

Well-being index

2004-2016

Revised version on 30 November 2017 (see Technical Note)

The 2016 estimate of well-being index for Portugal at 123.7 illustrates the recovery initiated in 2013

The Portuguese well being index has positively progressed between 2004 and 2011 and declined in 2012. It has recovered in 2013 and the preliminary estimates for 2016 keep this upwards trend, reaching 123.7.

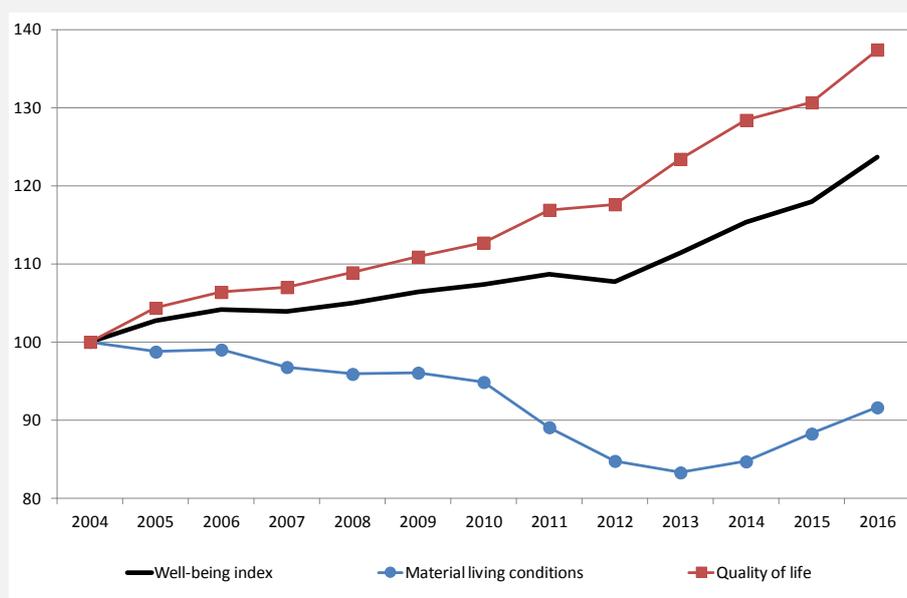
The WBI illustrates developments of the well-being using two synthetic indices which in turn reveal two dimensions: *Material living conditions* and *Quality of life*.

These two indices, have evolved broadly in opposite directions, with the first showing a downward trend, and the second a rising trend; from 2013 they have evolved in the same direction: the improvement of well-being in Portugal.

Among the 10 domains integrating the WBI¹, Education, Civic participation and governance and Environment are the best performing components during the period under review.

Inversely, Labour and income and Economic vulnerability are the worst performing components, although they have been recovering since 2013.

Figure 1 - Well-being index (IBE): global and by Perspective (2004=100)



Note: revised version on November 30. 2017

¹ Domains: economic well-being; economic vulnerability; labour and income; health; work-life balance; education, knowledge and skills; personal security; civic participation and governance; social relations and subjective well-being; and environment.

Statistics Portugal releases the main results of the fifth edition of the “Well-being index for Portugal” (WBI), which is based on 2004 (2004=100). This index is based on methodologies established by a group of international organisations, namely the OECD and Eurostat, and already implemented by several national statistics offices.

Global analysis

Preliminary data for 2016 point to a new WBI growth, explained by the continuous improvement in the Quality of life and the recent improvement of the Living Conditions. In 2015, the Well-being index reached 117.9, continuing the recovery started in 2013.

Between 2004 and 2015 the annual average rate of change in the Well-being index was 1.5%. This evolution over the past decade is due solely to developments in the Quality of life perspective.

The *Well-being index* in Portugal recorded positive developments between 2004 and 2011, reaching 108.6 in 2011. By 2012 the index reduced to 107.7, having recovered the following year and reaching 117.9 in 2015. It is estimated that in 2016 reaches 123.7.

Over the past decade the two perspectives of analysis of well-being – reflected in the composite indices *Material living conditions* and *Quality of life* – experienced opposite developments: while the index explaining developments in Material living conditions generally recorded negative developments, reaching 83.3 in 2013 (2004 = 100), the index on Quality of life continued to be positive, reaching 130.6 in 2015.

The *Material living conditions* index, which suffered a constant aggravation over 10 years, that led to a devaluation of 16.7 percentage points between 2004 and 2013 – due to a strong correlation between many of the variables that make up this synthetic indicator and the functioning of the economic system –

presented in 2014 a slight increase. It is estimated that this uplift will continue in 2016.

The analysis of developments in the 2004-08 (pre-crisis) and 2008-15 periods showed that the fall of 4.1 percentage points in the Material living conditions index recorded in the first period (-1%/year) was followed by a sharper fall of 7.6 percentage points in the 2008-15 period (-2%/year).

In turn, from the *Quality of life* perspective, the positive development recorded between 2004 and 2008 due to a total change of 8.8 percentage points (+2.2%/year) was followed by an equally positive evolution of 21.7 percentage points in the 2008-15 period (+2.6%/year). It is estimated, therefore, that the Quality of life index lies in 2015 about 37.4 percentage points above the level recorded in 2004.

