

Well-being index
2004-2015

The 2015 estimate of well-being index at 118.4 illustrates the recovery initiated in 2013

The Portuguese well being index has positively progressed between 2004 and 2011 and declined in 2012. In 2013 and 2014 it has recovered and the preliminary estimates for 2015 keep this upwards trend, reaching 118.4

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

The index now released covers the 2004-2015 period although with preliminary results for 2015.

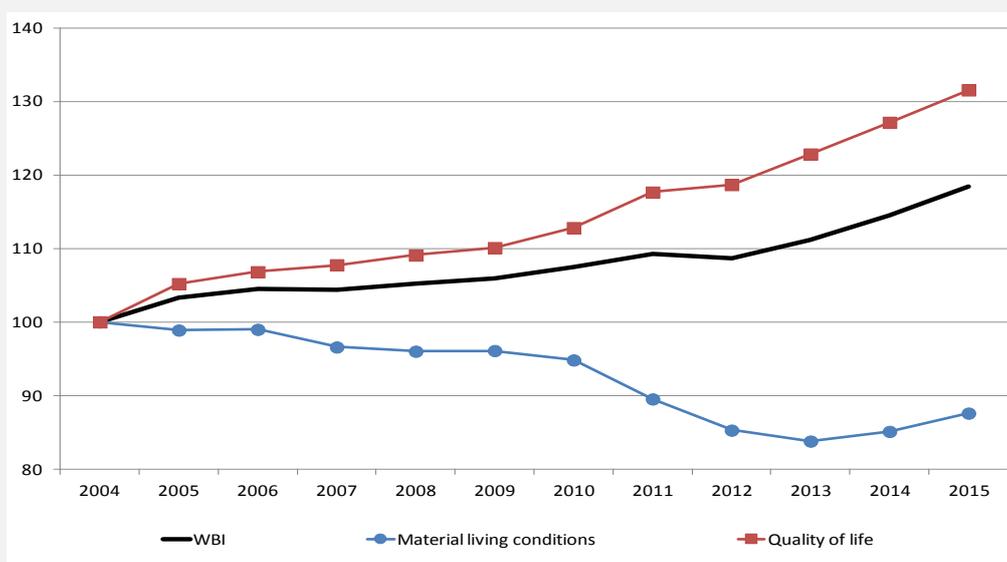
The WBI illustrates developments of the well-being combining two synthetic indices which in turn reveal two dimensions: *Material living conditions* and *Quality of life*.

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 WBI, Education, Environment 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.

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



Global analysis

In 2014 the Well-being index was 114.5 keeping on with the recovery initiated in 2013. Preliminary data of 2015 are pointing to a new increase, explained by the evolution of the Quality of life perspective and by the recent developments of the Material living conditions.

Between 2004 and 2014 the annual average rate of change in the Well-being index was 1.4%. 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 109.2 in 2011. By 2012 the index reduced to 108.7, having recovered the following year and reaching 114.5 in 2014. It is estimated that in 2015 reaches 118.4.

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 85.1 in 2014 (2004 = 100), the index on Quality of life continued to be positive, reaching 127.1 in 2014.

Preliminary data for 2015 allow foreseeing a reversal of the trend of the *Material living conditions* index. This index, which suffered a constant aggravation over 10 years, that led to a devaluation of 16.2 percentage points between 2004 and 2013 – due to a strong correlation between many of the variables that make up this synthetic indicator and the economic performance – presented in 2014 a slight increase. It is estimated that this uplift will continue in 2015.

The analysis of developments in the 2004-08 (pre-crisis) and 2008-14 periods showed that the fall of 4 percentage points in the Material living conditions index recorded in the first period (-1%/year) was followed by a sharper fall of 10.9 percentage points in the 2008-14 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 9.1 percentage points (+2.2%/year) was followed by an equally positive evolution of 18 percentage points in the 2008-14 period (+2.6%/year). It is estimated, therefore, that the Quality of life index lies in 2015 about 31.5 percentage points above the level recorded in 2004.

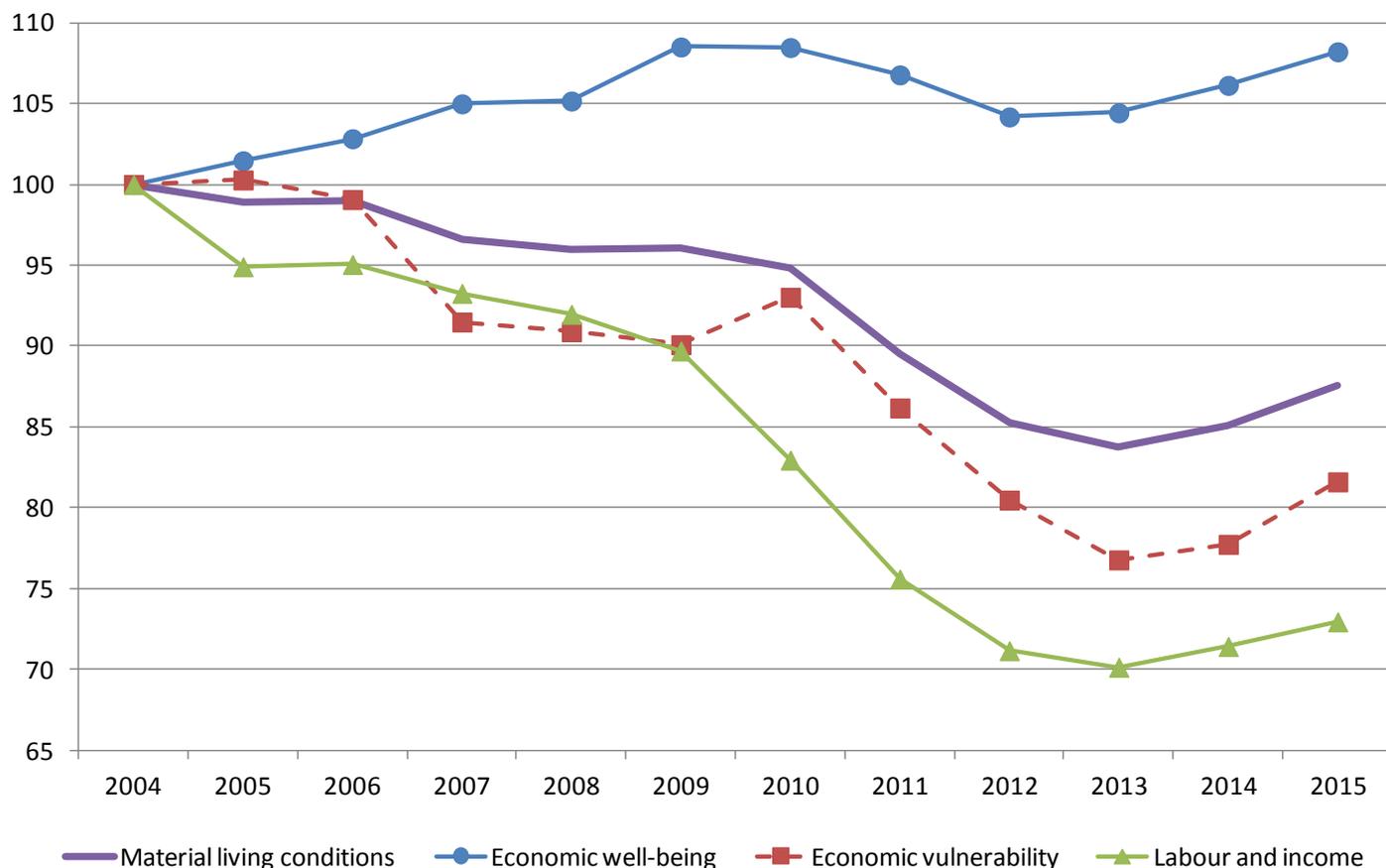
Obtained results originate from different developments regarding the domains that underpin the two perspectives considered: for the evolution of *Material living conditions* contributed positively the *Economic well-being* domain behaviour, which reaches a 108.5 index in 2009, declining from 2010 to 2012 and growing from that year onwards. The projected increase of 8.2 percentage points in the field of *Economic well-being* occurred between 2004 and 2015 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: 76.8¹. The index increased the following year and it is estimated that this growth continues in 2015, reaching a value of 81.6. In the overall context of the period under review compared to the base year, there was a variation of -18.4 percentage points.

The *Labour and income* domain contributed significantly to the decline in the *Material living conditions* composite index, with a decrease of 28.6 percentage points between 2004 and 2014. However, as it happened with the domain of *Economic vulnerability*, the corresponding index, after having reached a minimum in 2013 (83.8), increased the following year, projecting new growth for 2015.

¹ 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 182.2 in 2014. Preliminary data for 2015 reinforced this trend, with an estimated index of 200.0.

- Secondly, the *environment* domain increased on a regular basis since 2007, with the index reaching 128.0 in 2014. Preliminary data for 2015 maintain this trend, with an estimated index of 129.1.

- Finally, the *Civic participation and governance* domain that since 2016 has come down to a minimum in 2010, Well-being index – 2004-2015

has grown from that year. It is estimated that will reach in 2015 the value of 147.6.

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 a growing trend by 2010, reaching in 2013 a maximum of 128.5. Since then, it has been declining. Preliminary data maintains this negative trend, estimating a 121.9 index for 2015.

Also, with positive values, *Work-life balance* and *Personal security* domains recorded respectively index values of 111.4 and 113.6 in 2014. 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 2014.

