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### **ABSTRACT**

We find expectations are more sensitive to economic growth than traditional wellbeing metrics. We examine Eurobarometer micro data from 1973-2023 on movements in life satisfaction along with data from 1995-2022 on five expectations variables on and individual's life and their financial and job situations plus their views on the economic and employment situation of their country in the year ahead. All of these expectations start to decline several months before the onset of downturns with especially large drops for the Great Recession and Covid. Annual GDP growth is positively associated with these expectations variables while it is uncorrelated with life satisfaction. The unemployment rate and the CPI reduce both. We analyze data for 29 European countries to predict changes in the unemployment rate 12 months ahead using individuals' fears of unemployment in the presence of country and year fixed effects and lagged unemployment. We also use firms' expectations of future employment, which are also predictive of what happens to unemployment three months later. Using our preferred model specification, we present out-of-sample predictions that track actual movements in unemployment rates closely over a period in which there were two major recessions and unemployment shifted by a factor of two.

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*“What can be added to the happiness of the man who is in health, who is out of debt and has a clear conscience?...But though little can be added to this state, much may be taken from it...Adversity, on this account necessarily depresses the mind of the sufferer much more below its natural state, than prosperity can elevate him above it.”*

Adam Smith, The Theory of Moral Sentiments, 1759. Section 3 Chapter 1.

The last two decades have seen economies around the world hit by three major global shocks. The first was the Great Recession of 2007-2009 that started in the US housing market. Then in 2020 the world was hit again by Covid19 and its associated lockdowns and disruption to supply chains. The World Health Organization estimated that there were 772 million cases: just under 7 million died.<sup>1</sup> Third a global inflation shock hit in 2021 due to Russia’s invasion of Ukraine and the resulting increase in oil prices and inflation globally.

Negative shocks impact physical and mental health. We know that increases in both unemployment and inflation lower wellbeing (Blanchflower, Bell et al 2014, El-Jahel, MacCulloch and Shafiee, 2021) but that effects of shocks vary across wellbeing metrics (Blanchflower and Bryson, 2023b). We also know that the precise way in which they do so has changed over time. Focusing on mortality and disease Ruhm (2015) notes, using data for the U.S. from 1976–2010 that *“total mortality has shifted from being strongly procyclical to being weakly related or unrelated to macroeconomic conditions.... fatalities due to cardiovascular disease and, to a smaller degree, transport accidents continue to be procyclical, whereas strong countercyclical patterns for cancer and some external sources of death (particularly accidental poisonings) have emerged”*.<sup>2</sup> According to the BLS in 2020 during COVID there were fewer workplace fatalities than in prior years.<sup>3</sup>

In this paper we look at the relationship between economic growth and wellbeing in Western and Eastern Europe. It is apparent that richer countries have higher levels of wellbeing than poorer countries. There is also evidence that happiness in more egalitarian countries such as Norway, Denmark, Sweden and Finland is especially high. This is a consistent finding reported in various World Happiness Reports (<https://worldhappiness.report>). However, we show that sustained economic growth translates into increased well-being in the ex-Soviet countries in Eastern Europe that joined the European Union. Economic growth also positively impacts wellbeing in Latin America. Rising GDP and rising well-being go together in the developing world, but not so much in the developed world.

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<sup>1</sup> <https://covid19who.int>

<sup>2</sup> In the US according to our calculations from the BRFSS (<https://www.cdc.gov/brfss/index.html>) surveys the number of (weighted) bad mental health days in the previous 30 days were 4.28 in 2019 to 4.26 in 2020 rising to 4.62 in 2021 and 4.92 in 2022. In contrast the number of bad physical health days in the last 30 (weighted again) fell from 4.06 in 2019 to 3.22 in 2020 before rising to 3.5 in 2021.

<sup>3</sup> According to the BLS Injuries, illnesses and fatalities program there were 5250 fatal injuries in 2018 5333 in 2019, 4764 in 2020 and 5190 in 2021 as well as in the number of illness and injury cases down from 2.81 million in 2019 to 2.65m in 2020 and 2.61 in 2021. <https://www.bls.gov/iif/#:~:text=News%20Releases,-Total%20of%20%2C190&text=There%20were%20%2C190%20fatal%20work,increase%20from%204%2C764%20in%202020>.

Following Easterlin (1976) who asked “*are the more developed countries typically happier?*” - the answer to which, of course, is an unequivocal yes – we examine variously measured changes in wellbeing for mostly rich Western and less rich Eastern European countries. Most countries that have joined the EU have experienced a rise in wellbeing. The exceptions are Greece and, to a lesser extent, Spain, which saw declines in wellbeing linked to rising and high unemployment.

Economic growth does not appear to have translated into higher happiness in rich countries, despite rising GDP. This is especially notable in the United States, where there is evidence from the General Social Survey that has been running since 1973 that 3-step happiness has been broadly flat, although it ticked up recently.<sup>4</sup> Well-being has declined in the U.S. among the least educated (Blanchflower and Oswald, 2004), and especially the prime aged non-graduates (Blanchflower and Oswald, 2015) who were notably susceptible to deaths of despair (Case and Deaton, 2020). Recently rapid decline in the well-being of the young - especially young women – means that those aged below 25 years have poorer mental health than older people. This is the case in both the U.S. and UK (Xu et al, 2023; Udupa et al., 2023) and in Australia (Botha, et al. 2023).

Although poor and rich countries’ wellbeing appears to respond differently to economic growth countries’ wellbeing rankings, as indicated by the United Nations’ Human Development Index, has changed little over time (Blanchflower and Byson, 2023b). In part this arises due to the use of three variables that vary little over time – education, life expectancy and GDP. A similar story applies to the country rankings obtained in the annual World Happiness Reports using Gallup World Poll data. In the 2023 report the three highest ranked countries were Finland, Denmark and Iceland.<sup>5</sup>

In part this arises due to the importance of individuals comparing themselves to others so that relative rather than absolute things matter (Luttmer, 2005). We show that a different story arises when we look at *expectations* about the future, both in terms of the way individuals feel their lives will unfold and in relation to broader macro-economic circumstances relating both to the economy and unemployment for the country where the respondent lives.

We find expectations are more sensitive to economic growth than traditional wellbeing metrics. Furthermore, we show expectations have predictive power at downturns: they start to decline several months before the onset of recession. We focus on expectations of the unemployment rate which predicts reasonably well the unemployment rate a year ahead. Consumer sentiment measures also do a good job of predicting US recessions called by the NBER Business Cycle Dating Committee (Blanchflower and Bryson, 2021, 2022b).

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<sup>4</sup> In the GSS respondents were asked Q1 - “*taken all together how would you say things are these days – would you say that you are very happy (=3); pretty happy (=2), or not too happy?*” The mean of this variable was 1.86 in 1972; and in 2008; 1.84 in 2012 and 2018 but rose in 2021 (2.03) and 2022 (2.01). The percent saying ‘very happy’ was 17% in 1972; 16% in 2008; 14% in 2012 and 2018 and 23% in 2021 and 2022.