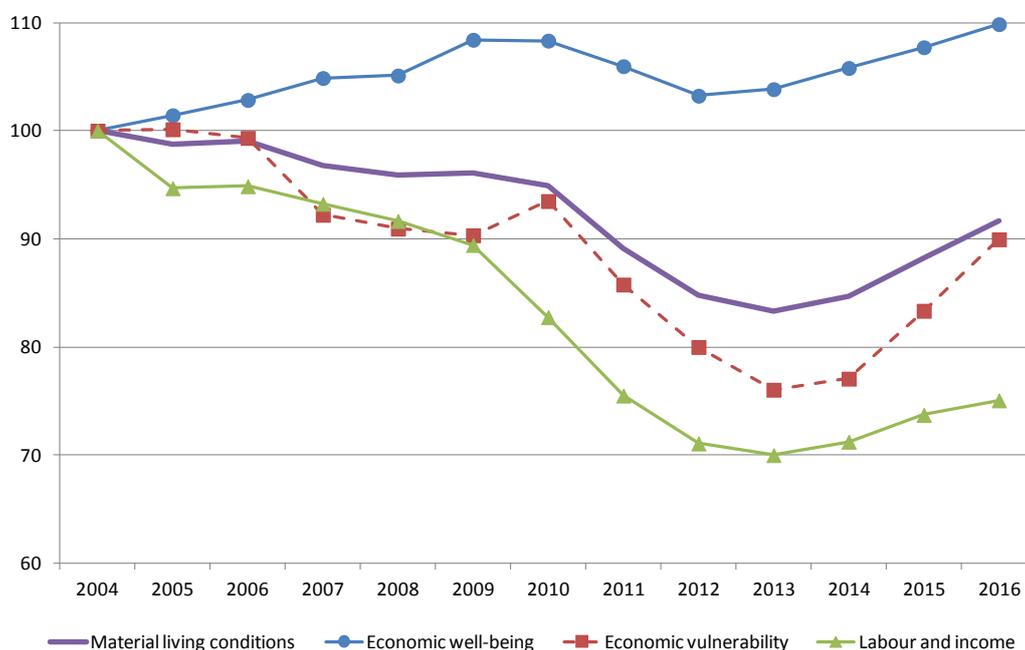
Obtained results originate from different developments regarding the domains that underpin the two perspectives considered: for the evolution of *Material living conditions* contributed positively the *Economic well-being* domain behaviour, which reaches a 108.4 index in 2009, declining from 2010 to 2012 and growing from that year onwards. The projected increase of 9.8 percentage points in the field of *Economic well-being* occurred between 2004 and 2016 was not sufficient, however, to prevent the decay of the aggregate index of *Material living conditions*, given the strong decline occurred in the two other areas - *Economic vulnerability* and *Labour and income*.

The *Economic vulnerability* index deteriorated virtually every year since 2006, reaching a minimum value in 2013: 76.0². The index increased since the following year and it is estimated that this growth continues in 2016, reaching a value of 89.9. In the overall context of the period under review (2004-2015), compared to the base year, there was a variation of -16.7 percentage points.

The *Labour and income* domain contributed significantly to the decline in the *Material living conditions* composite index, with a decrease of 26.3 percentage points between 2004 and 2015. However, as it happened with the domain of *Economic vulnerability*, the corresponding index, after having reached a minimum in 2013 (70.0), increased the following year, projecting new growth for 2016.

² A rise in indices (2004=100) always denotes an improvement in well-being, while a decline denotes a worsening of well-being. Thus, the decrease of the *Economic vulnerability* index means a greater economic vulnerability and therefore worsening of well-being.

Figure 2 - IBE: *Material living conditions and their domains (2004=100)*



Three domains explaining well-being regarding *Quality of life* have made a relevant contribution to the overall positive performance of this perspective:

- *Education, knowledge and skills* experienced positive developments in the period under review, with a continuous increase and the index of 203.3 in 2015. Preliminary data for 2016 reinforced this trend, with an estimated index of 213.5.
- Secondly, the *Civic participation and governance* domain that since 2006 decreased to a minimum in 2010, has grown from that year. It is estimated that will reach in 2015 the value of 136.3.
- Finally, the *environment* domain increased on a regular basis since 2007, only with a slight downturn in 2015 (128.8) with the index reaching 128.8 in 2014. Preliminary data for 2016 maintain this trend, with an estimated index of 131.5.

Conversely, developments in the index in the remaining domains were below the overall performance from the

Quality of life perspective. It is relevant in this subgroup, the positive performance of the *Health* domain, with an increasing evolution of the index, although with fluctuations, reaching in 2015 a value of 122.9. Preliminary data maintains this trend, estimating a 125.5 index for 2016.

Also, with positive values, *Work-life balance* and *Personal security* domains recorded respectively index values of 113.7 and 112.3 in 2015. In this subset, only the domain of *Social relations and subjective well-being* always has negative performances throughout the series (compared to the base year), with values of 97.4 in 2015.

Overall, a review of the 2004-2008 and 2008-2015 periods highlights four groups of domains, depending on their behaviour (Table 1):

- Domains that showed consistently positive or negative trends in both periods;

- Those that have gone from a null trend in the first period to a positive evolution in the second;

- And finally, the domain that has gone from a negative to a null evolution between the first and the second periods under review.

