

## Well-being Index 2004-2017

### Preliminary data for the Well-being Index showed an annual growth of 3.8% for 2017

The Portuguese *Well-being Index* has positively progressed between 2004 and 2011 and declined in 2012. It recovered in 2013, and the preliminary estimates for 2017 keep this upwards trend, reaching 131.4 (Base: 2004=100), after a result of 126.6 observed for 2016.

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 changed in the same direction: the improvement of well-being in Portugal.

Among the ten domains integrating the WBI (see Technical note), *Education* and *Civic participation and governance* 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.

*Statistics Portugal* releases the main results of the sixth edition of the *Well-being index for Portugal* (WBI), for the period of 2004-2017 (Base: 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.

### 1. Global analysis

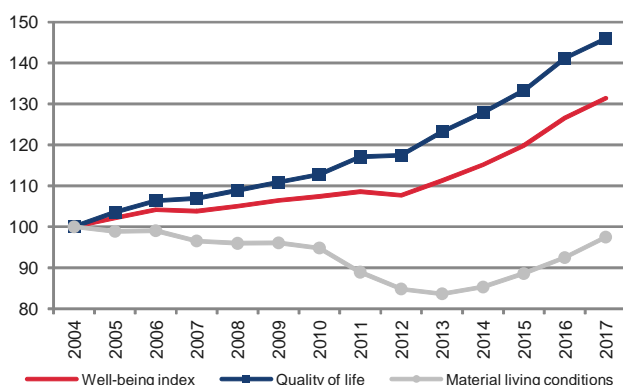
Preliminary data for 2017 point to a new WBI growth, explained by the continuous improvement in the *Quality of life* and the recent improvement of the *Living Conditions*. In 2016, the *Well-being Index* reached 126.6, continuing the recovery started in 2013.

Between 2004 and 2016 the annual average rate of change in the *Well-being Index* was 1.6%. 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 126.6 in 2016. It is estimated that in 2017 it has reached 131.4.

Until 2013 the two perspectives of analysis of well-being – reflected in the composite indices *Material living conditions* and *Quality of life* – experienced

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



opposite developments: while the index explaining developments in material living conditions generally recorded adverse developments, reaching 83.3 in 2013, the index on *Quality of life* continued to be positive, reaching 141.2 in 2016.

The *Material living conditions* index, which suffered a constant aggravation over ten years that led to a devaluation of 16.4 percentage points (p.p.) 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 continued in 2017.

The analysis of developments in the 2004-08 (pre-crisis) and 2008-16 periods showed that the fall of 4.0 p.p. in the *Material living conditions* index recorded in the first period (-1%/year) was followed by a fall of 3.5 p.p. in the 2008-16 period (-0.5%/year).

In turn, from the *Quality of life* perspective, the positive development recorded between 2004 and 2008 due to a total change of 8.9 p.p. (+2.2%/year) was followed by an equally positive evolution of 32.3 p.p. in the 2008-16 period (+2.6%/year). It is estimated, therefore, that the *Quality of life* index laid in 2017 about 45.9 p.p. above the level recorded in 2004.

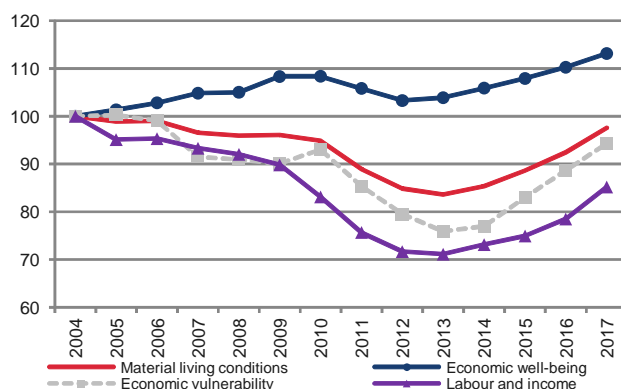
Obtained results originate from different developments regarding the domains that underpin the two perspectives considered: for the evolution of *Material living conditions* contributed positively the *Economic well-being* domain behaviour, which reaches a 108.4 index in 2010, declining from 2010 to 2012 and growing from that year onwards. The projected increase of 13.1 p.p. in the field of *Economic well-being* occurred between 2004 and 2017 was not sufficient, however, to prevent the decay of the aggregate index

of *Material living conditions*, given the sharp 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: 75.9<sup>1</sup>. The index increased since the following year, and it is estimated that this growth continued in 2017, reaching a value of 94.3. In the overall context of the period under review (2004-2016), compared to the base year, there was a variation of -11.3 p.p..