<sup>5</sup> <https://worldhappiness.report/ed/2023/world-happiness-trust-and-social-connections-in-times-of-crisis/>

We make use of three main European datasets across 36 countries including 27 current members, candidate countries and one ex-member, plus Albania, Iceland, Montenegro, North Macedonia, Norway, Serbia, Switzerland, Turkey and the UK.

1) The Eurobarometer survey series from 1973-2023 containing 4-step life satisfaction and expectations. These are the micro data used to construct the 4-step life satisfaction in the World Database of Happiness. We merged 142 separate Eurobarometer surveys containing the same 4-step life satisfaction question and 51 separate surveys with expectation variables; the exact surveys are reported in the [Appendix](#). There are 2.9 million observations on life satisfaction and 1.3 million on expectations. These data have previously been examined by Blanchflower, Bell et al, 2014 and Blanchflower and Bryson, 2023b).

2) The Gallup World Polls for Europe of 2005-2023 which include data on Cantril’s 11-step ladder plus four other positive affect variables including one expectation (an 11-step life in five years, smiling, enjoyment, well rested) and five negative affect variables (pain, sadness, worry, stress, anger). There are approximately half a million observations. These data have previously been examined by Macchia and Oswald, 2023, Macchia, Delaney and Daly, 2023, and El-Jahel, MacCullough and Shafiee, 2021 and Blanchflower and Bryson, 2023a).

3) The EU Commission’s monthly Business and Consumer Surveys, 1985-2023 on EU countries covering consumers, industry, retail, services and construction. This has around 10000 monthly observations. For other studies using these data see, for example, Claveria (2023) and Sorić, Škrabić Perić and Matošec (2022). ([https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/business-and-consumer-surveys\\_en](https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/business-and-consumer-surveys_en)).

### 1. Happiness and life satisfaction

Blanchflower and Bryson (2023b) show that the two major macroeconomic shocks that occurred in the last two decades – the Great Recession and Covid19 lockdowns - had very little impact on most wellbeing measures such as life satisfaction and happiness. There are couple of major exceptions. Greece, which saw a dramatic rise in the unemployment rate to 27.5% in 2013 (comparable to the levels experienced in the U.S. in the Great Depression of the 1930s), saw a dramatic decline in happiness. Spain, which also experienced unemployment of that order saw a smaller, but still significant decline. Greece joined the EU in 1981 and Spain and Portugal in 1985. Based on a 4-step life satisfaction variable taken from the World Database of Happiness, based on the Eurobarometer survey series,<sup>6</sup> we can see how different their satisfaction responses were, noting that life satisfaction was always higher in Spain. In the case of Greece there was a sharp decline in mean life satisfaction from 2.7 in 2007 to 2.04 in 2012 versus a fall from 3.07 to 2.78 in Spain, followed by recovery in both, a decade later. Portuguese unemployment peaked at 18.6% in February 2013. For comparison purposes we report estimates for France where little changed.

	Greece	Spain	Portugal	France
1985	2.65	2.87	2.44	2.78
1995	2.44	2.83	2.56	2.79

<sup>6</sup> Q2. *How satisfied are you with the life you lead? - very satisfied - fairly satisfied - not very satisfied - not at all satisfied* very = 4 ..... not at all = 1.

<https://worlddatabaseofhappiness.eur.nl/equivalent-measures/4-step-verbal-lifesatisfaction-5/>

2007	2.70	3.07	2.54	2.97
2008	2.60	3.02	2.41	2.90
2009	2.44	2.88	2.43	3.07
2012	2.04	2.78	2.13	3.02
2017	2.24	3.02	2.77	3.02
2020	2.60	3.16	2.77	2.99
2022	2.72	3.05	2.86	2.93

Over time, with growing GDP, developing countries have seen a dramatic rise in their levels of wellbeing. We present evidence from a 4-step life satisfaction measure for Latin America and the Ex-Soviet East European republics in 2005 and 2020. The change is especially apparent for those with lower scores in 2005 and less so for those with higher scores such as Costa Rica and the Dominican Republic. This is illustrated in **Table 1** which also contains details of growth in GDP per capita taken from the World Bank Economic Indicators – GDP per capita adjusted for purchasing power parity (current international \$).<sup>7</sup> We simply expressed the 2020 level as a percent of the 2005 level over the fifteen-year period. It is notable that with only a few exceptions the Latin American and East European countries had higher growth rates than those from Western Europe.

Life satisfaction is available as an unbalanced panel for 36 countries from 1973 through 2023 (minus 1974) for the original EU countries of Belgium, France, Denmark, Ireland, Germany, Italy, Luxembourg, the Netherlands, Belgium. Data for Greece is available from 1981, Spain and Portugal; Austria, Finland and Sweden from 1995 from 1985. From 2004 there is data for Cyprus and Malta and for the A8 Accession countries - Czechia, Estonia; Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia and for the A2 of Bulgaria and Romania. Turkey, Turkish Cyprus, Croatia, which joined the EU in 2013. Northern Macedonia has data for 2007-2023; Montenegro from 2011; Serbia from 2012; Albania from 2014, Norway for 1991-1995, 2001 and 2021-2023 and Switzerland from 2021-2023.

**Charts 1-5** plot the life satisfaction time series for the fifteen major Western European countries using the World Database of Happiness life satisfaction data referred to above, and where there are multiple estimates by year, we average them. These data are derived from the Eurobarometer micro surveys we use below. Denmark has the highest level of satisfaction throughout and saw a strong upward trend with little or no decline in the 2007-8 Great Recession, rising from 3.46 in 1973 to 3.57 in 2023. Austria, Belgium, Ireland, and Sweden saw declines. Greece saw a big decline after the Great Recession but then had a steady pickup. **Chart 6** reports life satisfaction for Bulgaria, Poland and Romania from 2001, where there are obvious upward trends, although the levels remain well below other western countries.<sup>8</sup>

In **Table 2** we make use of the micro data from the Eurobarometer surveys and regress life satisfaction on age and its square, a gender dummy, full sets of year and country dummies plus measures of the annual change in GDP per capita (we call it GDP growth) plus the CPI and the

<sup>7</sup> <https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD>

<sup>8</sup> The latest numbers available for 2022 are Belgium=3.04; Bulgaria=2.56; Denmark=3.57; Finland=3.19; France=2.93; Germany=2.95; Greece=2.72; Ireland=3.11; Italy=2.73; Netherlands=3.49; Poland=3.02; Portugal=2.86; Romania=2.61; Spain=3.05; Sweden=3.33; UK=3.11 and Austria=3.08.

unemployment rate also taken from the World Bank's Economic Indicators. Standard errors are clustered at the country\*year levels. This differs from the approach taken in Blanchflower et al (2014) that also used Eurobarometer data for the period 1975-2013 but did not include a growth variable.