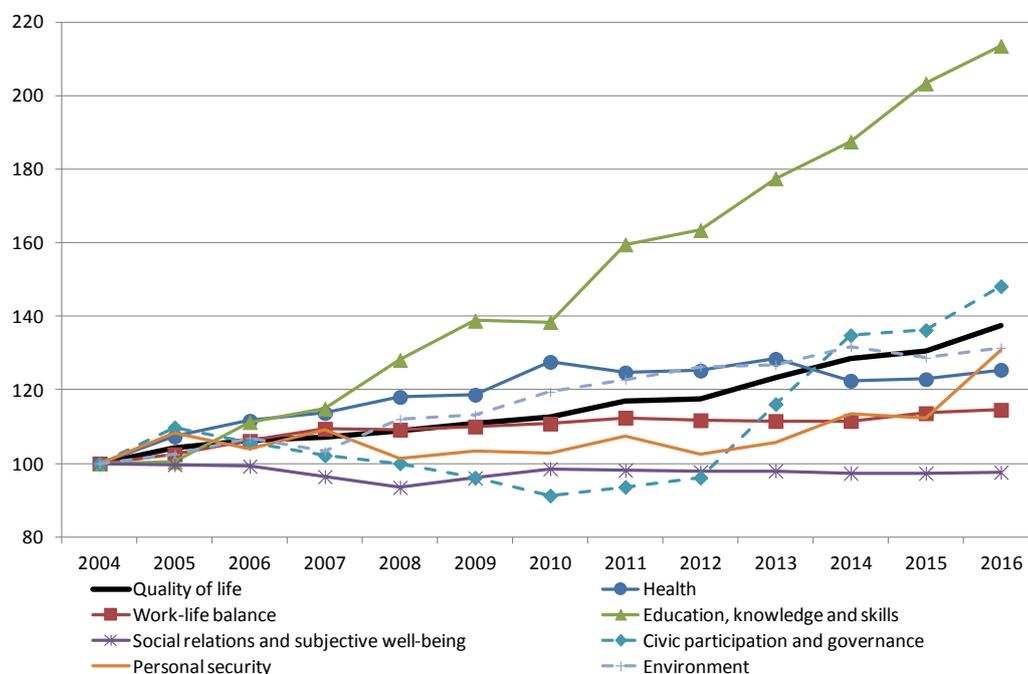
TABLE 1 – Evolution of the average annual rate of change by domain in 2004-2008 and 2008-2015

2004-2008	2008-2016		
	Positive	Null*	Negative
Positive	Economic well-being; Health; Work-life balance; Education, knowledge and skills; Environment		
Null*	Civic participation and governance; Personal security		
Negative		Social relations and subjective well-being	Economic vulnerability, Labour and income

* |Average annual rate of change| < 0,4%

Note: revised version on November 30, 2017

Figure 3 - IBE: Quality of life and their domains (2004=100)



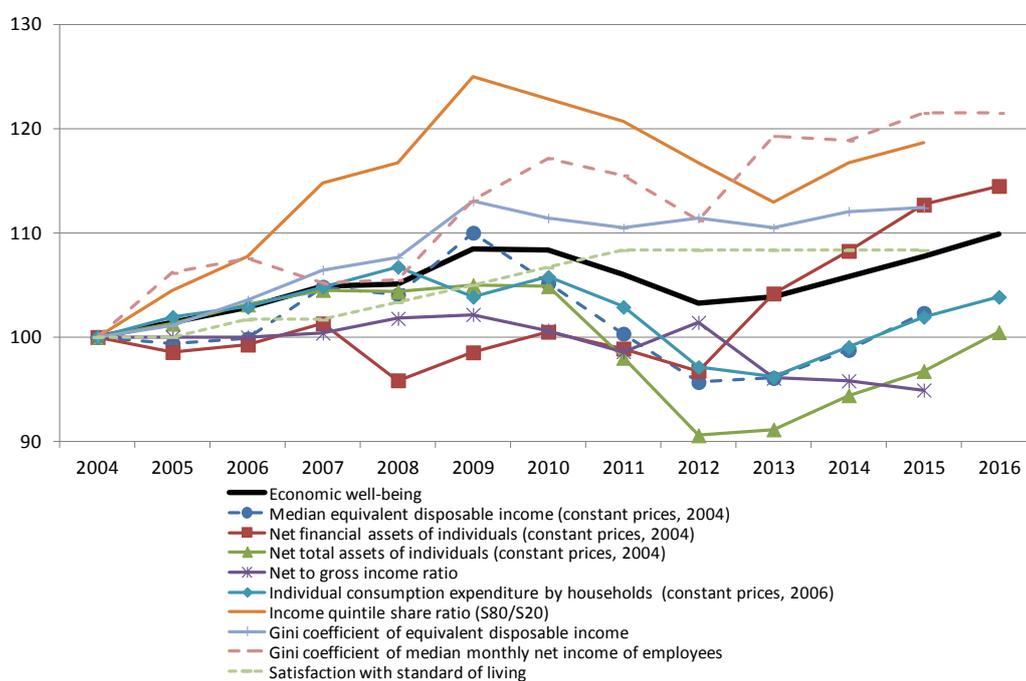
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MATERIAL LIVING CONDITIONS

Economic well-being

The Economic well-being domain grew considerably up to the start of the economic crisis, reversing that trend after 2010 until 2012 and began a recovery since.