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;

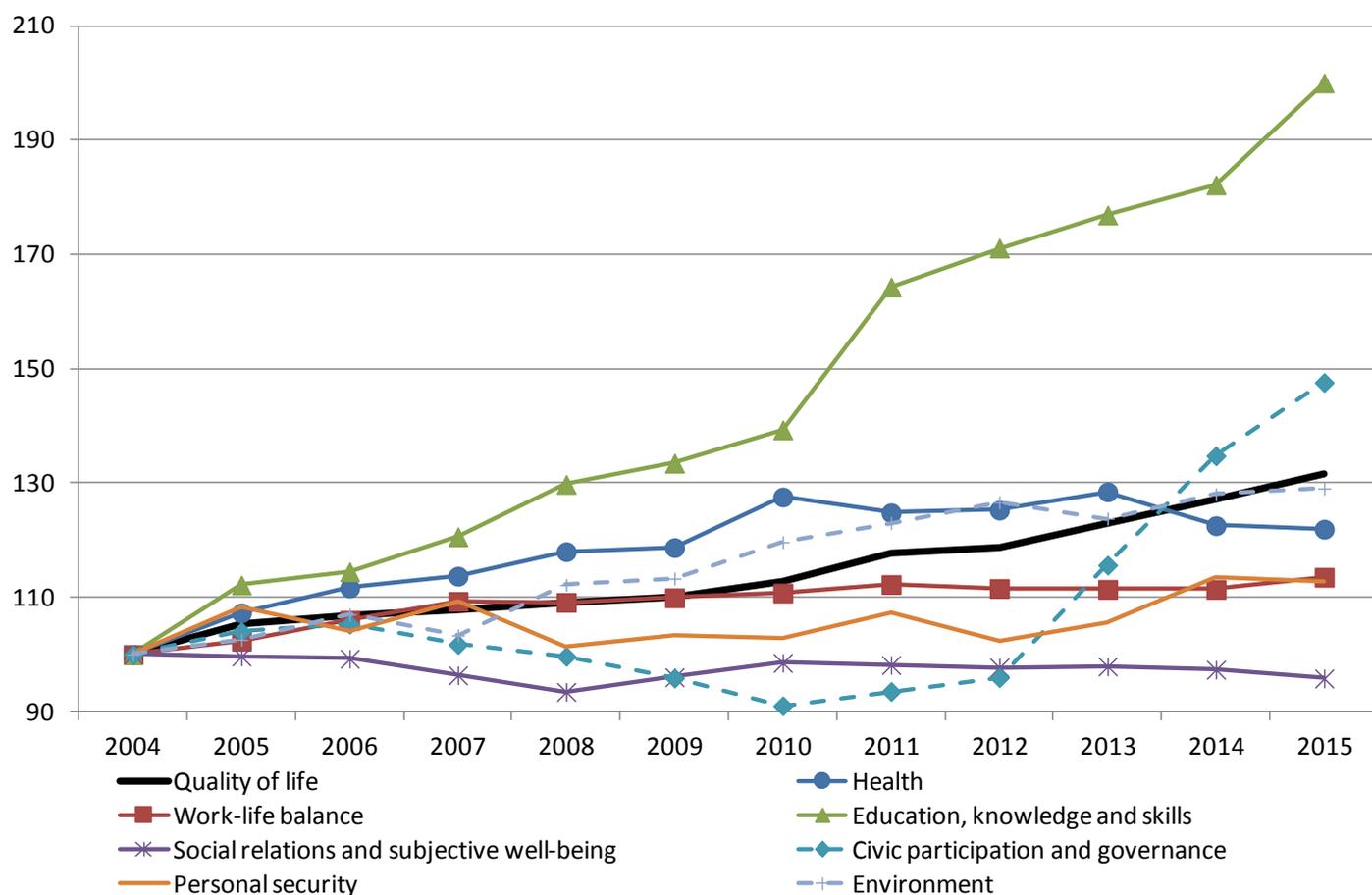
- and finally, the domain that went from negative to positive between the first and the second periods under review.

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

| 2004-2008 | 2008-2015 | | |
|-----------|--|-------|---|
| | 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%

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



MATERIAL LIVING CONDITIONS

Economic well-being

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

The main indicator of the economic resources of households (median equivalent disposable income) grew in real terms by 10 percentage points between 2004 and 2009, but these gains were lost between 2010 and 2012 when the index reached the lowest: 95.7. In the following years, there was a slight recovery to a level of 98.8 in 2014.

The indicators related to personal income distribution show, in general, similar although less marked behaviour, to the disposable income, with a slowdown in the positive trend after 2010.

- The Gini coefficient of equivalent disposable income, which had improved between 2004 and 2009 worsened in 2010-2013 period, although having a slight recovery in 2014;

- The S80 / S20 index also improved between 2004 and 2009 but suffered a deterioration in the next four years, recovering only in 2014;

- The Gini coefficient of the median monthly net income of employees records a positive trend until 2010. From

2011 until 2012 it showed a slight increase in wage inequality. It recovers in 2013, showing a decrease again, albeit small, in 2014 and returns to grow in 2015, reaching its maximum value in the period under review.

The two variables related to household assets and the variable related to household consumption showed a relatively stable behaviour throughout the period, although they were no immune to the economic crisis. In fact, the values of these indices reached the minimum values in 2008 and 2013, recovering afterwards.

The net income / gross household income ratio was stable as well, apparently suggesting the maintenance of the income structure and the state's redistributive role between 2004 and 2012, although showing a decrease from this year.

Figure 4 - Well-being index, Material living conditions e Economic well-being (2004=100)

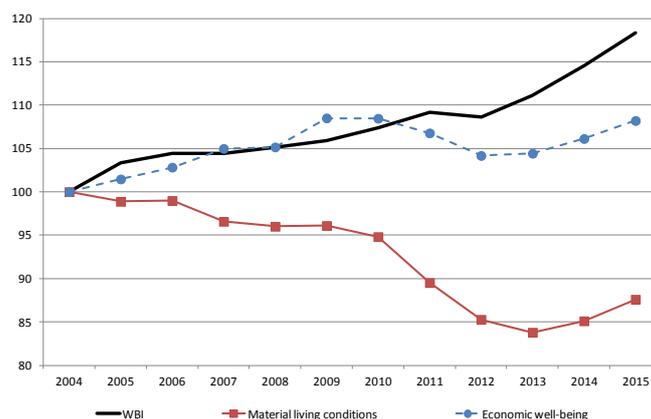
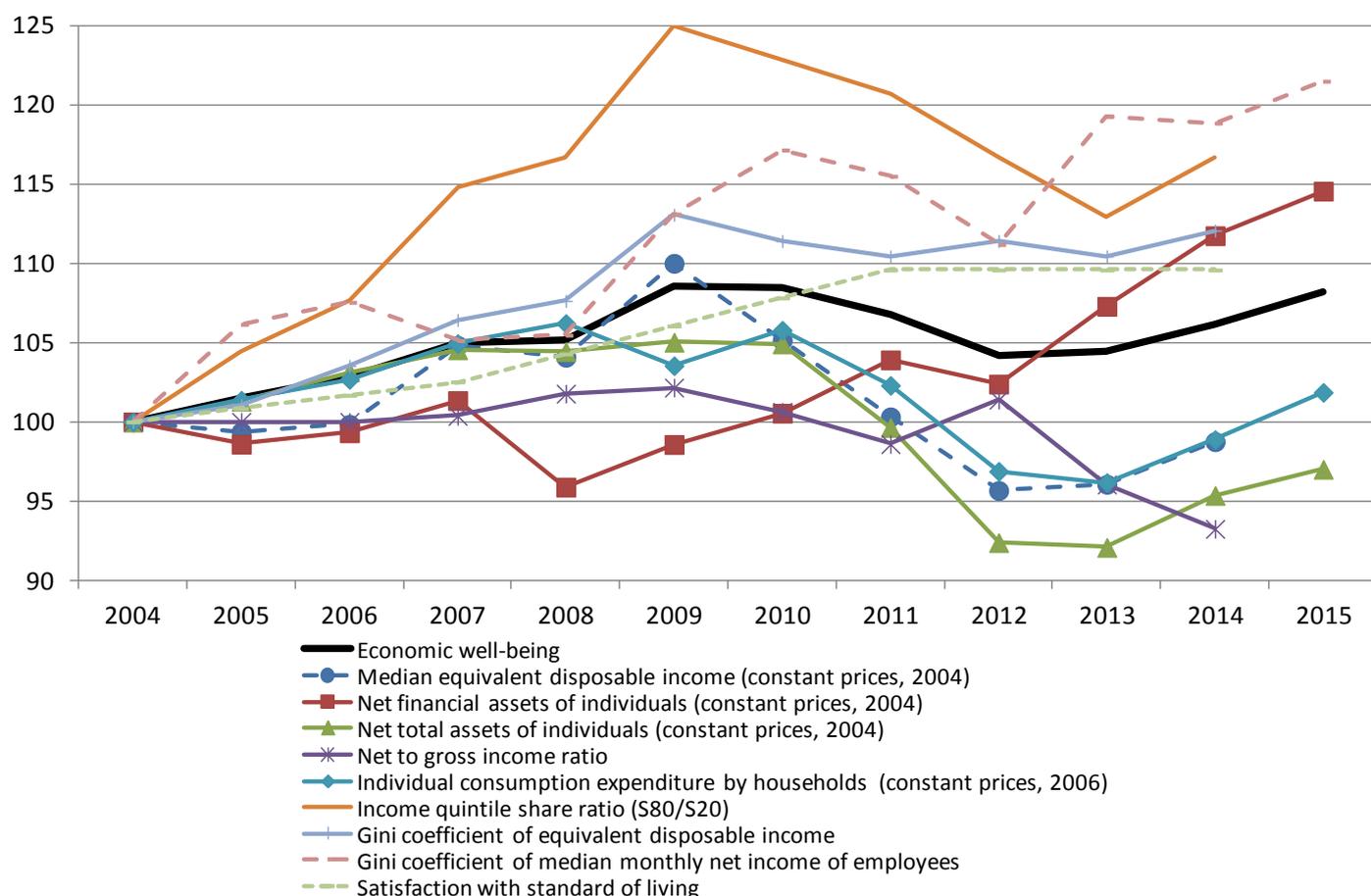


Figure 5 - Economic well-being and its indicators (2004=100)



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.