In row 1 of **Table 2** we include the overall sample and then restrict it to pre-2000 in row 2; then 2000-2010 in row 3 and 2011 and later in row 4. In all four instances the growth variable is not statistically significant. What does matter is the unemployment rate: it is large and negative throughout. CPI is negative and statistically significant pre-2000 but not thereafter. The country coefficients and rankings from the last model (for 2011-2023) are reported in the bottom half of the table. They are very similar to those usually found in the World Happiness Report and the HDI. Highest ranked are the Scandinavian countries and lowest are Romania and Bulgaria.

In these models, then, GDP growth has no impact on life satisfaction once inflation and unemployment are controlled for. But even if we exclude those two variables annual GDP growth is insignificant in all four equations.

We now turn to the expectations variables that are quite different and do show a major impact from GDP growth along with CPI and unemployment which makes more intuitive sense.

## 2. Expectations

In the 52 Eurobarometer micro surveys we pooled together respondents were asked about their expectations a year ahead. In some years (1995, then 1999-2023) they were also asked about their life satisfaction variable. The exact surveys included are reported in the **Appendix**. The question was as follows.

*Q3. What are your expectations for the year to come? Will the year be better (=3), the same (=2) or worse (=1) when it comes to*

*a) Your life in general? (Worse=15%; same=56%; better=29%)*

*b) The economic situation in our country? (Worse=34%; same=43%; better=23%)*

*c) The financial situation of your household? (Worse=21%; same=58%; better=22%)*

*d) The employment situation in our country? (Worse=34%; same=43%; better=23%)*

*e) Your personal job situation? (Worse=15%; same=64%; better=21%).*

Those respondents who say that the employment situation is set to worsen have lower life satisfaction (2.75) than those who say that prospects are the same (2.97) or better (3.12). Respondents tend to have lower expectations about the economy in general than they do about their own lives: around 15 percent report that they expect their life to worsen, or their job situation, whereas the figure is twice as high when asked about the economic situation or the employment situation of the country. In what follows we focus primarily on the employment situation question.

Using the 4-step life satisfaction means, based on question Q2 above, taken from 143 Eurobarometer files we pooled together. **Chart 7a** plots life satisfaction for 2023 by country against GDP per capita. There is an obvious upward slope. As noted by Easterlin (1974) the higher GDP per head the higher is happiness across countries. **Chart 7b** plots employment expectations for 2022 by country against GDP per capita. There is also an obvious upward slope.

In **Chart 8** we plot the percent saying that the employment situation next year will worsen, for seven countries – France, Belgium, Netherlands, Germany, Denmark, Ireland and the UK. **Chart 9** does the same for Greece, Spain, Portugal, Finland, Sweden and Austria. Trends are similar across countries with the series picking up sharply from 2007 and declining through to 2016 before picking up again from 2017, peaking in 2020 before falling again. Here shocks raise the fear of unemployment several months ahead of the event being measured in the quantitative data such as GDP and unemployment. The full sets of estimates by country and year are in **Supplementary Appendix 1**.

**Table 3** reports for the employment situation variable the percent saying ‘worse’, which jumped sharply in 2008 and again in 2020 in most countries. The main exceptions are Bulgaria and Portugal. The results are essentially the same if we include life satisfaction as a control. For example, when the equation in column 1 of **Table 3** is re-estimated life satisfaction is significantly positive and growth is significantly positive, and both CPI and unemployment rates remain negative and significant.<sup>9</sup>

**Table 4** conducts a similar exercise as done for life satisfaction but now for employment expectations. The results are quite different. We regress the employment expectation variable on age and age square, female, country and year dummies, in row 1 for the period 1995-2023, then split the analysis for early (1995-2010) and late (2011-2023) periods in rows 2 and 3. The GDP growth rate in all three cases is significantly positive. The CPI and unemployment rate variables are significantly negative overall and in the later period. The higher the growth of incomes the higher are job expectations.

Country rankings are also different for the later period from those using life satisfaction above. Denmark ranks highly and Bulgaria, Greece and Romania rank low, but expectations of job prospects improving are high now in several East European countries especially Albania and Montenegro as well as Spain. The finding that GDP growth enters significantly positive for employment expectations is confirmed in **Table 5** for the other four expectation variables. CPI and the unemployment rate are also significantly negative.

**Table 6** reports the coefficients for each Eurobarometer survey for both a life satisfaction and an employment expectation equation where the two variables were both in the relevant sweep. Because in some sweeps only one of the life satisfaction and expectations variables are available, we the sweep as a control but do not report the results in the table. It turns out that, as noted in Blanchflower and Bryson 2024, 2023c, simply using year dummies can miss the impact of a shock, which often has relatively short-lasting impacts of less than a year. There are a number of notable differences between movements in life satisfaction and employment expectations over the period. First, expectations shift more in the Great Recession: both life satisfaction and employment expectations fall in 2008 and 2009 but the coefficients are much larger in the case of expectations. Second, only expectations dip dramatically with COVID: life satisfaction remains fairly stable. Third, life satisfaction stays low after the Great Recession through to Spring 2014 whereas

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<sup>9</sup> Result is 1.8885 + 1.7600 (8.16) Growth -.0053 (4.22) CPI - .0038 (2.09) Unemployment + .1489 (47.71) Life, N=1278,857 with t-statistics in parentheses.



expectations rise quite quickly after the Great Recession, although they fluctuate quite a bit in 2011-2013. Fourth, both series are significantly above their 2007 level from late 2014 to late 2019. Finally both series pick up in 2021 despite COVID.

Finally, we turn to using the Gallup World Poll data for Europe in [Table 7](#) using ten wellbeing metrics, including pain, stress, worry, sadness and anger. GDP growth is only significant for sadness where it is negative.

So far we have found that life satisfaction and other wellbeing metrics are largely unresponsive to GDP growth and even recession, whereas expectations do shift with economic growth. In what follows we examine employment and unemployment expectations in more detail using similar questions from a different and unique cross European country dataset. Every month the European Commission produces sentiment measures from consumers and firms including expectations. These monthly estimates, going back to January 1985 for 33 countries, including all EU member states and candidate countries, and measure financial sentiment as well as on the economic situation, but for our purposes the question on unemployment is especially valuable. It is an unbalanced panel again with more observations on the original EU members and countries are added as they join the EU or apply to join, as with the Eurobarometers. The data from firms provide their views on employment over the next three and six months that match the consumer data closely. We concentrate particularly on the employment expectation data and show it has predictive power and usefully predicts the unemployment rate a year ahead.

We now move on to show that various employment expectation variables, from firms and consumers, which appear to closely match each other, are predictive of changes in the unemployment rate a year ahead.

### **3. Forecasting unemployment**

In recent years analysts seeking to predict economic slowdowns have turned to high-frequency qualitative survey data to capture the sentiments of labor market actors, consumers, suppliers and business agents. As we discuss below these data have been somewhat successful in predicting economic downturns, and rises in unemployment, suggesting they contain more information, or more timely information, than traditional data used to forecast economic outcomes. We argue that this is an instance of what Blanchflower (2007, 2021) termed “*the economics of walking about*”: economic actors on the ground who are close to economic transactions, possess more, or different, or more timely information than policy makers and statisticians operating ‘on high’ in centralized locations. By aggregating those perceptions to country-month or country-year means analysts are leveraging insights from “*the wisdom of crowds*” which, as Surowiecki (2005) noted, often produces more accurate assessments of situations than those offered by so-called ‘experts’.