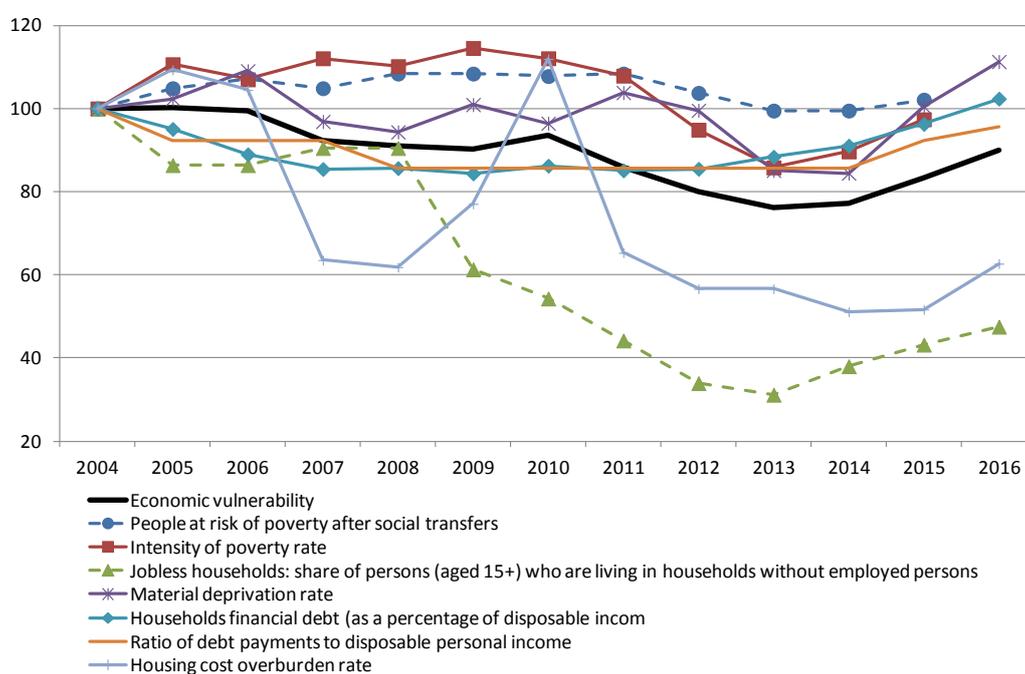
Figure 4 - *Economic well-being* and its indicators (2004=100)



Economic vulnerability

Economic vulnerability was one of the WBI domains with the worst performance throughout the period under review, reflecting a growing vulnerability of households, induced by their detachment from the labour market, high indebtedness levels and greater difficulty in meeting housing-related commitments.

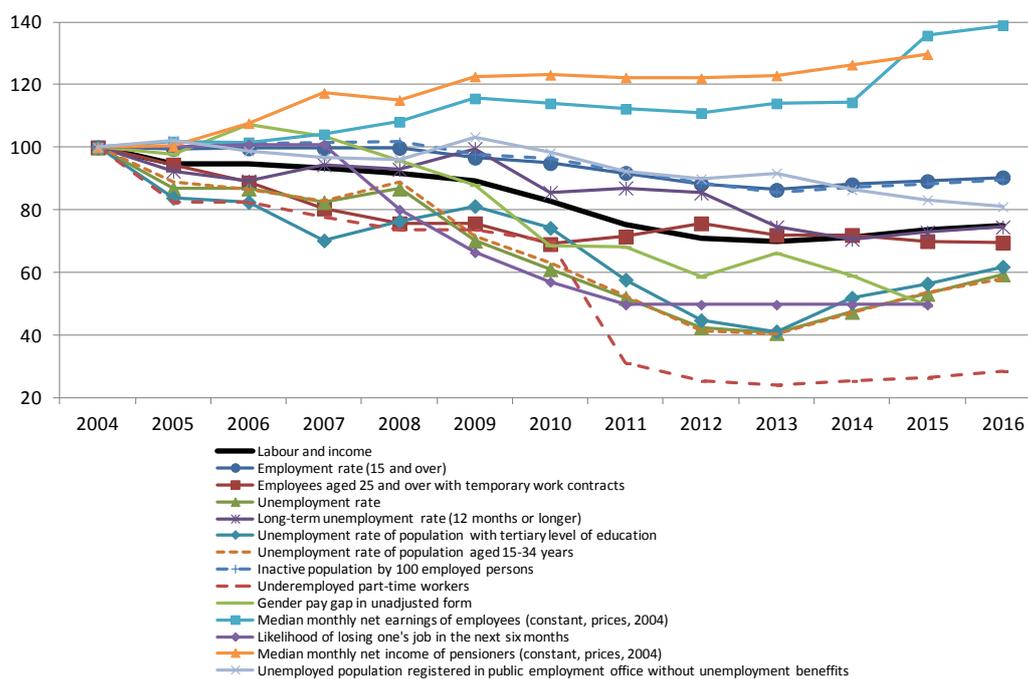
Figure 5 - Economic vulnerability and its indicators (2004=100)



Labour and income

Labour and income is the well-being domain with the worst performance, essentially due to a rise in unemployment, and other variables related to it, which was intensified from 2009. From 2013 there is a slight reversal this trend, projecting for 2016 the continuation of this improvement.

Figure 6 - Labour and income and its indicators (2004=100)