The share of persons aged 15 and more years who are living in households without employed persons (jobless households) has an inverse relationship with Well-being: the higher the indicator, the lower the Well-being. Using this indicator in the construction of a well-being index (indices computed from each indicator always vary in the sense of well-being), implies a reversal of its direction. Thus, when the indicator Well-being index – 2004-2015

increases, the corresponding well-being index becomes worse, i.e. decreases. In this case, this index worsened between 2004 and 2013, when it reached the minimum value of the series (i.e. hit the worst situation regarding well-being) and recovered slightly from this year to 43.2 in 2015. This gradual detachment of a significant number of families from the labour market, particularly marked since 2009, reflecting the rise in unemployment in the Portuguese society. This index declined 56.8 percentage points over the 2004-2015 period, strongly conditioning developments in this domain.

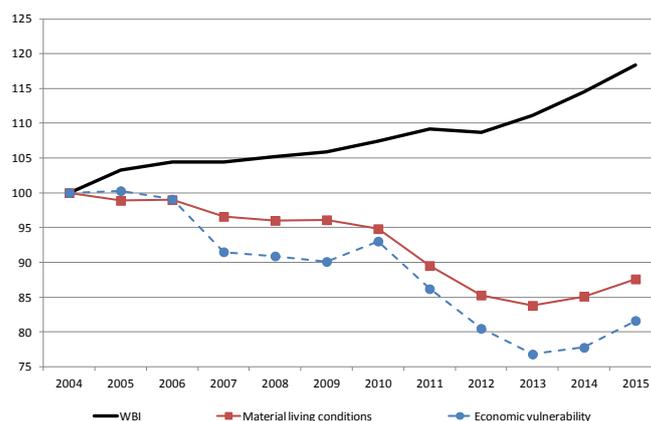
The indices of the indicators related to the ability of households to cope with their burden and with a surcharge of housing expenses declines. Only in the first case, there is a slight recovery in 2011 and 2012.

This trend shows a deterioration of the ability of household income to meet the financial commitments assumed or to face basic expenses such as housing.

Poverty indicators, such as share of jobless households, have an inverse relationship with well-being. Thus, when these indicators decrease, the well-being indices associated with them increase, signifying that there is an improvement in well-being. In this context, the indices associated with poverty risk indicators have improved since the beginning of the period, including the index of people at risk of poverty which increased by 8.4 percentage points to 2011 and the intensity of poverty rate which increased by 14.5 p.p. until 2009. From these two years, both rates worsened, losing 8.9 percentage points and 25 percentage points respectively, by 2014. After 2010 the indicator poverty risk deserves, however, careful reading, to the extent that this reflects the sharp decline in median income and the consequent reduction of the poverty level in 2011 and 2012. While there has been in 2013 a higher decrease of 9 percentage points of the index on the intensity of poverty over the previous year, this

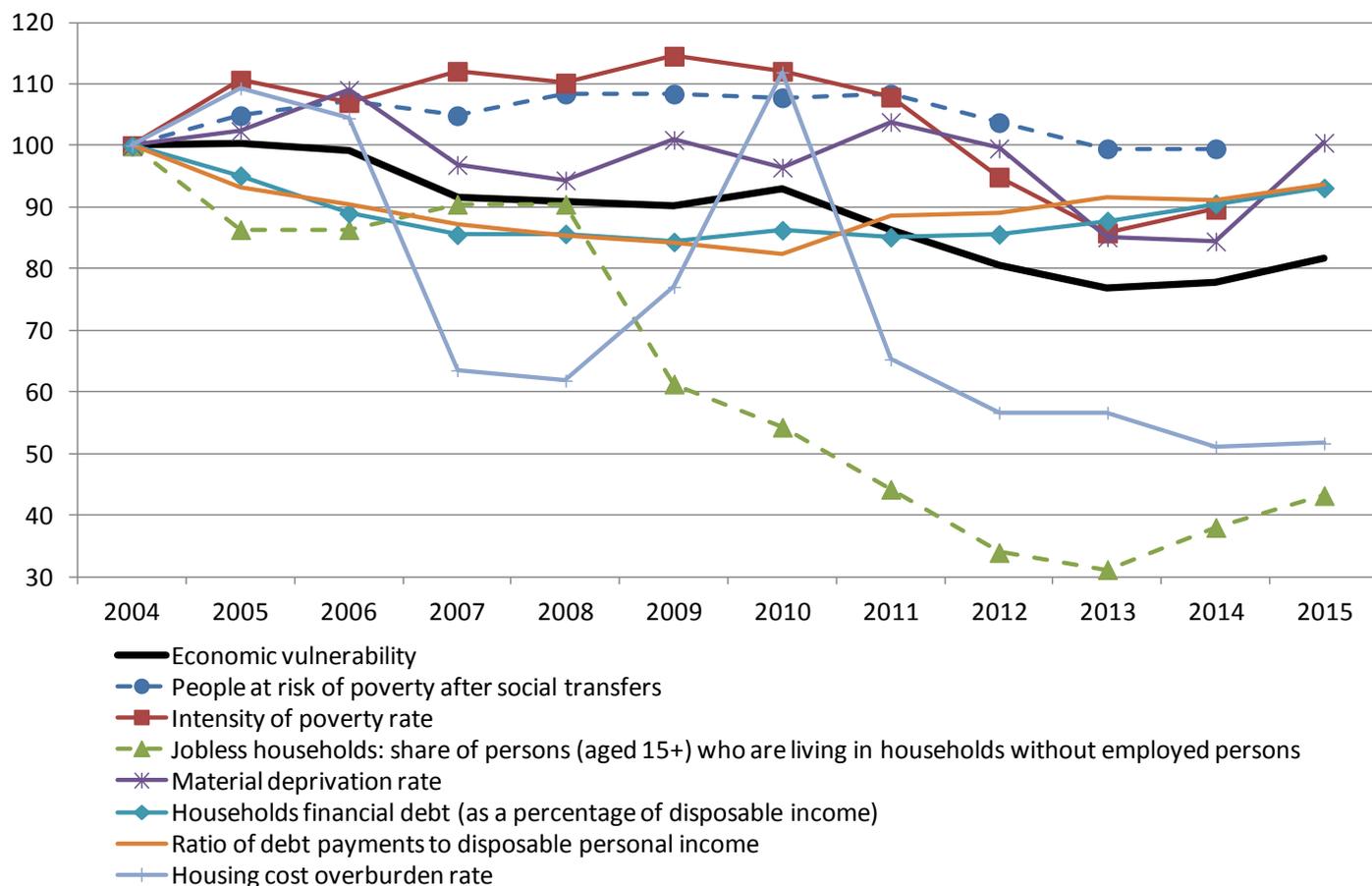
decrease appears to have been restrained, since the index shows in 2014, the same value as the previous year.

Figure 6 - Well-being index, *Material living conditions* and *Economic vulnerability* (2004=100)



The evolution of the material deprivation rate fluctuated over the period. Overall, the value calculated for 2012 is virtually identical to the value of 2004. The respective index worsened from that year to a minimum of 84.4 in 2014. However, in 2015 there is a substantial increase reaching the value of 100.5.

Figure 7 - 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 2014 there is a slight reversal this trend, projecting for 2015 the continuation of this improvement.

The change in the index over the period 2004-2014 was negative (-28.6 percentage points), and the value of the index decreased continuously from 2006 to 2013, with sharp breaks from 2009. The estimated values for 2015 foresee an increase of 1.6 p.p. from the previous year, still representing, however, a decrease of -27 p.p. compared to 2004.

Well-being index – 2004-2015

Among the well-being components, this is the domain with the most negative developments, essentially due to labour status related indicators and particularly the trend of unemployment as of 2009.

In sync with the trend of unemployment, the indicator on the share of people who "think that they will likely or very likely lose their job" also followed an unfavourable trend from 2008 onwards.

Most indicators showed a negative annual average change in the 2004-2014 period. The following indicators made relevant contributions, exacerbating this domain's negative overall performance (-3.3%) in the period 2004-2014 (annual average change rate):

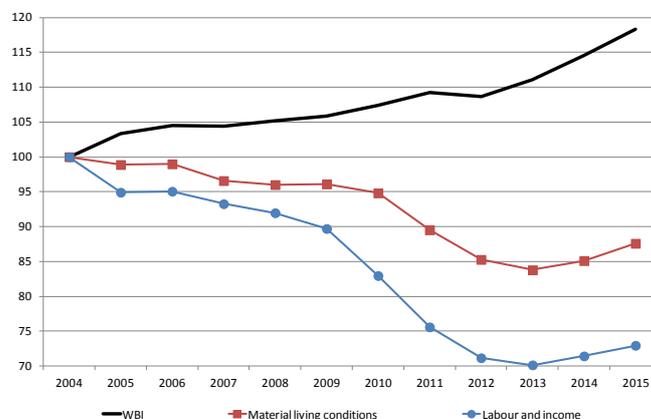
- Underemployment of part-time workers (-12.4%);
- Unemployment rate (-7.2%), unemployment rate of population aged 15 to 34 years (-7.3%) and unemployment rate of population with tertiary level of education (-6.3%);
- Proportion of people who think it is likely or very likely to lose their job in the next six months (-6.7%);
- Gender pay gap (unadjusted) (-4.9%). This index regained 8.2 p.p. in 2013 over the previous year, decreased by 7 p.p. in 2014 compared to 2013.

- Long-term unemployment rate (12 months or more) (-3.4%);

Some indicators recorded a negative annual average change rate in the 2004-2014 period, although lower than the domain they integrate:

- Employees aged 25 and over with temporary work contracts (-3.2%);
- Employment rate (aged 15 and over) (-1.3%) and inactives by 100 employees (-1.4%);
- The Proportion of unemployed registered at the Job Centre that does not receive any related unemployment allowance (-1.4%).