We contribute to this literature using panel data for 29 European countries - Austria; Belgium; Bulgaria; Croatia; Cyprus; Czechia; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Ireland; Italy; Latvia; Lithuania; Luxembourg; Malta; Netherlands; Poland; Portugal; Romania; Slovakia; Slovenia; Spain; Sweden; Turkey and the UK between January 1985 and October 2022 to predict changes in the unemployment rate 12 months in advance based on individuals’ fears of unemployment, their perceptions of the economic situation and their own household financial situation. These qualitative survey data of individuals’ expectations about

unemployment, perceptions of the economic situation, and their household finances are fairly highly correlated, and also tend to accord with employers' perceptions of their workers' employment prospects over the coming months (in manufacturing, construction, services and retail), and with consumer expectations. Nevertheless, all these metrics are independently statistically significant in predicting subsequent unemployment patterns.

We focus on individuals' expectations as to what unemployment will be in the future – what we term their fear of unemployment - and firms' expectations regarding employment. We show that both predict subsequent changes in unemployment in the presence of country fixed effects and lagged unemployment.

The implication is that these social survey data are informative in predicting economic downturns and should be used more extensively in forecasting. These findings underscore the importance of the “economics of walking about” and suggest that global recessions such as the Great Recession are not simply sudden random shocks to the economy. Rather, they unfold gradually and can be predicted in advance with the right data. Of course, the COVID outbreak was unforeseeable – although some commentators such as Bill Gates envisaged a pandemic at some point, they could not have foreseen the timing and nature of the COVID pandemic.<sup>10</sup> And yet, as we show below, the qualitative survey indicators predicted a downturn in the global economy in advance, even in the absence of the pandemic.

With hindsight it seems the 2008 Great Recession was eminently predictable, especially after its onset in the United States housing market in 2006 and more broadly throughout 2007. It spread in similar ways around the world. In retrospect, it is hard to see why, when we had the data, the economics profession missed it.

We also focus on data on the fear of unemployment for 2022, the year when Russia invaded Ukraine. In the EU as a whole, as well as in half a dozen countries, especially Belgium, Denmark, Germany, Hungary, Ireland and Sweden – there was a big rise in fear without much movement in the contemporaneous unemployment rate. We show that these data are predictive of higher increases in the unemployment rate than predicted by forecasters and especially the European Union and the OECD.

#### **4. The Previous Literature Modelling Unemployment**

The plethora of data available to forecast and nowcast unemployment rates means analysts have spent increasing amounts of time on what is the optimal set of indicators in maximising the accuracy of predictions. In their work Claveria and colleagues (Claveria et al., 2017; Claveria et al., 2019a; Claveria et al., 2019b) use evolutionary computation techniques (a sub-field of Artificial Intelligence) to optimise their unemployment expectations metrics, as well as showing that the degree of correspondence in unemployment expectations across consumers also contains information increasing the predictive power of models estimating unemployment rates (Claveria, 2019a; Claveria, 2019b).<sup>11</sup>

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<sup>10</sup>[https://www.wsj.com/articles/bill-gates-coronavirus-vaccine-covid-19-11589207803?mod=tech\\_lead\\_pos2](https://www.wsj.com/articles/bill-gates-coronavirus-vaccine-covid-19-11589207803?mod=tech_lead_pos2)

<sup>11</sup> For further work examining the relative predictive power of economic sentiment metrics constructed in various ways see Gelper and Croux (2010).

There is also a very sophisticated literature, some of which is reviewed below, identifying the predictive power of models, usually based on out-of-sample prediction, accounting for serial correlation, the identification of structural breaks in series and other issues. These are mostly in relation to annual time series data that are subject to aggregation and missing variable biases.

Berge and Jorda (2011) examine the impact of PMIs, the Conference Board's Index of ten Leading Indicators as well the Federal Reserve Bank of Philadelphia's Business Conditions Index, the Chicago Federal Reserve Bank's National Activity Index and a LexisNexis news-based index in determining NBCDC turning points from 1950 through 2010. They use a ROC (receiver operating characteristic) curve methodology to assess the predictive power of these metrics. They find they have some predictive value, but that there are trade-offs between predicting upturns and downturns when it comes to reasonable false positive and negative rates.

Estrella and Mishkin (1998) focus on the predictive capacity of financial variables for US recessions (although their models do incorporate expectations data from the University of Michigan surveys). They find the financial variables are a useful supplement to those variables used in traditional forecasting.

Lagerborg et al. (2020) use mass shootings in the USA as a shock to sentiment to examine whether such shocks to sentiment feed through in explaining turning points in business cycles. They find a causal impact of changes in sentiment on business cycle turning points in the USA where confidence is measured using the Michigan data - one of two data sources for sentiment we use in this paper. The Lagerborg et al (2020) paper is important in establishing the direct causal impact of changes in sentiment on the business cycle. However, this is one of two ways in which sentiment can be predictive of economic outcomes in future. The second – which we call *the economics of walking about* - is that economic actors on the ground possess information about economic trends, and thus the future, based on their knowledge of economic transactions that they and their networks participate in. In the economics of walking about sentiment captures information that is unobserved by forecasters. It does not require sentiment to have a causal impact, though of course it does not preclude the possibility that changes in sentiment may themselves causally impact business cycles.

Using pooled data from the EU's harmonized Business and Consumer Surveys - which we use below - Sorić et al. (2019) assess which sentiments are best able to predict consumers' unemployment expectations over the period 1998 to 2018. They find major purchases and savings for the next 12 months are the survey variables with the highest predictive power for future unemployment while perceptions of the financial situation and price trends in the last 12 months are best at predicting current unemployment expectations. They also match in news about inflation, production and stock market movements to see how these predict unemployment expectations. They find individuals react asymmetrically to good and bad news: the response of consumers' unemployment expectations is stronger in relation to bad news.

Kirchgässner (1982, 2005) pointed to the value of qualitative data in predicting GDP growth using German data. Some work identifying the correlation between public sentiment and subsequent economic growth goes back even earlier (Noelle-Neumann, 1980; Steinbuch, 1980).<sup>12</sup>

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<sup>12</sup> We thank Klaus Zimmermann for bringing these references to our attention.

In contrast to most EU countries, Germany saw no major increase in unemployment after the Great Recession. This seeming decoupling of the labor market from the business cycle prompted Hutter and Weber (2015) to forecast movements in Germany's unemployment rate using qualitative data from the CEOs of the Federal Employment Agency's (FEA) regional employment agencies. They find that the inclusion of CEO expectations about changes in unemployment in the coming three months substantially improved the accuracy of their out-of-sample predictions of the aggregate unemployment rate 1, 2, 3 and 6 months later relative to benchmark estimates without the qualitative survey information.