The *Labour and income* domain contributed significantly to the decline in the *Material living conditions* composite index, with a decrease of 21.5 p.p. between 2004 and 2016. However, as it happened with the domain of *Economic vulnerability*, the corresponding index, after having reached a minimum in 2013 (71.1), increased the following years, projecting new growth for 2017.

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

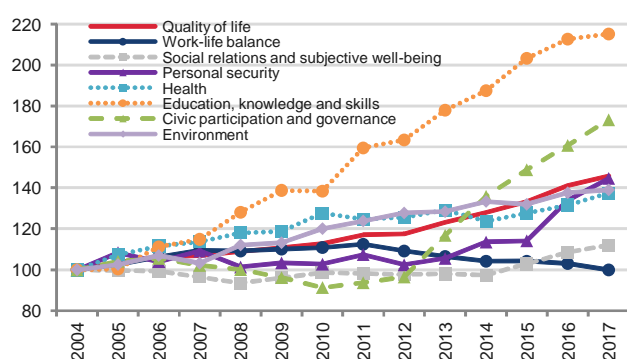


<sup>1</sup> A rise in indices always denotes an improvement in well-being, while a decline denotes a worsening of well-being. Thus, the decrease of the *Economic vulnerability* index means a greater economic vulnerability and therefore worsening of well-being.

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 212.7 in 2016. Preliminary data for 2017 reinforced this trend, with an estimated index of 215.2.
- Secondly, the *Civic Participation and Governance* domain that since 2006 decreased to a minimum in 2010, has grown from that year reaching in 2016 the value of 160.7.

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



Conversely, developments in the index in the remaining domains were below the overall performance of the *Quality of life* perspective.

The index of the *Environment* domain increased on a regular basis since 2008, only with a slight downturn in 2015. Preliminary data for 2017 maintained this trend, with an estimated index of 139.1.

It is relevant in this subgroup, the positive performance of the *Personal security* domain, with an increasing evolution of the index, although with fluctuations, reaching in 2016 a value of 134.0. Preliminary data

maintained this trend, estimating a 144.6 index for 2017.

Also, with positive values, the *Health* domain recorded an index value of 131.6 in 2016. Preliminary data for 2017 maintained this trend, with an estimated index of 137.5.

However, the domain of *Work-life balance* has been declining since 2012, showing an index value of 103.1 in 2016 and an estimate of 99.9 in 2017. The domain of *Social relations and subjective well-being* which had shown negative performances throughout the series, compared to the base year, increased from 2004 until 108.6 in 2016, with an estimate of 112.0 in 2017.

Overall, a review of the 2004-2008 and 2008-2017 periods highlights five groups of domains, depending on their behaviour (Table 1):

- Two groups 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 two groups that have gone from a positive or negative, to a negative or positive 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 2008-2017**