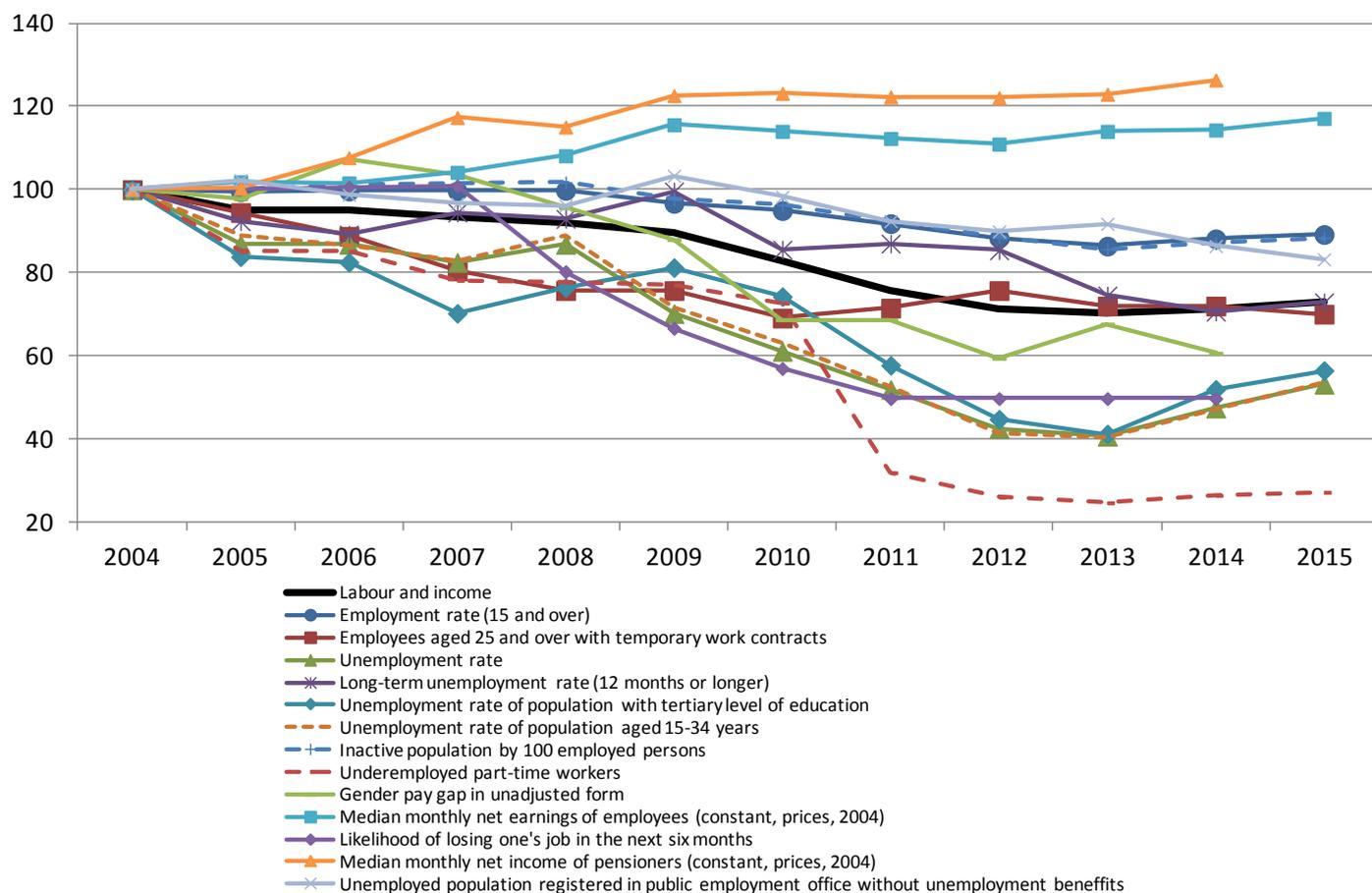
Figure 8 - Well-being index, *Material living conditions* and *Labour and income* (2004=100)



The index for the indicators "median monthly net earnings of employees" and "median monthly net income of pensioners" were the only ones to register a positive change in the 2004-2014 period (1.3% and 2.4% respectively). These indices decreased between 2010 and 2012 and increased after that.

Note however that in 2015, from the 10 indicators in this domain, for which figures are available only two sees its value worsened between 2014 and 2015: employees aged 25 and over with temporary work contracts; and unemployed population registered in public employment office without unemployment benefits. The remaining eight indicators show improvements.

Figure 9 - 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 22.6 percentage points in the 2004-2014 period, thus constituting the component of well-being with the fourth most positive performance.

Indicators such as mortality rates or self-reported limitation in activities because of health problems have an inverse relationship with well-being. Well-being indices based on these indicators improve when these indicators decrease.

The index of this domain presents an annual increase much more pronounced in the period 2004-2008 than in the period 2008-2014 (average annual rate of change passes from 4.2% to 0.6%).

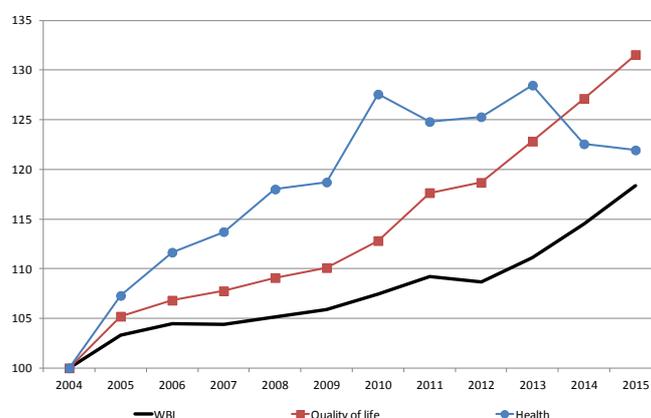
All indicators recorded a null or positive annual average rate of change in the 2004-2008 period. The indices based on the following statistics showed a clear positive trend (average annual rate of change):

- Share of population that makes a positive evaluation of the state of health services (13.7%);
- Index of death due to ischaemic heart diseases (standardised death rate by 100 000 inhabitants) (9.2%);

- Index of the share of population that self-reported limitations in activities due to health problems (4.1%);
- Index of infant mortality rate (3.6%).

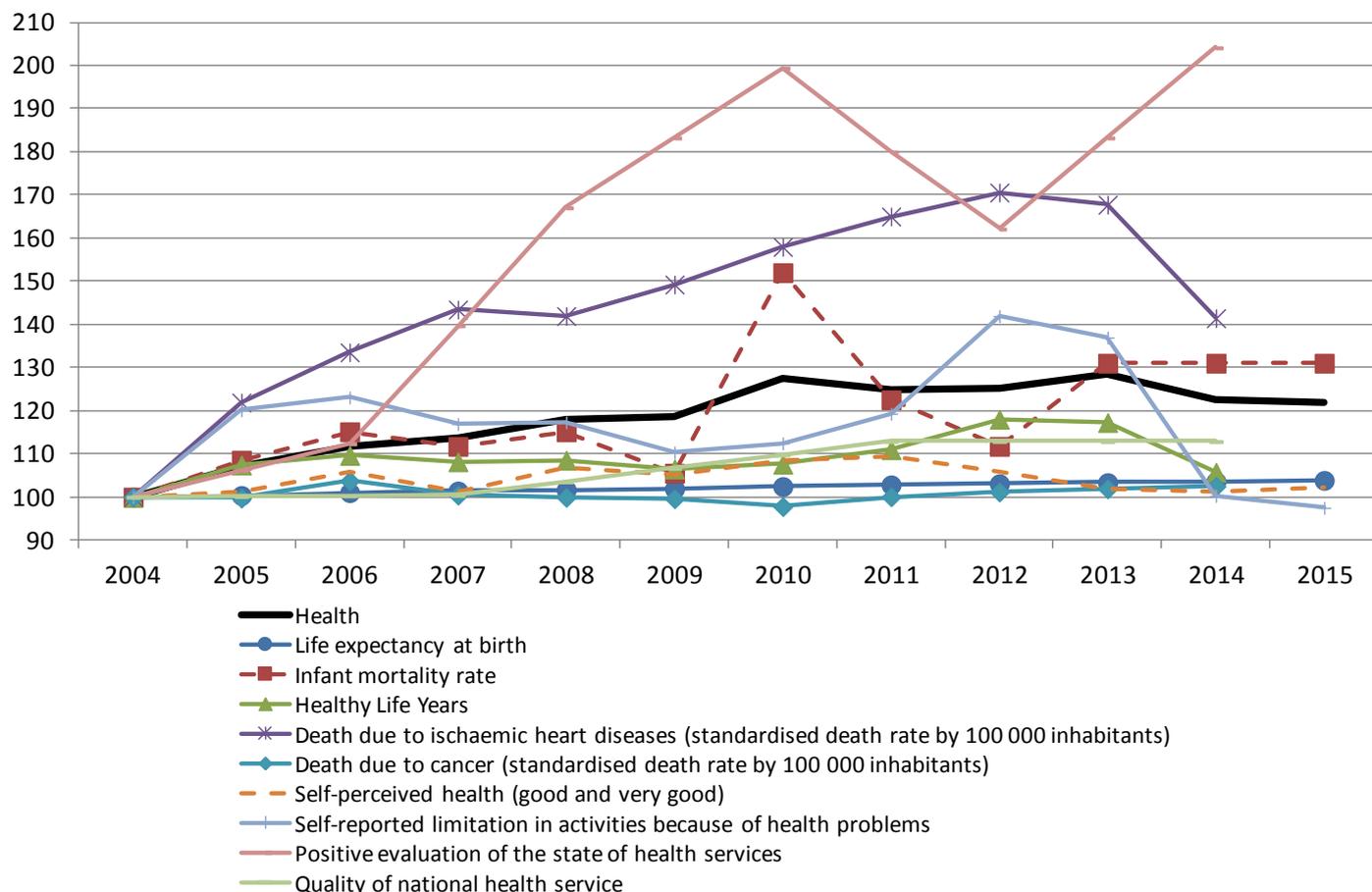
In the period 2008-2014, just over half of the selected indicators continued to show positive annual average rates.