Intriguingly the authors note “*only few resources seem to be invested in searching and finding a leading indicator that directly aims at signaling unemployment changes in the short run. As a consequence, there is little literature on forecasting German unemployment*” (p. 3541). They cite Schanne et al. (2010) who use spatial GVAR models to forecast unemployment for the 176 German labor market districts, and Askitas and Zimmermann (2009) who propose using internet activity to forecast German unemployment. The latter is a particularly interesting idea during a pandemic when nobody was doing much walking about due to lockdowns.<sup>13</sup>

However, the accuracy rate of the CEO Agency predictions fell during the Great Recession because respondents were too pessimistic about unemployment prospects. The authors also test the predictive capacity of consumers' unemployment fears using the same EU European Business Cycle indicator series we discuss below which asks about expectations regarding changes in unemployment over the coming 12 months. This performs less well, but this is likely due to the focus on short-term forecasts. The authors note that other qualitative survey items such as the IFO employment barometer perform well as a leading indicator for actual employment changes (Abberger, 2007).

Spain's economy witnessed a substantial and sustained increase in unemployment in the Great Recession, thus conforming to standard expectations as to what happens in the labour market when output plummets. Vincente et al. (2015) estimate models which predict monthly change in unemployment rates in Spain over the period 2004 to 2012. They incorporate an Employment Confidence Indicator (ECI) based on industry regarding the current employment situation and expectations three months hence to capture the demand side of the labour market. To capture the supply-side, they include Google trends in searches for job vacancies. Their paper reviews the growing literature using Google search data to predict a variety of outcomes including house prices, inflation, tourist flows, and retail sales (see p.133). Their variables are statistically significant and improve the predictive power of their models.<sup>14</sup>

Smith (2016) argues that Google Trends data has an advantage over survey data in terms of its timeliness, with weekly information providing more options for short-term forecasting – or 'nowcasting'. He emphasises the importance of term selection and their aggregation in constructing good predictive models. He predicts three-month changes in the ILO definition of unemployment rates in the UK between 2007 and 2014 using a composite index based on terms around the word 'redundancy' to capture flows into unemployment, together with other Google terms. Smith's

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<sup>13</sup> The Economics of Walking About (EWA) became the Economics of Walking About the Internet (EWAI).

<sup>14</sup> The introduction of a structural break in March 2008 improves the estimation.

models also incorporate data from surveys of business and consumers including business employment expectations from the Bank of England's Agents Survey and consumer expectations regarding unemployment over the next 12 months.<sup>15</sup> The qualitative survey metrics perform well in predicting unemployment changes, as do some carefully chosen Google indicators, particularly during 2009-2012. However, predictions have been less accurate since 2012.

## 5. Forecasting Unemployment Rates After the Great Recession and COVID

Blanchflower (2008) at the end of April 2008 examined qualitative data for the US and the UK and suggested that these were predictive of recession in both countries. As an example, he argued that "*the US seems to have moved into recession around the start of 2008*" and later "*developments in the UK are starting to look eerily similar to those in the US six months or so ago.... Generally, forecasters have tended to under-predict the depth and duration of cyclical slowdowns.*" The qualitative data included consumer confidence data from the University of Michigan and The Conference Board in the USA and the Nationwide Consumer Confidence index and three components of the EU Commission's consumer confidence surveys, conducted for them in the UK by GFK (<https://www.gfk.com/en-gb/products/gfk-consumer-confidence-barometer>).

The unemployment rate started rising in the US in June 2007 (Blanchflower and Bryson, 2022), in Germany in November 2008, in France in July 2008, in Italy in September 2008 and in the UK in May 2008, well after the rise in the fear series.<sup>16</sup> Although the United Kingdom experienced a hike in unemployment in the Great Recession it was not as large as some had anticipated, in part because there was a slower job destruction rate than expected (Bryson and Forth, 2016).

When we look at the predictive power of unemployment expectations below, we lag them twelve months in explaining the current unemployment rate, and they work well: more fear now, more unemployment later. Consumers' fear reflects the fear expressed by manufacturing employers regarding what their plans are for employment in the months ahead. Even after the collapse of Lehman Brothers in September 2008 policymakers seemed to have little idea what was happening in the labor market. Some even appealed to the Almighty.<sup>17</sup>

The first three columns of **Table 8** report the unemployment rate annual forecasts of the European Commission (EC) in the autumn of 2008. In addition, in parentheses, we report the actual unemployment rates reported by Eurostat which were published in 2022. In almost every case the

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<sup>15</sup> The MIDAS regression methodology outlined on p. 275 seeks to handle the fact that the unemployment data are available monthly whereas the Google predictors are available weekly.

<sup>16</sup> For the EU the SA unemployment rate in 2008 was 7.2% in January, falling to 7.0% in March then rising to 7.2% from June to August; 7.3% in September; 7.4% in October and 7.9% in December. It peaked at 11.5% from January-May 2013. The fear of unemployment series started rising steadily from a low of 0.8 in July 2007 reaching 27 in September 2008 and a peak of 69 in March 2009.

<sup>17</sup> On September 28, 2008, the Governor of the Bank of England Lord Mervyn King was giving testimony to the Treasury Select Committee at the House of Commons and was asked a question on unemployment. **Q102 Mr Love:** "*On unemployment there have been some suggestions...that it may go up faster than the projections in the Inflation Report. Is that a worry to you? ....*

**Mr King:** "*.... I do not think we really know what will happen to unemployment. At least, the Almighty has not vouchsafed to me the path of unemployment data over the next year.*"

The unemployment rate went up over the next 12 months from 5.5% to 7.9%.

<http://www.publications.parliament.uk/pa/cm200708/cmselect/cmtreasy/1033/8091107.htm>

Commission underestimated the rise in the rate, especially in 2010. The main exceptions are Belgium and Germany in 2010 where the EC forecast was lower than the actual rate.

The EC forecasts severely underestimated unemployment rates in 2010 in seven ex-Communist countries - Bulgaria, Croatia, Estonia, Hungary, Latvia, Lithuania, Slovakia – and four Western European countries (Ireland, Greece, Portugal and Spain) which experienced double digit unemployment rates in that year. Annual unemployment rates were over twenty percent in Spain from 2011-2015 and in Greece from 2012-2017.

The final four columns are the most recent EC unemployment rate forecasts for the years 2021-2024 which were published on 11<sup>th</sup> November 2022. They forecast stable, moderate unemployment despite the Federal Reserve and the Bank of England having raised rates sharply in 2022 after a burst of inflation mostly driven by supply shocks related to the Covid lockdowns and the Ukraine war. The ECB raised rates by 50bp on 27<sup>th</sup> July; 75bp on 14<sup>th</sup> September and 2<sup>nd</sup> November and by a further 50bp on December 15<sup>th</sup>, 2022, to 2.5%.<sup>18</sup> The implication is that the EC seems to believe there will be a “soft-landing”, with little or no rise in unemployment rates, just as was the case in 2008, fourteen years earlier. However, forecasts in 2008 proved inaccurate and, as we show below, a spike in the fear of unemployment in 2022 suggests they will be wrong again in 2023-2024. This is what is suggested in **Table 9** which reports changes in what we call the fear of unemployment expressed by both consumers and firms in 2008 and 2022.