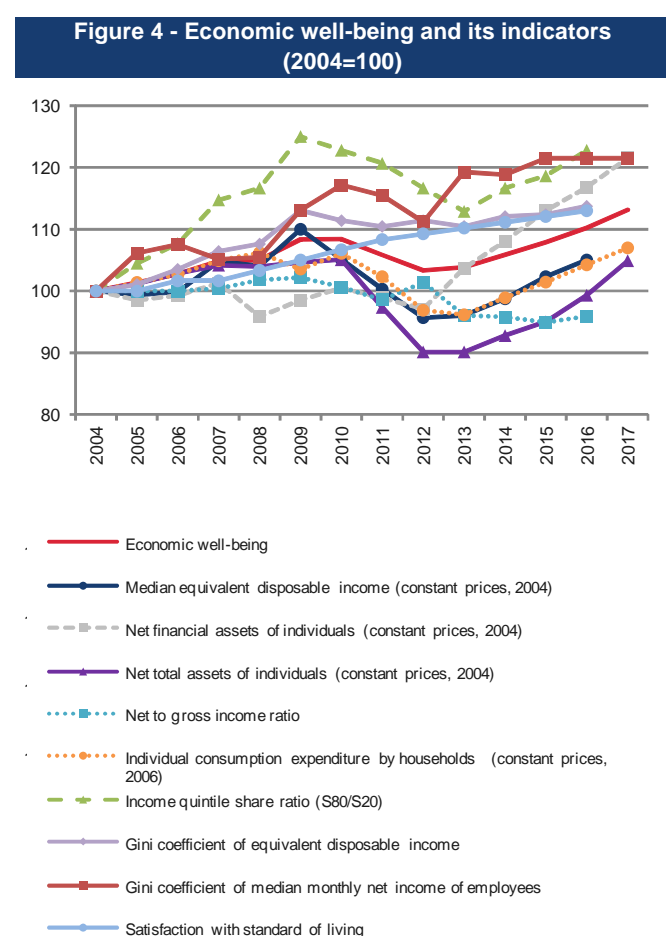
2004-2008	2008-2017		
	Positive	Null*	Negative
<b>Positive</b>	Economic well-being; Health; Education, knowledge and skills; Environment		Work-life balance
<b>Null*</b>	Civic participation and governance; Personal security		
<b>Negative</b>	Economic vulnerability, Social relations and subjective well-being		Labour and income

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

## 2. Material living conditions

### Economic well-being

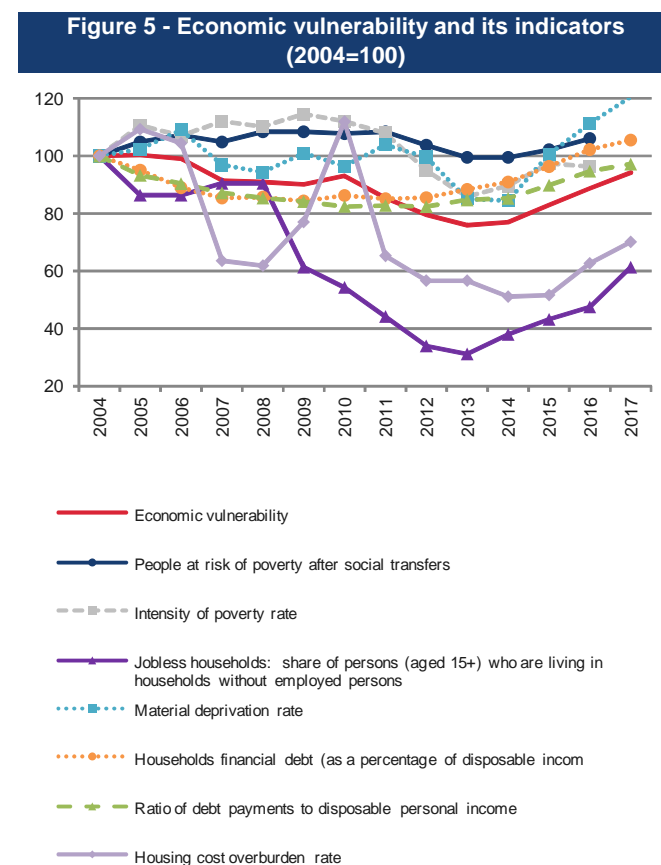
The *Economic well-being* domain grew considerably up to the start of the economic crisis, reversing that trend after 2010 until 2012 and began a recovery since. It should be stressed in this recovery the favourable evolution of the inequality and concentration indicators.