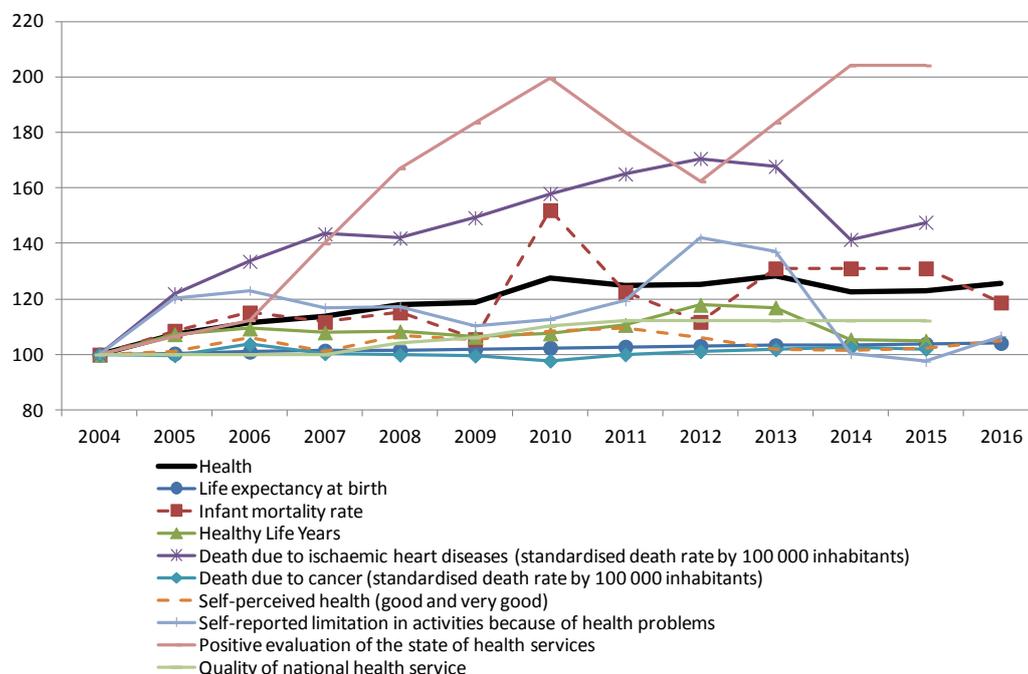
QUALITY OF LIFE

Health

The population that assesses the health services positively had a strong increase in the period 2004-2014.

The change in the Health domain was 22.9 percentage points in the 2004-2015 period, thus constituting the component of well-being with the fourth most positive performance.

Figure 7 – Health domain index and its indicators (2004=100)



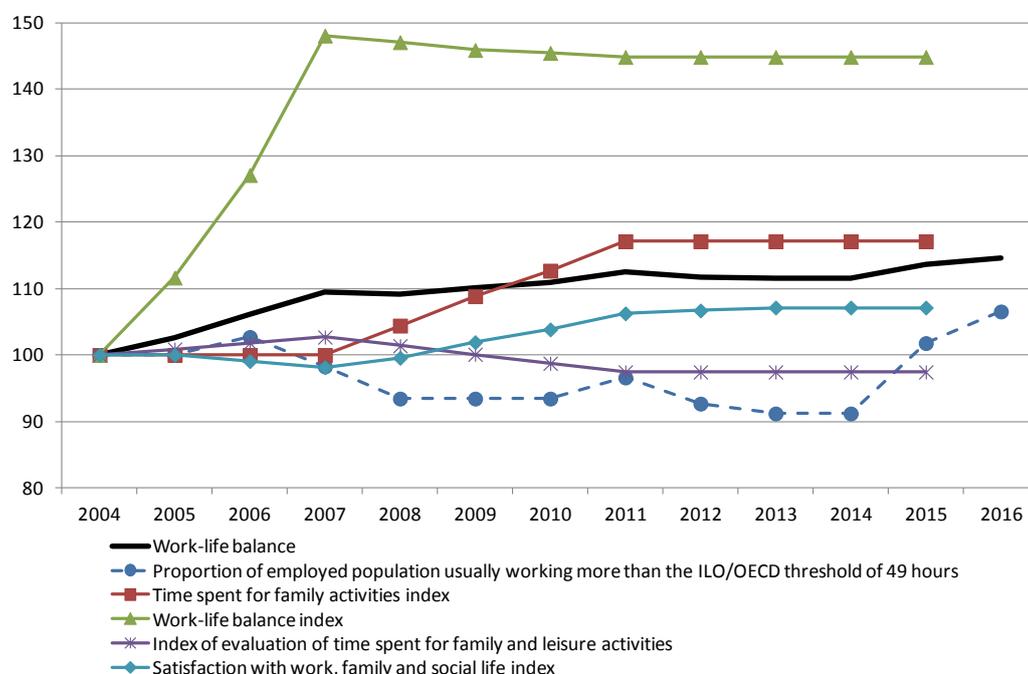
Work-life balance

Work-life reconciliation evolved positively during the whole period, more pronounced until 2011.

Change in the index of the Work-life balance domain was positive between 2004 and 2015, increasing 13.7 p.p. The project value for 2016 is higher than 2014 by 0.9 p.p.³

Capacity to reconcile time dedicated to work with other aspects of personal life, such as family, friends or leisure, in general, is an important characterization factor of well-being.

Figure 8 – Work-life balance and its indicators (2004=100)