The question asked of consumers is:

*Q4. How do you expect the number of people unemployed in this country to change over the next 12 months? The number will...*

*+ + increase sharply (PP)*

*+ increase slightly (P)*

*= remain the same (E)*

*– fall slightly (M)*

*– – fall sharply (MM)*

*DK (N)*

Based on the distribution of responses to the question we construct an aggregate balance based on the proportions giving different answers. Hence  $PP+P+E+M+MM+N=100$ . Balances are the difference between positive and negative responses, measured as percentage points of total answers. The score is calculated as  $B = (PP + \frac{1}{2}P) - (\frac{1}{2}M + MM)$  which means the scores can vary between -100 and +100.

Industrial firms are asked how they expect employment at their firm to change over the next three months based on Q3 below.

*Q5. How do you expect your firm’s total employment to change over the next 3 months? It will...*

*+ increase (P)*

*= remain unchanged (E)*

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<sup>18</sup> <https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.mp221215~f3461d7b6e.en.html> and [https://www.ecb.europa.eu/stats/policy\\_and\\_exchange\\_rates/key\\_ecb\\_interest\\_rates/html/index.en.html](https://www.ecb.europa.eu/stats/policy_and_exchange_rates/key_ecb_interest_rates/html/index.en.html)

– decrease ( $M$ )

And the score is simply  $B = (P - M)$ . In this case, a positive number corresponds to expected growth in employment, whereas a negative number indicates expected employment reductions, so a negative sign for industry fear is equivalent to a positive sign for consumer fear in denoting an expected deterioration in the labour market.<sup>19</sup>

**Table 9** summarizes the EU Commission data presented in **Supplementary Appendix Tables 2-5**. It reports the difference within-year-within-country peak and trough in monthly expectations in 2008 and 2022 by the EU Commission for consumer expectations (columns 1 and 2) and industry expectations (columns 3 and 4) respectively. Consumers report expectations of unemployment so when the economy slows then this variable rises. In contrast firms provide expectations of employment and so when the economy slows this variable declines.

The large positive numbers in column 1 and large negative numbers in column 3 indicate that there was considerable fear of unemployment during 2008 on both the consumer and firm sides respectively. These measures, along with other collapses in qualitative measures such as PMIs and consumer confidence through 2008 were predictive of rises in unemployment and falls in output (Blanchflower, 2008). Central banks around the world including the Federal Reserve and the Bank of England, the ECB and the European Commission were overly optimistic especially in unemployment rates and GDP in 2008.

**Chart 10** plots the fear of unemployment series for the European Union monthly from 1985. It has four major peaks – 1992, 2003, 2008 and 2020. The chart also includes the employment expectations variables reported by firms in construction, industry, retail and services which look like the mirror image of the fear of unemployment variable. In bad times unemployment expectations rise and employment expectations fall. It is also notable how closely the series track one another. All five series started to rise sharply from 2007. **Chart 11** shows for the EU from 2000 that upward movements of the fear variable appear to precede increases in the unemployment rate.

## 6. Monthly time series econometrics

We adopt a relatively simple descriptive approach to establish the extent to which lagged expectations regarding economic conditions predict country-level unemployment rates (up to 12) months later. In doing so we distinguish the expectations of individuals and consumers from those of producers/employers. We then show that our models containing consumer and producer expectations make accurate out-of-sample predictions about subsequent unemployment rates.

As well as country pooled models we run separate country models to establish the relationship between survey expectations and subsequent unemployment rates for each country. In these panel data the country fixed effects pick up the fixed institutional differences across countries such as home ownership, union membership rates, benefits and other variables as we do not have them by month, year and country.

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<sup>19</sup> There are similar questions for firms in services, retail, and construction.

Our survey expectations data items are ordinal, in keeping with much of the literature. Our major focus here is on the 'fear' of unemployment (Blanchflower, 1991; Blanchflower and Shadforth, 2009) expressed not just by workers but based on a sample of working and non-working adults. The fear variable tracks consumers' expectations of changes in the number of unemployed a year ahead.

We call this consumer variable **the fear of unemployment**. At first glance one might think the fear of unemployment might be related to the feeling of job insecurity, especially if one adopts the insecurity metric proposed by Nickell et al. (2002) which is based on expectations of job loss and the costliness of job loss. Of course, only those in paid work can describe how secure they feel that work is, whereas all are able to speculate about possible changes in the number of unemployed in the country. It is the case that job insecurity moves cyclically (Manning and Mazeine, 2022) but in a conceptual way the metrics are quite different since perceptions of job insecurity are couched in terms of one's feelings about one's own prospects, whereas the fear of unemployment metric relates to the whole economy over the coming 12 months.

The role we find below for the fear of unemployment matches that in our recent work for the United States (Blanchflower and Bryson, 2022a) where we also found a predictive role for fear of unemployment in an unemployment rate equation. Data were used from the University of Michigan Sentiment Index and the question used was:

*Q6. How about people out of work during the coming 12 months -- do you think there will be more unemployment than now, about the same or less?*

The proportion saying 'more' was included in a 515 observation, month\*year, regression of the unemployment rate, together with unemployment twelve-month lagged along with a full set of month and year dummies for the period 1978-Nov 2021. A twelve-month lag on this fear variable was found to enter significantly positively.<sup>20</sup>

We mapped into that file the country\*month unemployment rate, which is our main dependent variable, taken from Eurostat (<https://ec.europa.eu/eurostat/web/lfs/data/database>).

We have 10,510 observations from consumers on the fear of unemployment variable available for 454 months for 37 years\*12 months from January 1985 through October 2022. The data cover 29 countries in an unbalanced panel. We only have monthly unemployment rates for 9,736 of these country\*year cells. The numbers of monthly observations by country are as follows: Austria (325); Belgium (454); Bulgaria (258); Croatia (210); Cyprus (258); Czechia (334); Denmark (454); Estonia (310); Finland (418); France (454); Germany (382); Greece (295); Hungary (322); Ireland (454); Italy (453); Latvia (258); Lithuania (258); Luxembourg (250); Malta (240); Netherlands (454); Poland (258); Portugal (437); Romania (228); Slovakia (283); Slovenia (320); Spain (437);

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<sup>20</sup> The regression in their Table 7 was  $.5942 (18.87) \text{ unemployment rate}_{t-12} + .0535 (10.69) \text{ feart}_{t-12} + .6916$ , with t-statistics in parentheses. Data is available from Table 30 here <https://data.sca.isr.umich.edu/data-archive/mine.php>



Sweden (325); Turkey (175) and United Kingdom (432). The responses to the fear variable collapsed by year as an average of the twelve months, are reported in [Appendix Table 6](#).<sup>21</sup>

We first turn to a series of charts for Europe that set out the extent to which the various qualitative series appear to be predictive of unemployment in the Great Recession. They are a precursor to the econometric analyses presented below. What is striking is the consistency of the evidence by country and measure - whether it is from consumers or industrial firms. All moved down together pre-2008. There is also some evidence that there was a rising fear of unemployment in Europe from around 2017 that predicted slowdown.