### 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, and higher difficulty in meeting housing-

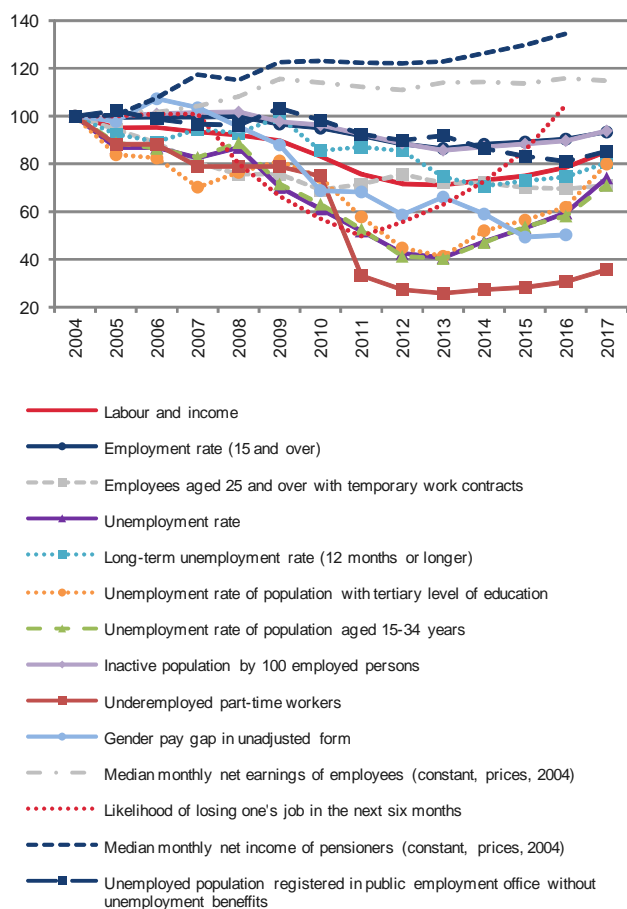
-related commitments. However, there have been positive developments since 2014, mainly due to the decrease of the *rate of material deprivation* and the *poverty risk rate*. As of that year, all the indicators in this area showed a favourable evolution.



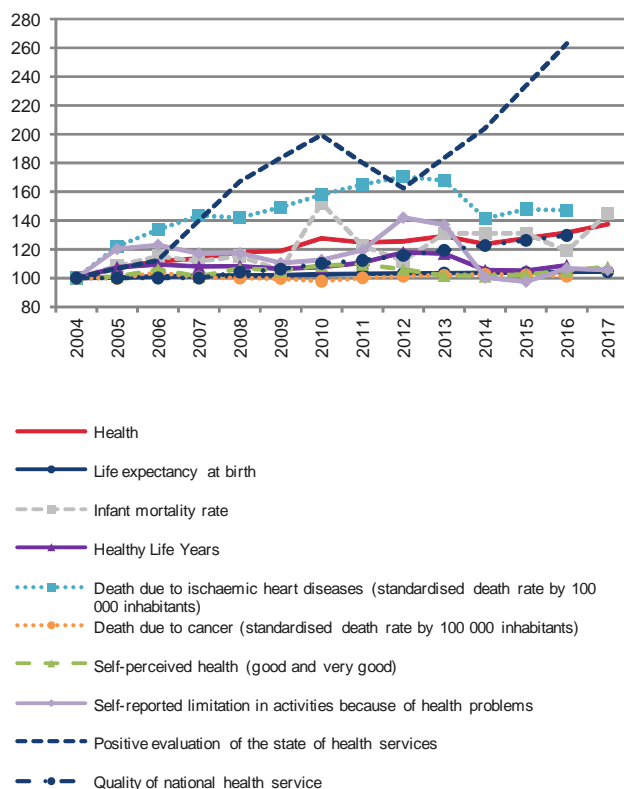
### Labour and income

*Labour and income* is the well-being domain with the worst performance, mostly 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 2017 the continuation of this improvement.

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



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



### 3. Quality of life

#### Health

The change in the *Health* domain was 31.6 p.p. in the 2004-2016 period, thus constituting one with the most positive performance.