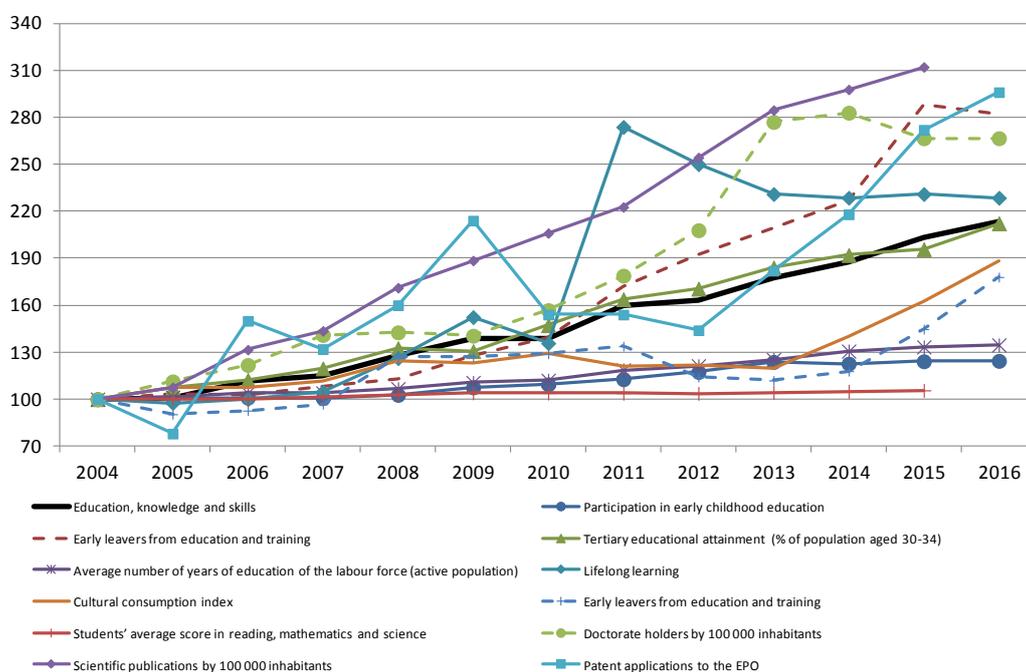
³ The most recent non-estimated data of the four indicators whose source is the *European Quality of Life Survey* refers to 2011.

Education, knowledge and skills

Five of the eleven indicators of this domain in the period 2004-2015 have changed by more than 100 percentage points. The evolution of scientific publications and doctorates must be highlighted (312.1 p.p.).

The index change in the 2004-2015 period in the education domain was 103.3 percentage points, i.e. it was the well-being component with the best performance. Preliminary data for 2016 project an accentuation of this growth with a 10.2 percentage point change over the previous year.

Figure 9 - Education, knowledge and skills and its indicators (2004=100)

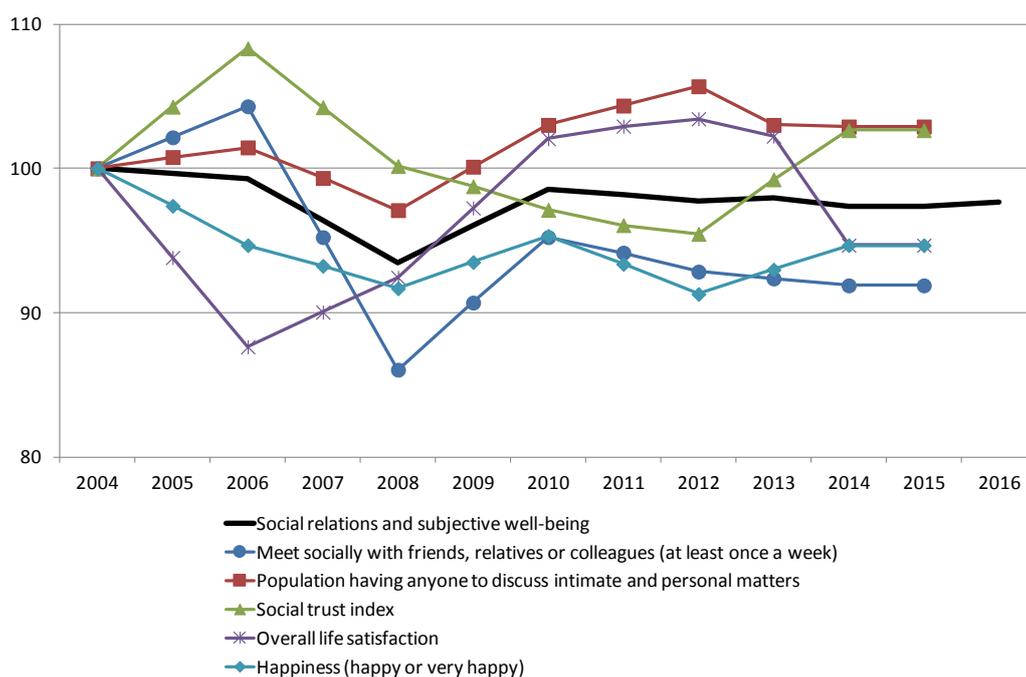


Social relations and subjective well-being

The latest index decrease showed up since 2011.

Index change in the 2004-2015 period in Social relations and subjective well-being domain was negative (-2.6 p.p.), with an ongoing fall up to 2008 and a slight rebound in the next two years and a further decline from 2011⁴.

Figure 10 – Social relations and subjective well-being and its indicators (2004=100)