[Chart 12](#) is the starting point for our analysis of the European fear of unemployment data. We focus on the UK initially. Recall, the fear variable asks people to predict what is going to happen to unemployment in the coming 12 months, so we are comparing people's predictions with the actual unemployment outturn 12 months later. As we show below in individual country regressions a twelve-month lagged fear variable enters significantly and positive in a majority of individual country unemployment equations. [Chart 12](#) for the UK shows a steady rise in fear from around 1998 and then from early 2008. Also notable is the rise in the series from around the start of 2005 and the subsequent rise in unemployment from the end of 2014. Taken together the charts provide very powerful descriptive evidence of the predictive power of these qualitative surveys. Now we turn to the econometrics.

We estimate unemployment rate equations that contain a lagged dependent variable, time dummies, country dummies, and unemployment expectations from consumers and employers. Previous research indicates that it is hard to get anything to be significant in the presence of year and country/state fixed effects and a lagged dependent variable in such equations. In the United States Blanchflower and Bryson (2021) found that union density was insignificant, while long lags, up to five years, on home ownership seemed especially important.

[Table 10](#) reports estimates for country unemployment rates by month where the right-hand side variables include the unemployment rate lagged 12 months and the twelve-month lagged consumer fear variable. In the first column year, month and country dummies are excluded and then they are added in turn in columns 2-4. In all four models the fear of unemployment variable is highly significant and positive. The 12-month lagged unemployment rate is positive and highly statistically significant with a coefficient of around .9 across all six models. The coefficient is nearly identical to the lagged unemployment coefficient reported in Nickell et al. (2005: Table 5) for OECD countries in the period 1966-1995.

In [Table 11](#) we split the sample into three time periods, with the same controls as in column 2 of [Table 10](#). In all three periods the fear of unemployment is positive and statistically significant positive. In the first and last periods the coefficients are around 0.03, rising to .04 in the pre-Great Recession period.

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<sup>21</sup> Fear data is available through Nov 2022 although unemployment rates are only available through October 2022. The survey stopped at the end of 2020 in the UK after Brexit so there are no observations from January 2021 onwards. We don't have unemployment rates for Germany pre-1991; Belgium pre-1987; Estonia pre-2000 and Greece and Latvia pre-1998. Fear is missing for Italy in April 2020.

In **Table 12** we estimated separate unemployment regressions for 29 countries for the period 1985-2022. The lagged consumer fear of unemployment variable is significantly positive in 18 of the 29 countries. - Czechia; Denmark; Estonia; France; Germany; Hungary; Ireland; Latvia; Lithuania; Luxembourg; Netherlands; Poland; Portugal; Romania; Slovakia; Spain; Sweden and the UK.

**Table 13** replaces the consumer expectations of unemployment with industry expectations of employment three months hence. We therefore include a three-month lagged unemployment rate variable. As we add month, country and year dummies the coefficient on industry fear remains robustly negative and statistically – lower expectations predict higher unemployment. With a full set of dummies, it has a coefficient of -.0165 and a t-statistic of twenty-three.

**Table 14** presents separate unemployment regressions for 29 countries with the industry fear variable, together with month, year and country dummy. The fear variable is significantly negative in twenty-three of the 29 countries.

In **Table 15** we include both the industry and consumer fear measures together with three and twelve-month lags in the unemployment rate. Both fear variables are highly significant with little change in the coefficients -.02 for the industry variable versus -.017 - but a bigger change for the consumer variable from .027 in **Table 10** to .0075.

In the final column we add variables controlling for the respondent's financial situation as well as of the country over the last year. We also include a lagged inflation variable. All three are significantly negative. Interestingly, the higher perceived inflation last year the *lower* the unemployment rate to come. The questions used are as follows.<sup>22</sup>

*Q7. How do you think the general economic situation in the country has changed over the past 12 months? It has...*

- + + got a lot better*
- + got a little better*
- = stayed the same*
- got a little worse*
- - got a lot worse*
- N don't know*

*Q8. How has the financial situation of your household changed over the last 12 months? It has...*

- + + got a lot better*
- + got a little better*
- = stayed the same*
- got a little worse*
- - got a lot worse*
- N don't know.*

*Q9. How do you think consumer prices have developed over the last 12 months*

- + + risen a lot*
- + risen moderately*

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<sup>22</sup> Details are here [https://economy-finance.ec.europa.eu/system/files/2022-12/bcs\\_user\\_guide.pdf](https://economy-finance.ec.europa.eu/system/files/2022-12/bcs_user_guide.pdf)

= *risen slightly*  
– *stayed about the same*  
– – *fallen*  
*N don't know.*

The final column contains a composite employment expectations index produced by the European Commission covering the four surveys – construction, retail trade and services as well as the industry survey. Because it combines four surveys together there are fewer observations than column 4 due to missing values. It is significantly negative.

## 7. Out of Sample Forecasting of Unemployment Rates

In the estimation presented in Section 6 it is apparent that both consumer expectations of unemployment 12 months hence, and producers' expectations of unemployment 3 months later, are predictive of subsequent unemployment.

In this section, we consider how good our models are at forecasting using out-of-sample prediction methods. The aim is to establish how useful the two fear variables are at predicting unemployment-inducing recessions. In our data we have two. The first was the Great Recession in 2008 that was missed by almost all forecasters and especially by central banks. The second is the COVID-induced recession which initially led to relatively small changes in the unemployment rate in all EU countries. The main forecasting bodies – the EU Commission and the OECD - are suggesting little rise in unemployment in 2023 despite rate rises and high energy prices, driven by Covid supply constraints and the war in Ukraine.<sup>23</sup>

To obtain our out-of-sample predictions of mean unemployment year-on-year in our data we ran our preferred model specification (Table 15, column 1) containing consumers' and producers' fear of unemployment in the coming period, together with unemployment rates lagged 3 and 12 months, together with month, year and country fixed effects, on 1,000 random subsamples of the data to produce predicted unemployment rates.<sup>24</sup> For each year we constructed the gap between actual mean unemployment and the mean out-of-sample prediction under the model. The results are presented in Chart 13. Trends in the mean prediction and mean observed unemployment rates are presented in Chart 14.

In the early years the model tends to over-predict the actual unemployment rate by between 1 and 2 percentage points but this begins to change in the late 1990s such that the model under-predicts unemployment by 1 percentage point at the turn of the Century. From 2002 onwards the predictions track actual unemployment very closely indeed, with the predictions well within half a percentage point of actual unemployment. Across the whole period mean unemployment rates across Europe are 8.56 percent, while the predicted rate is 8.88 percent. What is remarkable is the model's ability to track changes in unemployment rates through the two major downturns – the

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<sup>23</sup> [https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/economic-forecasts/autumn-2022-economic-forecast-eu-economy-turning-point\\_en#forecast-for-countries](https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/economic-forecasts/autumn-2022-economic-forecast-eu-economy-turning-point_en#forecast-for-countries)

<sup>24</sup> Having set a random seed to generate the random samples our code loops through the data rerunning the same regression on 1,000 random subsamples of the data, producing predicted unemployment each time. Each prediction is saved then aggregated to construct the mean predicted unemployment rate which is then plotted by year against the actual observed rate. The gap plotted in Chart 11 is simply the mean predicted unemployment rate in a given year minus the mean observed unemployment rate in that year.