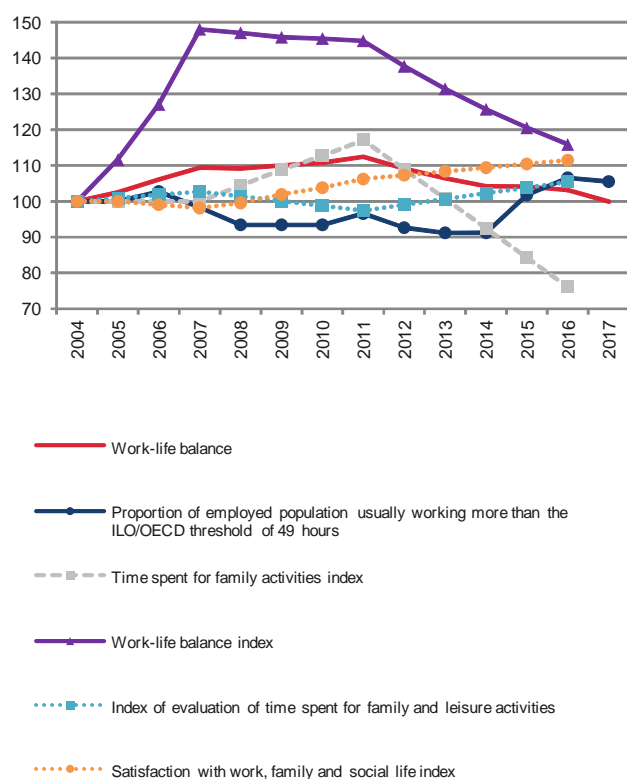
The population that assesses the health services positively had a sharp increase in the period 2004-2016.

#### Work-life balance

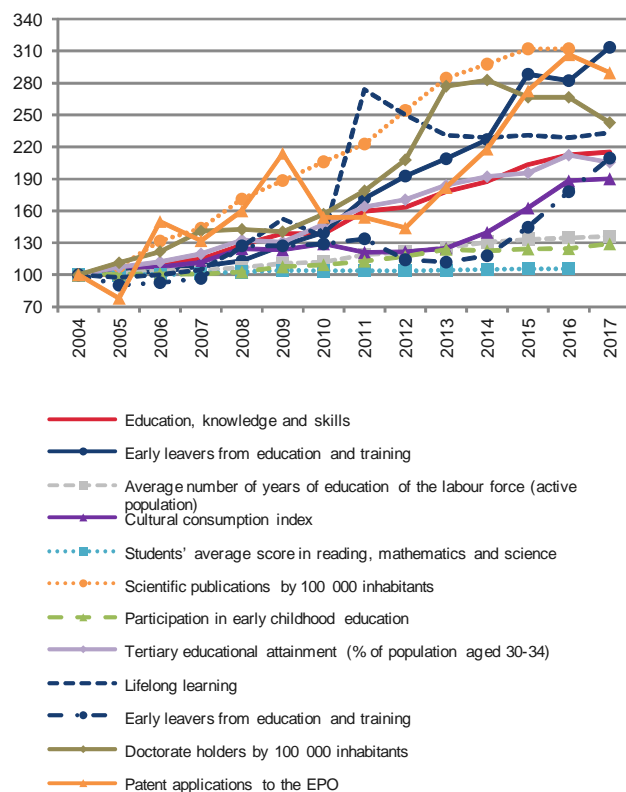
Capacity to reconcile time dedicated to work with other aspects of personal life, such as family, friends or leisure, in general, is a critical characterization factor of well-being.

Work-life reconciliation evolved positively during the whole period, more pronounced until 2011. Since this year has been decreasing and the projected value for 2017 is 99.9. This decrease results from the unfavourable evolution of the index of evaluation of *time spent on family activities*.