Figure 10 - Well-being index, Quality of life and Health (2004=100)



The indicators that are worth mentioning, either because they have seen its performance improved or significantly worsened in this period, were respectively: death due to cancer, with an average annual change rate that increased from zero to 0.4%; and the share of the population reporting limitation in performing activities due to health problems, which had an average annual change rate of -2.6% in the most recent period (2008-2014), compared to the growth of 4.1% recorded between 2004 and 2008.

Figure 11 – 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 2014, increasing 11.4 p.p. The project value for 2015 is higher than 2014 by 2.1 p.p.²

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.

This domain has incorporated a network of interrelated variables, with the purpose of ascertaining the degree of work/life balance.

A key variable is the “index of reconciliation of work with family responsibilities”, portraying the degree of difficulty in fulfilling domestic tasks or other family responsibilities due to work, or in concentrating on work due to family responsibilities. This index recorded a positive percentage change of 48 percentage points up to 2007, declining slowly ever since.

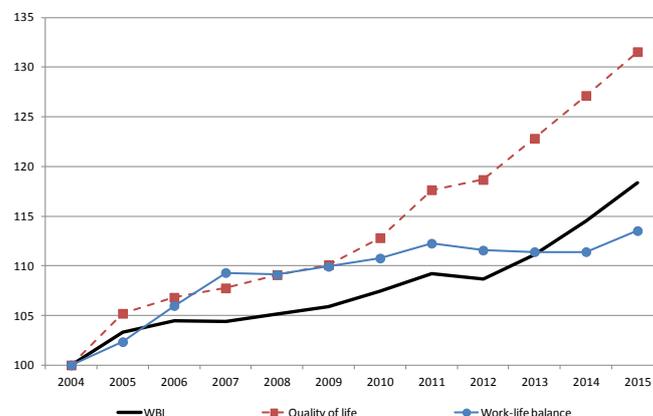
Another way of measuring that reconciliation is based on an index of self-perceived time spent in contact with relatives or other persons and on leisure activities, i.e. resulting from a personal assessment of whether time

² The most recent non-estimated data of the four indicators whose source is the *European Quality of Life Survey* refers to 2011.
Well-being index – 2004-2015

spent on these contacts is sufficient. Developments in this index were rather similar to the previous year, growing up to 2007 and declining from that year onwards.

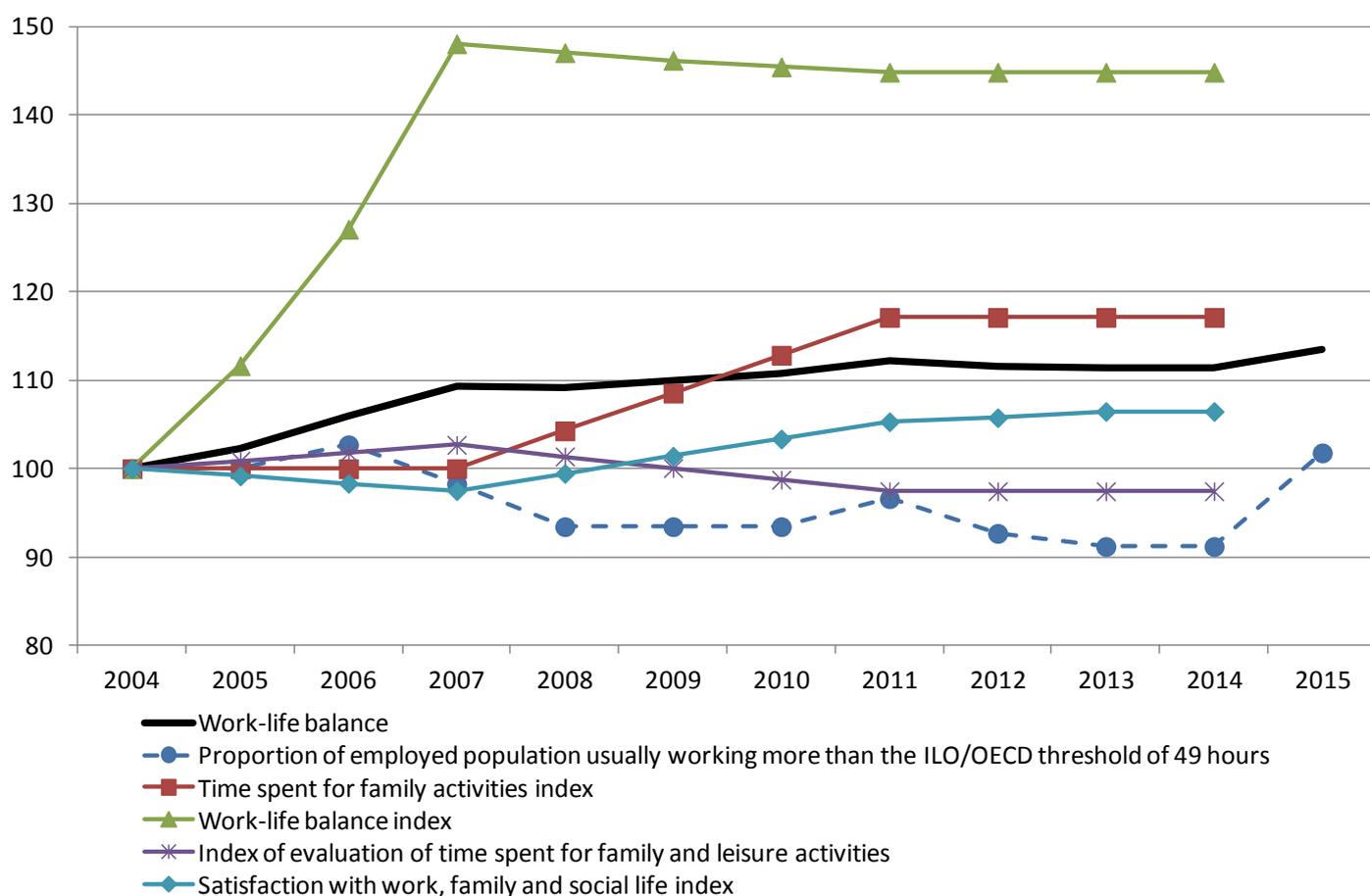
This ability to reconcile work and family life depends, among other things, on objective conditions, especially time spent working. The indicator “share of employed population usually working 50 hours or more per week” indicates the availability of employed persons to extra-work activities. This indicator has an inverse relationship with well-being: the higher the proportion of the population in these conditions, the lower is the well-being. Taking this into consideration, the higher this indicator, the lower the index domain (worse well-being).

Figure 12 - Well-being index, Quality of life and Work-life-balance (2004=100)



This indicator has been falling with fluctuations, reaching the lowest value of the series (91.2) in 2013 and 2014. This behaviour reflected the decline in the time available for family and extra-work activities. However, in 2015 the same indicator showed a significant increase reaching the second highest of the series: 101.8. This increase means that the working population is more available for such activities than they were in the immediately preceding years.

Figure 13 – Work-life balance and its indicators (2004=100)



Education, knowledge and skills

Five of the eleven indicators of this domain in the period 2004-2014 have changed by more than 100 percentage points. The evolution of scientific publications and doctorates must be highlighted.

The index change in the 2004-2014 period in the education domain was 82.2 percentage points, i.e. it was the well-being component with the best performance. Preliminary data for 2015 project an accentuation of this growth with a 17.8 percentage point change over the previous year.

The period 2004-2008 recorded an average annual change rate of the index, slightly higher for the period 2008-2014: 6.7% and 5.8% respectively.

The analysis of results in the 2004-08 period shows a positive annual average rate of change in the index for all selected indicators, in particular, those presenting values higher than the average:

- Patent applications to the European Patent Office (18.1%);
- Scientific publications by 100 thousand inhabitants (14.4%);

In the 2008-2014 period it is possible to highlight the evolution of the following indicators (average annual change rate):

- Early leavers from education and training (aged 18-24) (12.3%);
- Doctorate holders by 100 thousand inhabitants (11.2%);

- Lifelong learning (10.4%);
- Scientific publications by 100 thousand inhabitants (8.9%);

Changes in the first three indicators associated with Innovation and Research & Development (doctorates, publications and patents) accounted as a whole for an index change of 147.1 percentage points in the 2004-2014 period. Controlling for the effect of these three indicators, the index change in the education domain in 2004-14 would be 57.8 percentage points, and therefore this domain would still continue to represent the well-being component with the best performance.

Comparing the average annual rates of change in the periods 2004-2008 and 2008-2014 allows emphasising the following developments: a near stagnation in the indicator relating to patents; and a sharp drop in early leavers from education and training.

All indicators in this domain excluding those related to Innovation and Research and Development and also the literacy rate have known values for 2015. All of them have, without exception, a positive evolution compared to 2014.