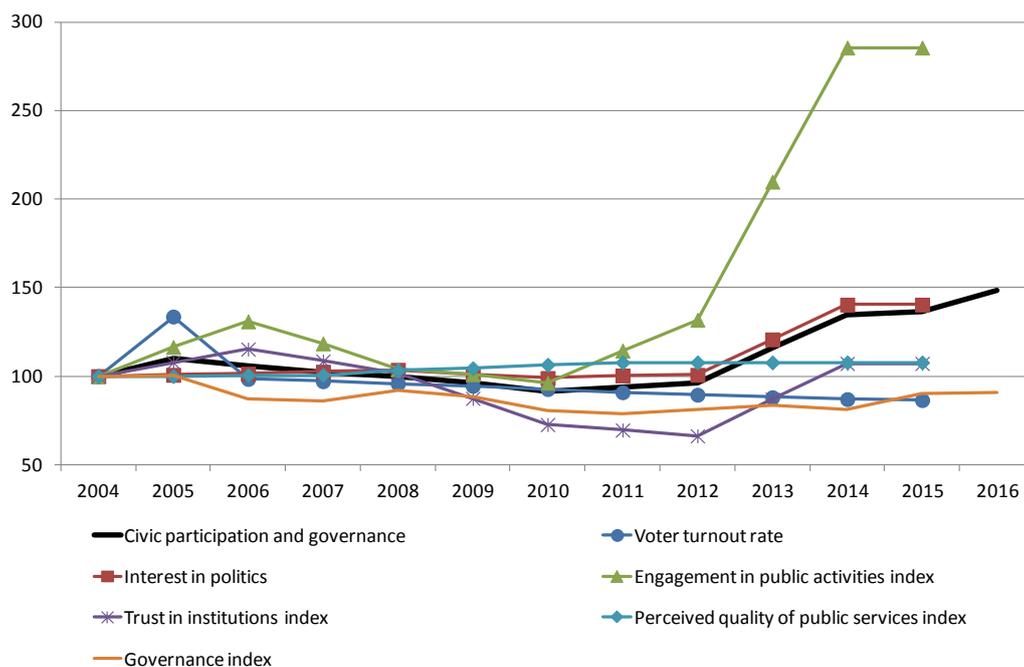


⁴ The most recent non-estimated data of the five indicators for this domain whose source is the *European Social Survey* refers to 2014.

Civic participation and governance

This domain has a U-shaped trend: after an initial growth, until 2006, decreases by 2010 and grows from there, increasingly from 2013.

Figure 11 – Civic participation and governance and its indicators (2004=100)



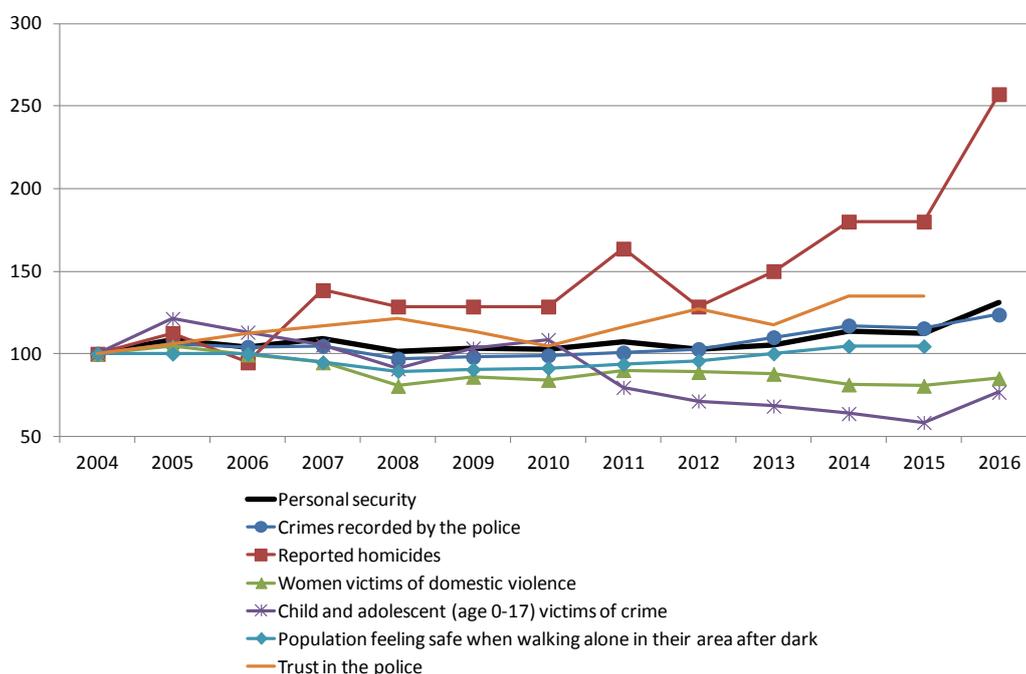
Note: revised version on November 30, 2017

Personal security

The evolution of reported homicides contrasts with the number of children and adolescents victims of crime: the first improves and the second is worsening.

Index change in the personal security domain was 12.3 percentage points in 2015 with a projected variation of 30.8 in 2016, compared with the 2004 base year. The index of this domain showed an erratic behaviour throughout the whole period under review, although with systematic positive changes compared with the base year.

Figure 12 – Personal security and its indicators (2004=100)