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



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



### Education, knowledge, and skills

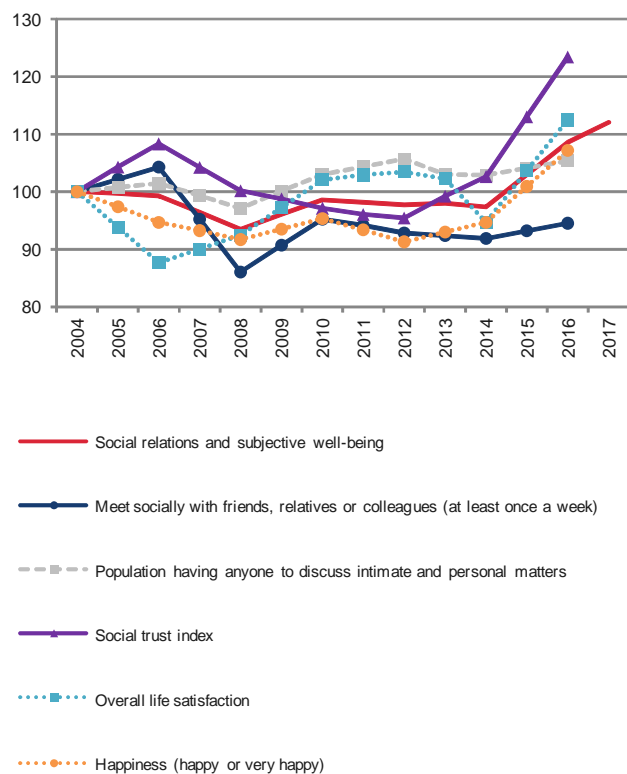
The index change in the 2004-2016 period in the education domain was 112.7 p.p., i.e., it was the well-being component with the best performance. Preliminary data for 2017 projected growth of 2.5 percentage point change over the previous year but the trend of this evolution slowed down since 2015.

Five of the eleven indicators of this domain in the period 2004-2016 have changed by more than 100 p.p. The evolution of scientific publications and patents were greater than 200 p.p..

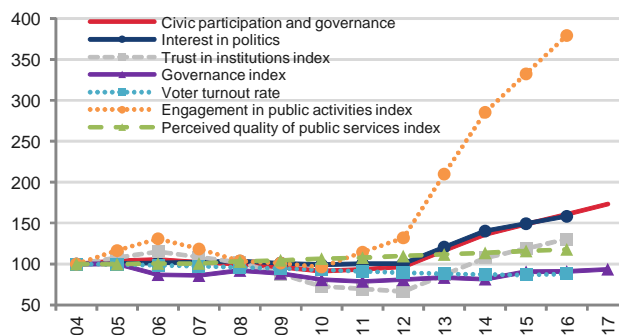
### Social relations and subjective well-being

Index change in the 2004-2016 period in *Social relations and subjective well-being* domain was positive (8.6 p.p.), although revealing oscillations. The favourable evolution since 2014, results mainly from the *social trust index* and *overall life satisfaction*.

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



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



### Personal security

Index change in the *Personal security* domain was 34.0 p.p. in 2016 with a projected variation of 44.6 in 2017, compared with the 2004 base year. The index of this domain showed erratic behaviour throughout the whole period under review, although with systematic positive changes since 2012.

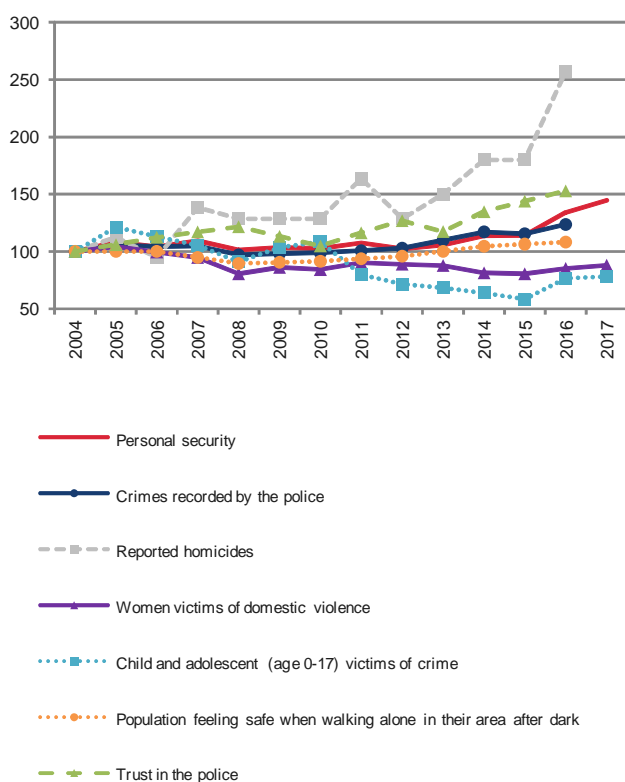
This evolution results mainly from the favourable development of *reported homicides* and the *Trust in the police*. Since 2015 all the indicators of this domain showed a positive progression.