Figure 14 - Well-being index, Quality of life and Education, knowledge and skills (2004=100)

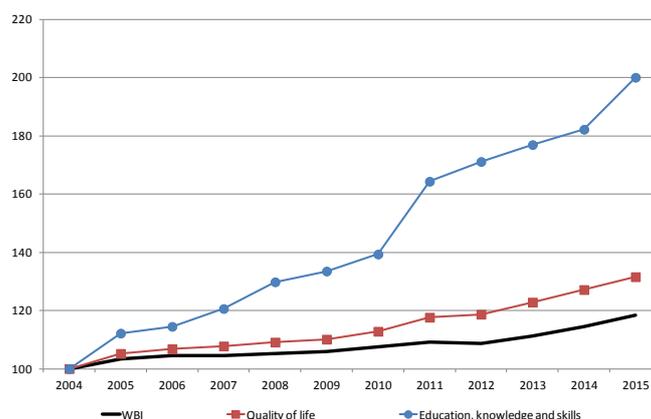
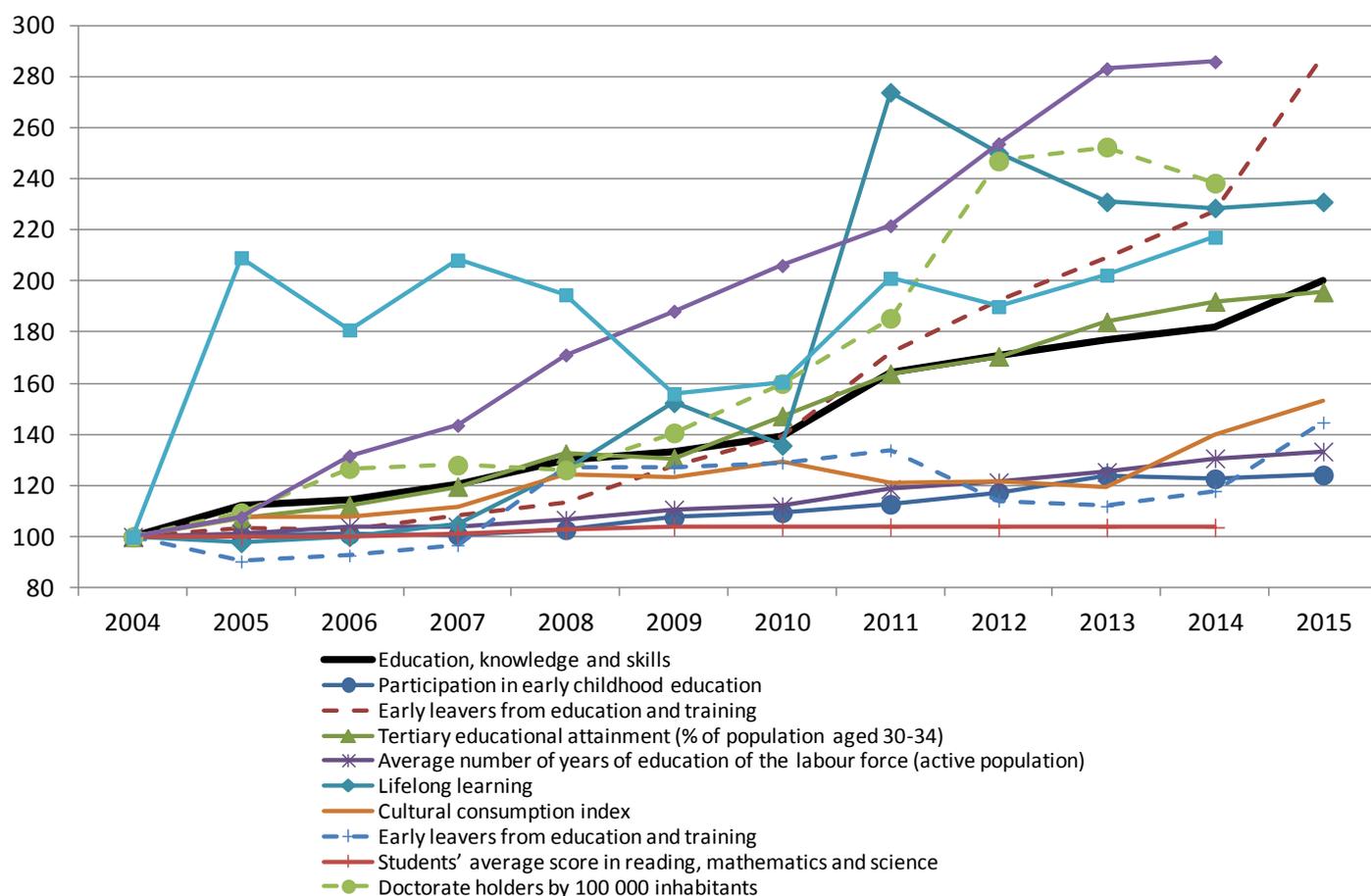


Figure 15 - Education, knowledge and skills and its indicators (2004=100)



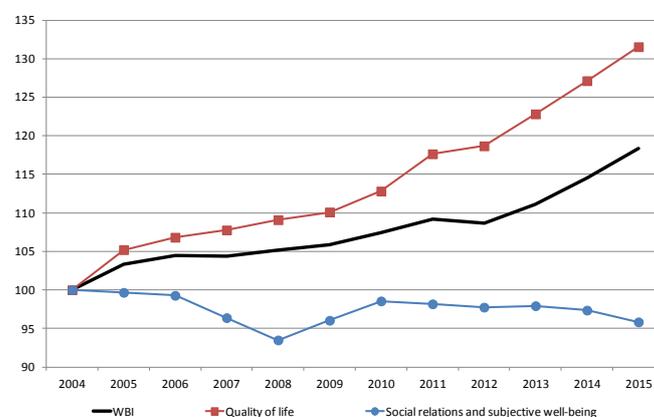
Social relations and subjective well-being

The latest index decrease showed up since 2011.

Index change in the 2004-2014 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 2011.

The negative change observed in the 2004-08 period was the highest of the domains of the Quality of life perspective (average annual rate of change: -1.7). In the next period (2008-2014), this rate recovers, taking a positive but small value (0.7%).

Figure 16 - Well-being index, Quality of life and Social relations and subjective well-being (2004=100)



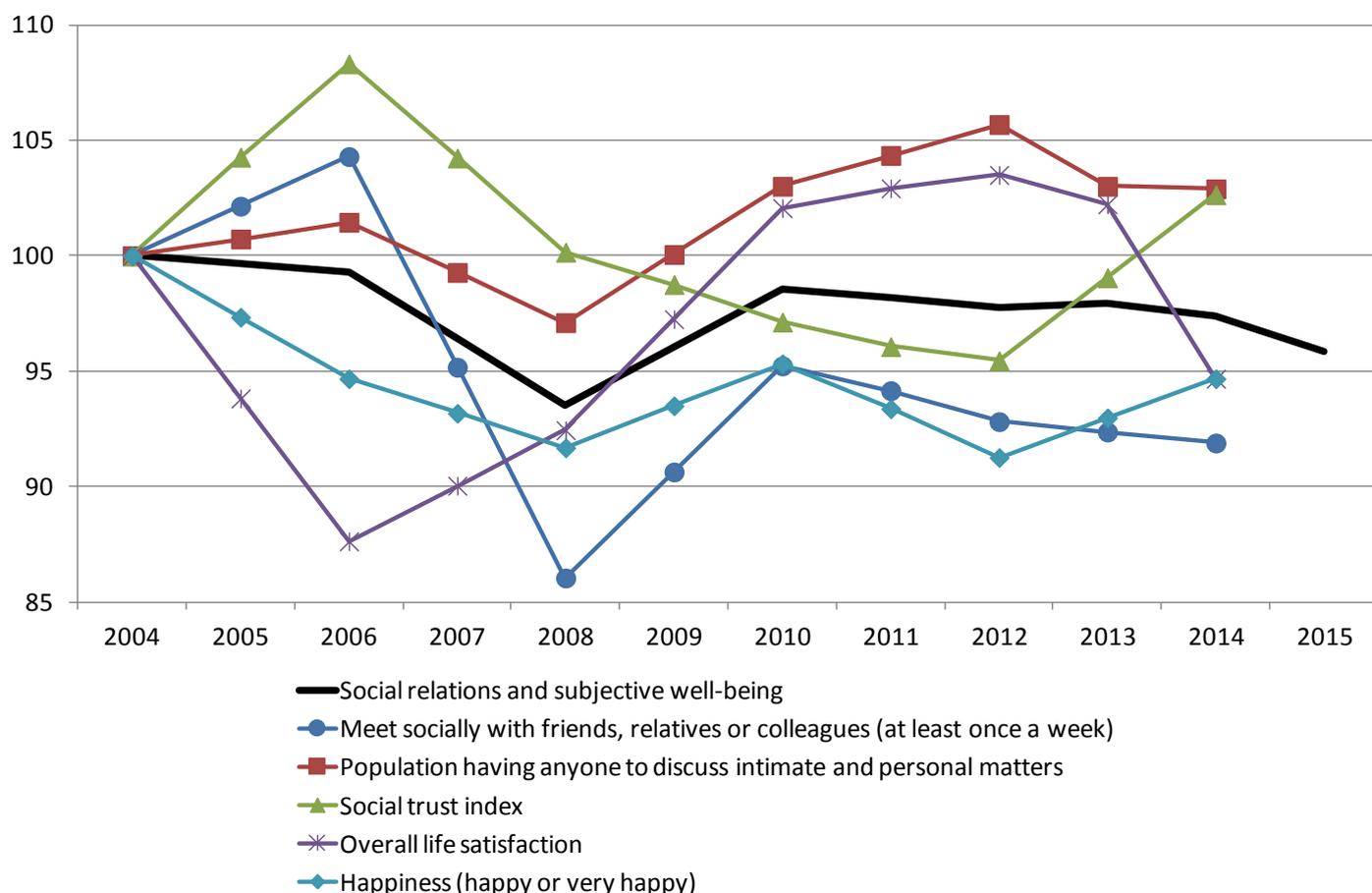
In this domain it is possible to consider two groups of indicators:

- The first group includes indicators from the social dimension of subjective well-being: the indicator on the frequency of relationships with relatives, friends or co-workers; the share of people having anyone to discuss intimate and personal matters; and the social trust index. In the 2004-2014 period, considering the average annual rate of change, the first indicator has a negative trend (-0.8%) and the remaining two an increase (0.3%). However, the three indicators improved their performance in the period 2008-2014.

