quality of life** perspective, seven domains have been considered:

Health – through health result indicators and assessment of the provision of health services;

Work/life balance – through assessment of the reconciliation of time allocated to family and work and the subjective assessment of the work/life balance;

Education, knowledge, and skills – by characterising formal education, lifelong learning, quality of education and level of skills acquired and production of knowledge and innovation;

Personal security – through assessment of crime and subjective assessment of personal security;

Civic participation and governance – through assessment of civic and political participation and trust in institutions;

Social relations and subjective well-being – through assessment of social subjective well-being and individual subjective well-being;

Environment – through assessment of water and air quality, perceived noise intensity and analysis of the final destination of waste.

These indicators, defined after a coherence analysis of the set of indicators in each domain, result from aggregating a second level of indicators.

The variables considered in each domain are expressed in different measurement units, amplitudes and scales. The adopted method of normalisation was the min-max method.

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Each indicator has a positive or negative polarity. If an indicator has a positive polarity, such as the employment rate, it directly relates to well-being. If it has a negative polarity, such as the unemployment rate, it has an inverse relationship with well-being: when unemployment increases, well-being decreases.

In this normalisation method, each positive-polarity indicator for each year is calculated from the ratio of the difference between the value of that base indicator and the minimum value and the total amplitude of the indicator value over the period considered. In case the indicator has negative polarity, the result of normalisation is the complement to the unit obtained in the ratio before mentioned. The values obtained in these operations are multiplied by 100.

The maximum and minimum values used to normalise each indicator are derived from the same indicator data for a set of reference countries for the period under review: Denmark, Finland, Sweden, Austria, Belgium, Germany, France, Luxembourg, the Netherlands, Ireland, Italy, Malta and Spain. The definition of this set of countries resulted from a typology of countries created by Eurofound to study the quality of life in Europe. This means that the importance given to the indicators after rescheduling reflects Portugal's position concerning this set of countries. The identification and exclusion of outliers (except when the outlier is Portugal) were performed before determining the definitive maximums and minimums.

Each normalised indicator ranges from 0 to 100. An indicator closer to 100 is near the maximum value that the indicator may have had in the period under review for the set of reference countries. On the contrary, if it is close to 0, it is near the minimum value for those countries.

All indicators and domain indices have the same weight. The aggregation functions used were the arithmetic mean for the aggregation of indicators in each domain index and the geometric mean for the aggregation of domains by perspective and domains in the WBI.

The projection of each domain for year t+1 results from the projections of the indicators belonging to this domain. For each indicator for which the value for year t+1 is unknown, a projection is computed using exponential smoothing based on the Holt method as a smoothing parameter α=0.9, given that the most recent years are of the greatest importance for the projection.

The methodological options underlying the design and operationalisation of the WBI are described in the Methodological Document, which is available at www.ine.pt under Metadata (Methodological Document).

ROUNDINGS

Any calculations made from published figures may differ by decimal rounding.

BIBLIOGRAPHY

Rijpma, A., Moatsos, M., Badir, M., Stegeman, H., (2017). *Netherlands beyond a GDP: A Wellbeing Index*. unpublished, Munich Personal RePEc Archive, Munich. Retrieved in https://mpra.ub.uni-muenchen.de/78934/.

COIN - Competence Centre on Composite Indicators and Scoreboards, https://ec.europa.eu/knowledge4policy/composite-indicators_en

Eurofound. (2014). *Developing a country typology for analysing quality of life in Europe*. Luxembourg: Publications Office of the European Union.

Giovannini, E., Nardo, M., Saisana, M., Saltelli, A., Tarantola, A., & Hoffman, A. (2008). *Handbook on constructing composite indicators: methodology and user guide*. Organisation for Economic Cooperation and Development (OECD).

Stiglitz, J. E., Sen, A., & Fitoussi, J.-P. (2009). *Report by the Commission on the Measurement of Economic Performance and Social Progress*.