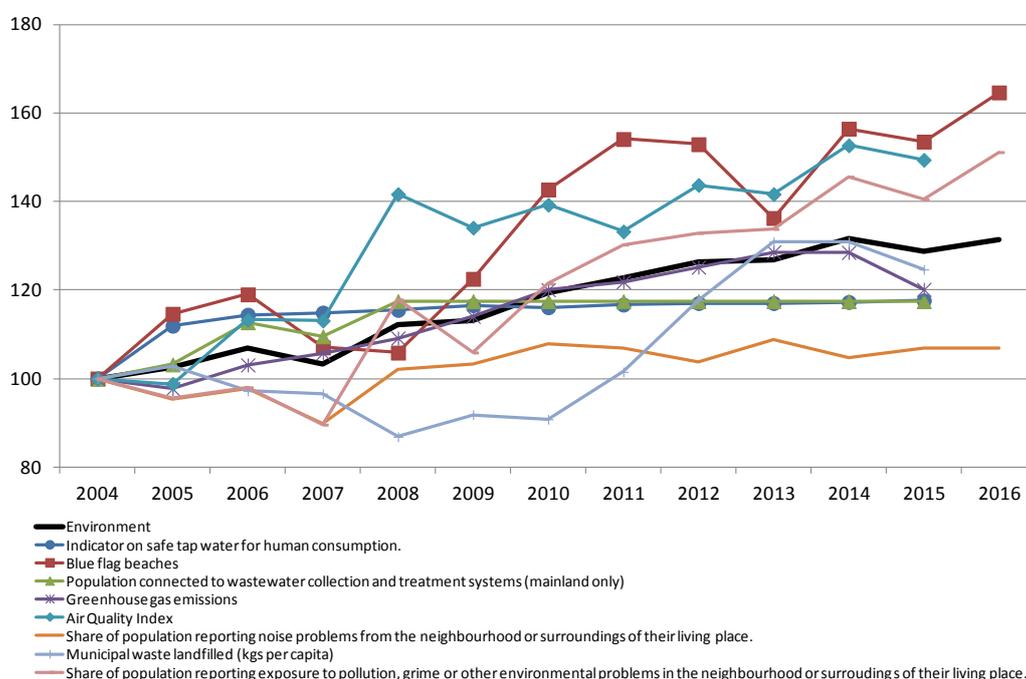
Environment

Continually positive developments with the exception of a small decrease in 2015.

In the 2004-15 period, the index change in the environment domain was 28.8 percentage points. The environment was the well-being component with the third best performance. Preliminary data for 2016 keep that positive trend compared with the 2004 base year, with the domain's index at 131.5.

In the period 2004-2015, there was a positive average annual rate of change, in index, for all selected indicators.

Figure 13 - Environment and its indicators (2004=100)



TECHNICAL NOTE

Methodology

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 as key perspectives in the assessment of well-being change. In this context, the intention was that every perspective was represented with indicators, grouped into domains, which would correspond as faithfully as possible to the definition set out.

From the **material living conditions** perspective, account has been taken of three domains:

- **Economic well-being** – capturing current and future possibilities of consumption, material well-being and inequality in income distribution;
- **Economic vulnerability** – measuring monetary poverty, material deprivation, indebtedness and housing vulnerability;
- **Labour and income** – assessing participation and social inclusion, labour vulnerability and gender pay gap, as well as quality of work.

Considering the 'economic well-being' and 'economic vulnerability' domains is a key element for the construction of a well-being index that, from the Stiglitz-Sen-Fitoussi report viewpoint, joins the measurement of economic production with gauging the level of a person's well-being. The concept of multidimensionality, instrumental for the construction of an effective well-being index, requires that this index reflects not only resource creation and distribution processes but also resource appropriation by individuals and groups of individuals in a given society. Such an index will have to necessarily mirror a trade-off between efficiency and equity that is broadly based on all societies, and clarify the options of decision-makers and society as a whole.

In this context, the inclusion of variables such as median equivalent income, household assets and inequality in the distribution of family and wage income is a necessary condition for the well-being index to reflect the different economic well-being dimensions underlying the production, distribution and redistribution of available resources.

In turn, considering the main economic and social vulnerabilities as reflected in the different poverty or material deprivation indicators, in the weight of the financial burden, or in insufficient housing conditions, will make it possible for the well-being index to express the main incapacities of the economy and society to assure that all their members actually utilise the available resources.

From the **quality of life** perspective, account has been taken of seven domains:

- **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, dimensions that for being specific will not be subject to joint analysis;
- **Environment** – through assessment of water and air quality, perceived noise intensity, analysis of the final destination of waste and subjective assessment of environmental quality.

The variables considered in each domain are expressed in different measurement units, and thus it was used simple index scores (based on the ratio of the variable value in year j to the value of the same variable in the base year). The average aggregation of indices associated with indicators on each domain provides a one-dimensional scale for representing the multidimensional construction of well-being. Regardless of the loss of information underlying the choice of this scale, its advantages relate to the method's simplicity and transparency, elimination of measurement heterogeneity, comparability across indicators, but also the mitigation of the sensitivity of final index values to the inclusion of indicators with different levels of statistical accuracy.

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

Roundings

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

Revisions

The information disclosed in this press release incorporates revisions of the indices available in the previous years, mainly as a consequence of the revision of the values of some series and replacing preliminary figures previously reported, for final figures. The extent of these revisions, as measured by deviation between the most current value of the index and its previous value, is as follows:

Table 2 - Value of the revision of the perspective and well-being indices (%)

Perspective	V2005	V2006	V2007	V2008	V2009	V2010	V2011	V2012	V2013	V2014	V2015
Material life conditions	-0.2	0.0	0.2	-0.1	0.0	0.1	-0.5	-0.6	-0.6	-0.5	0.7
Quality of life	-0.8	-0.4	-0.7	-0.2	0.7	-0.1	-0.6	-0.9	0.5	1.0	-0.7
Well-being index	-0.6	-0.3	-0.5	-0.2	0.5	-0.1	-0.5	-0.9	0.3	0.7	-0.4

Note: revised version on November 30, 2017

Revised on November 30, 2017

The overall value of the WBI in 2015 is 117.9 instead of the one initially published (119.1).

This decrease is due to a calculation error of an average relative to "Civic participation and governance" which, by the index hierarchy, affects the Quality of Life and, consequently, the overall index. The correction mainly affects the year 2015, with no change to the projected value for 2016.

Tables and Figures that have changed are duly noted (Tables 1 and 2, Figures 1, 3 and 11).