- In the second group, integrating indicators from the individual dimension of subjective well-being, like the degree of happiness and the degree of life satisfaction in general, which recorded a negative annual average rate of change in the 2004-2014 period (-0.5%) improved their performance in the second period (2008-2014), such as the indicators of the first group.

The analysis of the most recent developments (2011-2014) of the indicators shows a virtually generalised negative trend: only the social trust index and the degree of happiness evolve in a positive direction.

Figure 17 – Social relations and subjective well-being and its indicators (2004=100)



Civic participation and governance

This domain has a U-shaped trend: decreases by 2010 and grows from there, increasingly from 2012.

The change in the index over the period 2004-2014 in the domain of civic participation and governance was negative (47.6 percentage points). The index continuously decreased since 2006 to 2010, showing a recovery from 2011. To this result compete differently three groups.

The first group includes the indicators that showed a more positive evolution: the index of participation in public activities (with a gain of 185.5 p.p. between 2004 and 2014) and the degree of interest in politics (108.3 in 2011), with a gain of 40.2 p.p. in the same period.

The second group includes the indicators that showed a negative trend during the period 2004-2014: throughout the period under study the governance index deepens -19.1 p.p. although recovering 7.9 percentage points in 2015; and voting turnout which also recorded a negative evolution of 13 p.p.

The third group comprises two indicators with a slightly positive evolution in the period 2004-2014: the index of trust in institutions and the perceived quality of public services which had an average annual growth rate of only 0.7%.

It must be stressed the recent evolution of the rate of participation in public activities, which between 2011 and 2014 showed an increase of 153.7 percent.

Figure 18 - Well-being index, Quality of life and Civic participation and governance (2004=100)

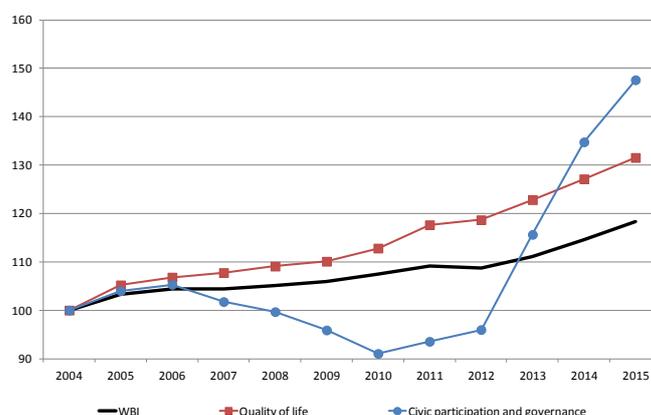
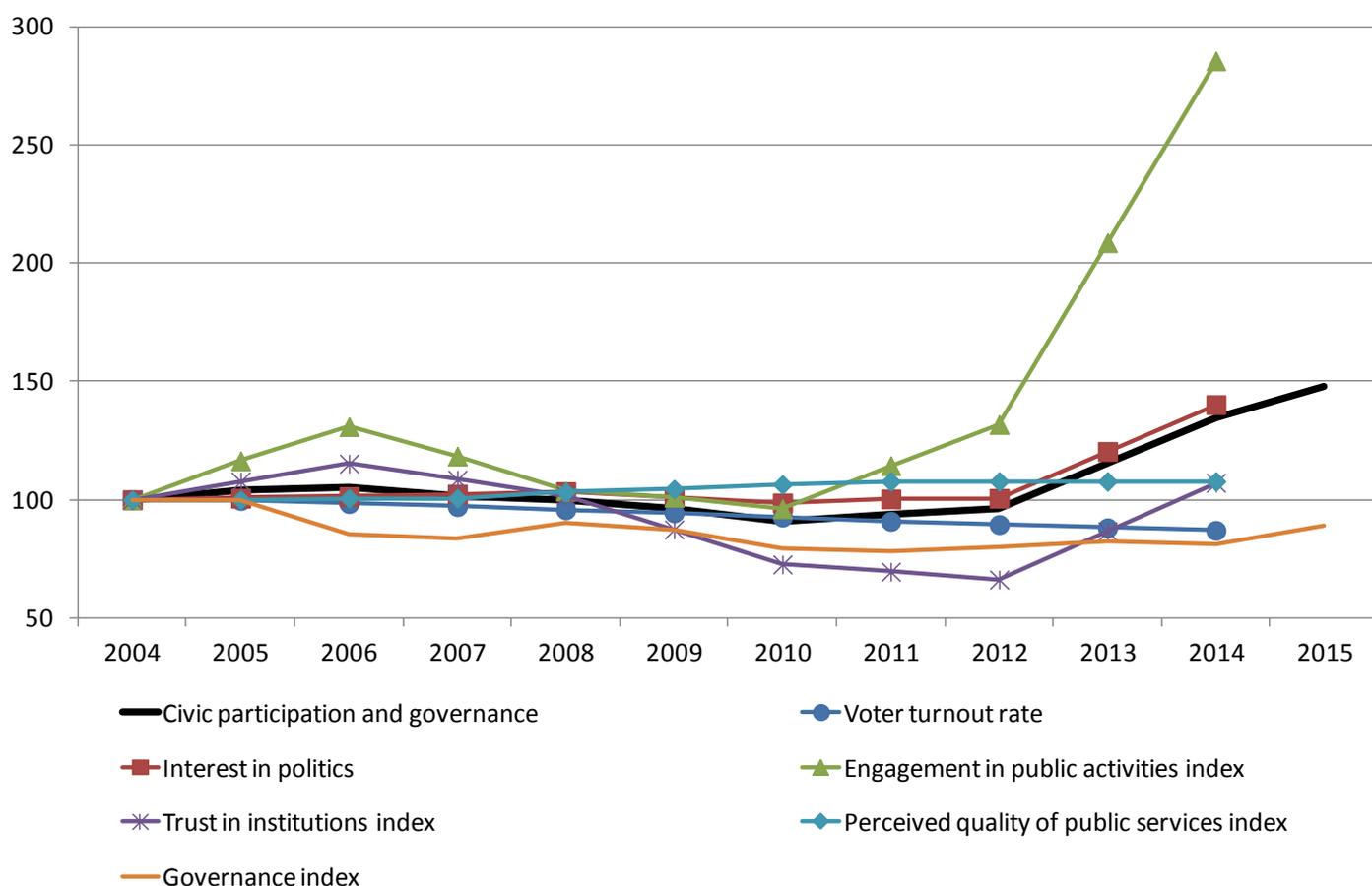


Figure 19 – Civic participation and governance and its indicators (2004=100)



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 13.6 percentage points in 2014 with a projected variation of 12.8 in 2015, 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. Indicators explaining the overall performance of this domain in 2014 showed high contrasts compared with 2004.

There was an increase in indices for the following indicators: "children and adolescents victims of crime" Well-being index – 2004-2015

(index 63.8 in 2014 and 58.4 in 2015) and "women victims of domestic violence" (index 81.4 in 2014 and 80.6 in 2015).

In turn, compared to 2004, there was a marked decrease in the incidence of reported homicides (index 180.0 in 2015, the same score as in the previous year) and registered crime rate (115.4 index in 2015, slightly worse value than the last year);

Also, the population's degree of trust in the police increased considerably between 2004 and 2014 (34.9 p.p.).

The comparison of average annual growth rates in the periods 2004-2008 and 2008-2013, distinguishes three types of evolution:

- The group of indicators showing an improvement between the two periods, going from a negative to a positive growth rate: recorded crime rate; Women victims of domestic violence; Proportion of people feeling safe when walking alone after dark;

- Secondly, the group of indicators whose evolution worsened between the two periods with two subgroups: the first includes child and adolescents victims of crime whose evolution is negative in both periods; and the second subgroup which has a lower growth in the second period compared to the previous: reported homicides and trust in the police.

The most recent evolution of the indicators of this domain, although showing opposite directions, projects for 2015, a slight negative change in the domain index.

Figure 20 - Well-being index, Quality of life and Personal security (2004=100)