### Civic participation and governance

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

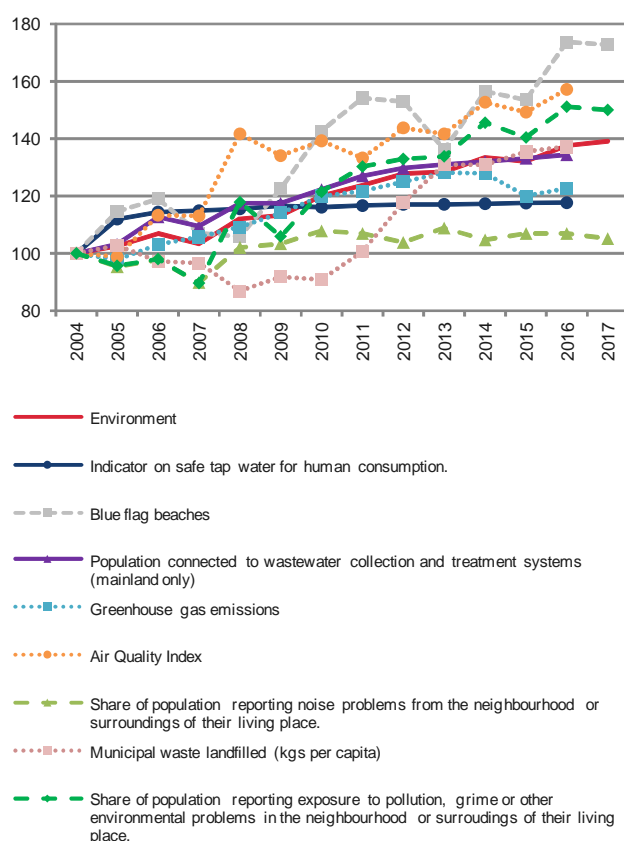
The *index of engagement in public activities* showed the most significant contribution to this recent evolution since it has changed more than 250 p.p. in 2016 when compared with its 2004 value.

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



In the period 2004-2016, there was a positive average annual rate of change for all selected indicators, with emphasis on the *Blue flag beaches* indicator.

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



## Environment

There were observed continually positive developments with small fluctuations.

In the 2004-2016 period, the index change in the environment domain was 37.6 p.p. showing a positive performance. Preliminary data for 2017 kept that positive trend compared with the 2004 base year, with the domain's index at 139.1.



## 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, 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, consideration has been taken of three domains, which aggregate 29 indicators:

- **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.

From the **quality of life** perspective, an account has been taken of seven domains, which aggregate 50 indicators:

- **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 projection of each domain for year  $t+1$  results from the projections of the indicators belonging to this domain. From each indicator for which the value for year  $t+1$  is unknown, several projections are computed based on the quotient between the maximum amplitude of this indicator between any two contiguous years of the period under analysis, and a given number of projections to be made for this indicator. The final value of the projection is the median of the different projected values.

The methodological options underlying the design and operationalisation of the WBI are described in the Methodological Document available at [www.ine.pt](http://www.ine.pt), under Metadata.

*(to be continued)*

*(continuation)*

### 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 change of the values of some series and replacing preliminary figures previously reported, for final figures. The extent of these revisions, as measured by the 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	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Material living conditions	0,2	0,0	-0,2	0,1	0,0	0,0	-0,1	0,1	0,4	0,8	0,4	1,0
Quality of life	-0,8	0,0	0,0	0,0	0,0	0,1	0,2	-0,1	-0,2	-0,4	2,1	2,7
<b>Well-being index</b>	-0,5	0,0	0,0	0,0	0,0	0,1	0,0	0,0	-0,1	-0,1	1,7	2,3