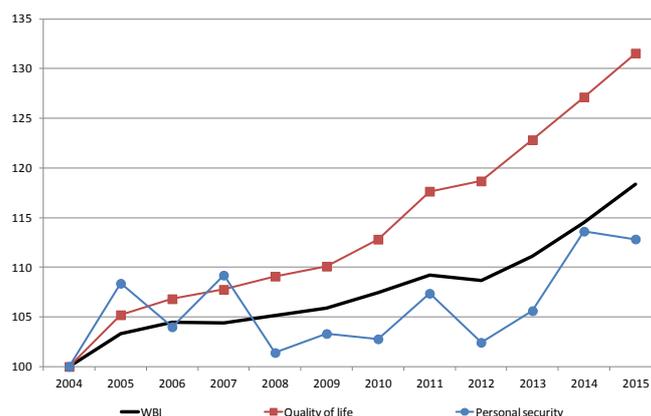
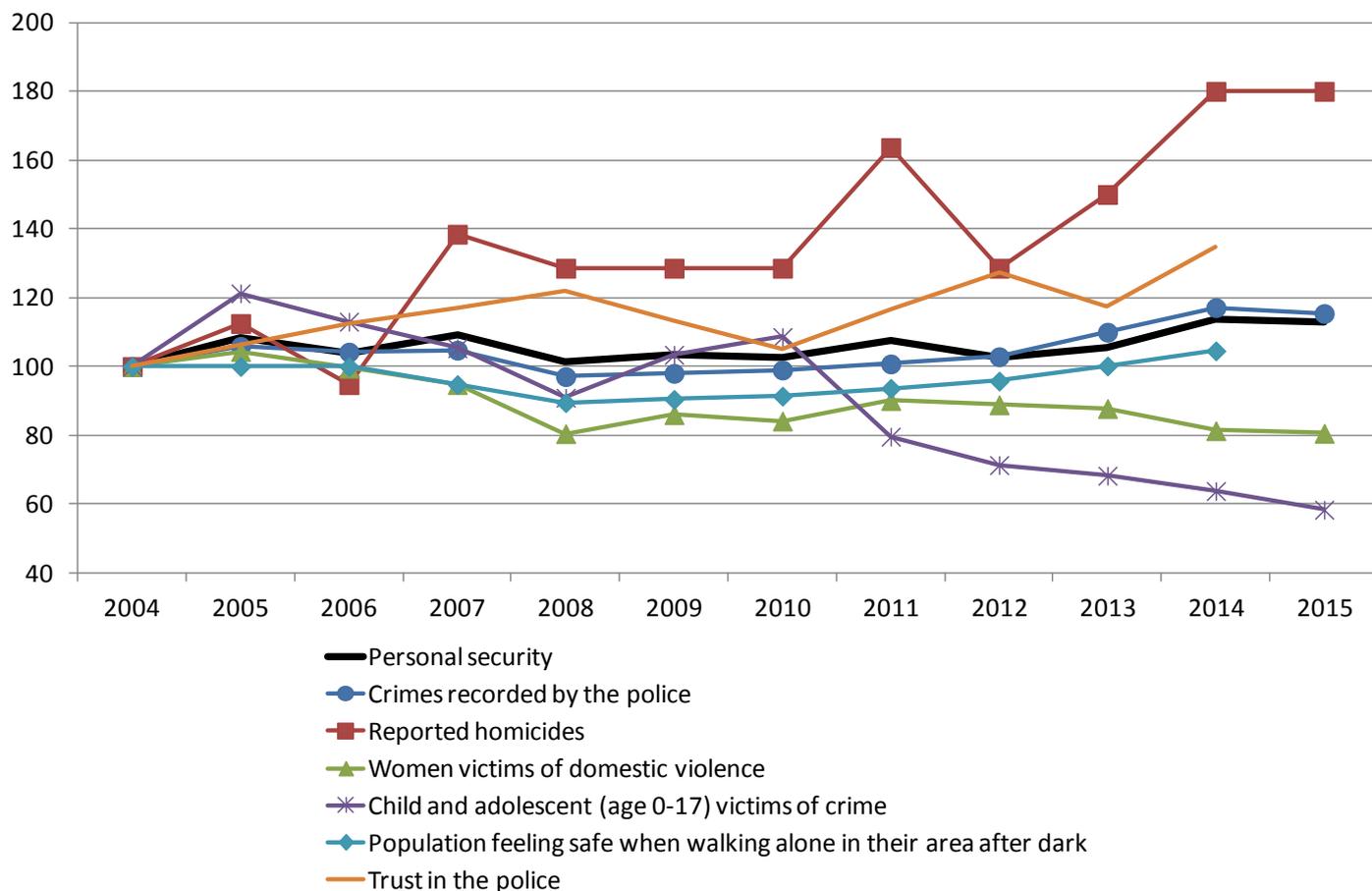


Figure 21 – Personal security and its indicators (2004=100)



Environment

Positive evolution recovered from 2013.

In the 2004-14 period, the index change in the environment domain was 28 percentage points. The environment was the well-being component with the third best performance. Preliminary data for 2015 keep that positive trend compared with the 2004 base year, with the domain's index at 129.1.

The lower growth was the index on the share of population reporting noise problems from the neighbourhood or surroundings of their living place, recorded the lowest growth with an annual average change rate of 0.5%;

The comparison of the evolution of the indices in the 2004-2008 period with the period 2008-2014, based on the average annual rates of change, defines three groups:

- The first one is composed of the indicators whose evolution worsened between the two periods: safe tap water; population connected to wastewater collection and treatment systems; population reporting environmental problems; and air quality index. The last indicator has particular importance, since it is the only one of this group that shows a positive trend in the first period and negative in the second one.
- The second comprises the indicators whose evolution has improved between the two periods: beaches with

Blue Flag; greenhouse gas emissions and urban waste landfilled. This last indicator is of particular importance since it is the only one of this group changing from a negative trend in the first period to a positive in the second one.

- Finally, the third group is only composed by the indicator for the population that reports noise problems in the vicinity of his residence, which features a similar trend in both periods (average annual change rate of 0.5% and 0.4%, respectively).

Figure 22 - Well-being index, Quality of life and Environment (2004=100)

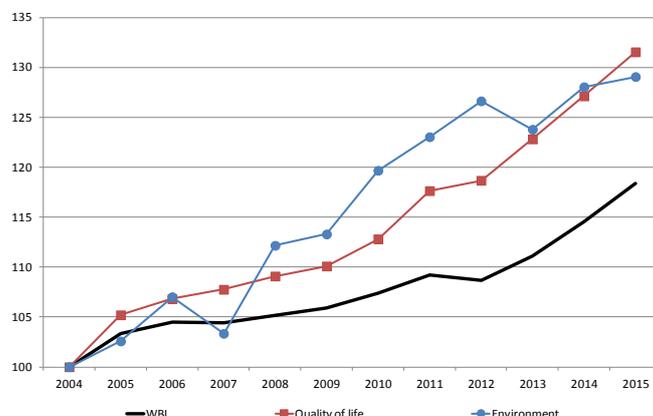
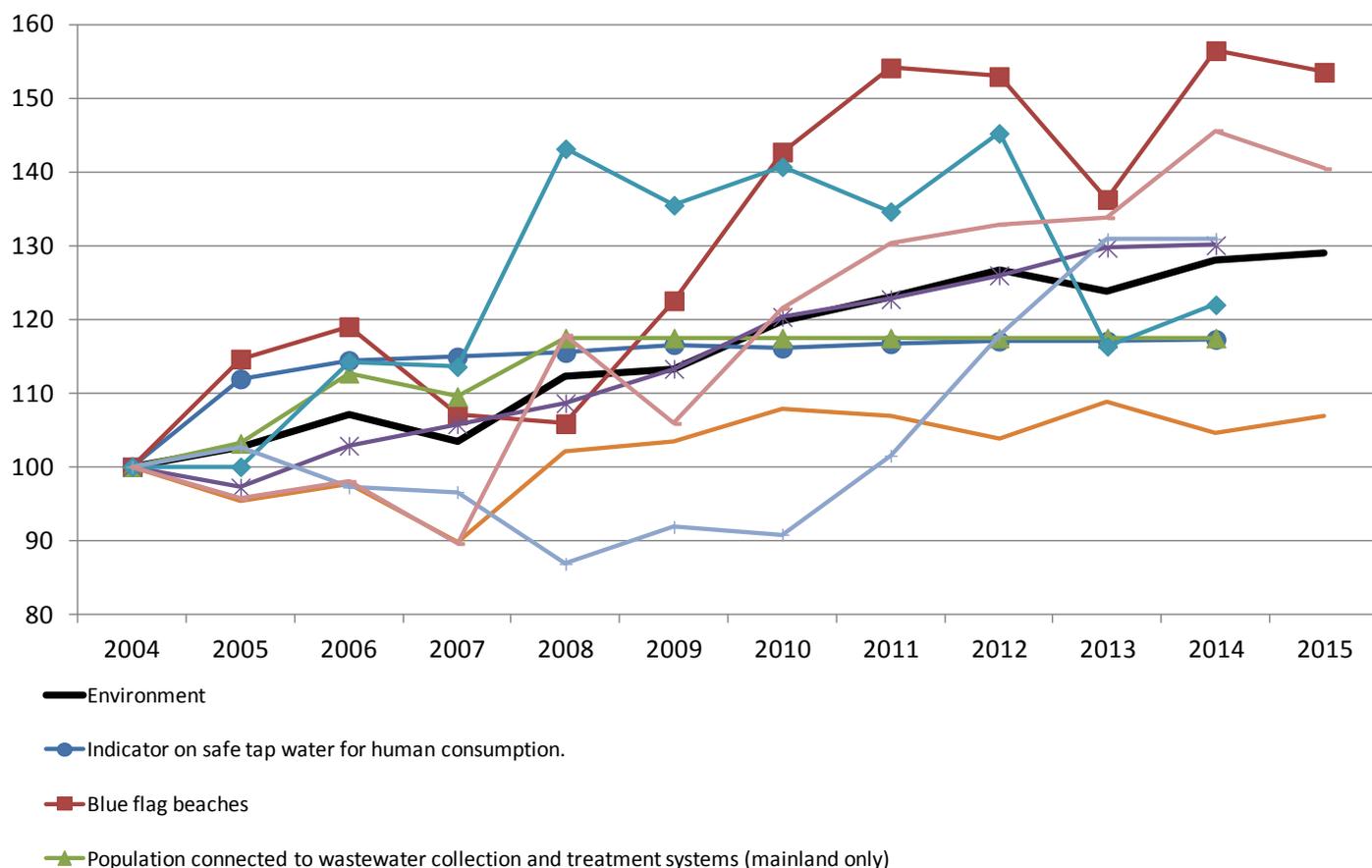


Figure 23 - Environment and its indicators (2004=100)



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 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Material living conditions | 0.0 | 0.0 | 0.0 | -0.1 | 0.0 | -0.1 | 0.7 | 0.7 | 0.2 | 1.4 |
| Quality of life | 0.0 | 0.1 | 0.0 | -0.1 | 0.0 | 0.1 | 0.3 | 0.5 | 2.9 | 4.3 |
| Well-being index | 0.0 | 0.1 | -0.1 | -0.1 | 0.0 | 0.1 | 0.4 | 0.6 | 2.3 | 3.6 |