Great Recession and COVID-19 – when the rate varied by a factor of two. This seems particularly impressive. In our view if central banks had been using these methods, they would have spotted the Great Recession many months before they did.

## 8. Discussion and Conclusions

We examine changes over time in life satisfaction and individual reports of their expectations for the year ahead from the Eurobarometer survey series for 35 European countries. We find that GDP growth has little or no direct impact on life satisfaction, but it raises expectations while both are reduced by CPI and unemployment rates. We found that the five expectation variables declined sharply in the Great Recession. The decline was greater for the two expectations variables referring to the economy and employment than for expectations of their lives and their financial situation.

We then examined data from the EU Commission on consumers' view on what they expect to happen to unemployment rate in the next twelve months. The analyses presented here indicate that the attitudes and expectations of economic actors – individuals in the labor market and the suppliers of goods and services – contain information that can help analysts predict economic downturns up to 12 months in advance. These data, which are readily collected in social surveys, purchasing manager surveys and by agents such as those working for the Bank of England, have a number of advantages over other survey series. First, they can be collected in real time and with high frequency (monthly in the data we present), thus providing timely insights into how economic actors are viewing the economy. At the time of writing, December 2023, the data from the EU Business and Consumer Surveys analyzed above is available through to November 2023.<sup>25</sup>

Second, these sentiment data permit country-level panel analyses by month. Because they are high-frequency, as are the unemployment data used as our dependent variable, we can estimate country-level models with greater degrees of freedom than estimates that are reliant on quarterly or annual data. The qualitative data have the advantage that they are timely and don't get revised.

Third, they are accurate at the time of data collection and are thus not subject to retrospective revision which plagues most macro-indicators. Fourth, these data on attitudes and expectations appear better able to predict economic downturns than other data series than standard economic variables like GDP or the unemployment rate. To emphasize just how powerful they can be, fear rose in all of our 29 European countries in the first half of 2008, as shown in [Table 2](#), prior to the Great Recession. Perhaps more surprising is the rise in the fear of unemployment prior to the outbreak of the COVID pandemic, suggesting recession may have been in the offing even in the absence of the pandemic. This was the case between 2018 and 2019 in 11 of our 17 Western European countries and 6 of our 11 Eastern European countries.

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<sup>25</sup> Business and Consumer Surveys Time Series [https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series\\_en](https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series_en)

Fifth, it is remarkable how similar the story is across countries as well as data series. An unexplored question of course that arises is why do ordinary people know what is coming?<sup>26</sup>

Despite the broad-based declines in qualitative data across almost all Western countries by the summer of 2008, central banks were seemingly unaware that the US entered recession in December 2007 and most other countries had done so in the second quarter of 2008 (Blanchflower and Bryson, 2022). Of particular concern is the fact that not only was there a good deal of data from external sources, such as consumer and business sentiment indicators but they had their own internal sources that were flashing red. But they were ignored.

**Appendix A** shows a statement by the MPC of the Bank of England on August 8<sup>th</sup>, 2008, along with the Economics of Walking About reports by the Bank of England's Agents Survey from the same month. The latter reported rapid slowing in the economy apparently unrecognized by the MPC. Despite evidence of slowing of the economy the MPC was principally focused on controlling inflation, which peaked at 5.2% in September 2008 falling to 1.1% a year later: Q22008 GDP growth was -0.5%. They also missed that the Q22008 GDP growth estimate of +0.2% published by the Office of National Statistics was going to be revised downwards and sharply. The most recent estimate is -0.5%. At the time of its August 2008 meeting the MPC knew that industrial production had fallen in both Q1 and Q2 of 2008, the claimant count had risen by 15,500 in June 2008, the number of unemployed increased for the third month in a row and the number of vacancies had fallen.<sup>27</sup> There was a considerable discussion at the September 2008 meeting of raising rates.<sup>28</sup> The EWA was signaling something quite different.<sup>29</sup>

Lehman Brothers failed on September 15<sup>th</sup>, 2008, and at a Special Meeting on 8<sup>th</sup> October 2008 the MPC along with the world's six major central banks - the Bank of Canada, the European Central Bank, the US Federal Reserve, Sveriges Riksbank, the Swiss National Bank and the Bank of Japan - cut rates by 50 bp on October 5<sup>th</sup>, 2008, after RBS had to be rescued.

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<sup>26</sup> It has always been important for economists to think seriously about the wellbeing of the man or woman on the Clapham omnibus but now it seems we need to take seriously what he or she says. Beth Staiger, wife of our Dartmouth colleague Doug Staiger explained it well to us. "People know when things are getting bad." This paper suggests that she is right, and they do.

<sup>27</sup> Economic and Labour Market Review, ONS, July and August, 2008.

<https://webarchive.nationalarchives.gov.uk/ukgwa/20160108025635/http://www.ons.gov.uk/ons/rel/elmr/economic-and-labour-market-review/no--8--august-2008/index.html>

<sup>28</sup> Para 30 "A case could be made for an increase in Bank Rate. There still remained a significant risk to inflation expectations from the expected short-term rise in CPI inflation. The recent fall in sterling, if sustained, might postpone the point at which inflation started to fall back sharply towards the target. High import price inflation and sterling's depreciation could be symptomatic of a weakening of confidence in the Committee's determination to return inflation to the target. An increase in Bank Rate now would emphasise the MPC's commitment to price stability and might result in an appreciation of sterling, relieving some of the upward pressure on import prices."

<sup>29</sup> Chris Williamson of S&P Global Markit Intelligence who produce the PMIs in a tweet on January 20<sup>th</sup>, 2023, in a conversation with one of us, noted that the UK services PMI released on 5<sup>th</sup> August 2008 was at 47.4 and was below fifty for the fourth month running indicating recession and also reported record declines in new business. This was its lowest level since October 2001. It also noted that cost inflation had likely peaked.

The fear of unemployment in the UK had reached 51.5 in September 2008, which was the highest score since 1993 when unemployment rates were in double digits.<sup>30</sup> The June 2008 reading in the University of Michigan Survey of 60% reporting they thought unemployment would be more in twelve months, tied for second highest since the survey started in January 1978. It was the highest reading in 28 years.<sup>31</sup>

The rise in unemployment in 2008 was clearly forecastable. Either way, it seems sensible to add analyses of these data to the portfolio of options available to economic analysts to help identify economic trouble ahead. Even so, not all economists are convinced that this is what economics is about. Recently Jan Vlieghe, a former external member of the Bank of England's Monetary Policy Committee (MPC), maintained economists and policymakers should not be expected to spot turning points:

*"I have previously argued, as have countless others, that the usefulness of policymakers (or macroeconomists more generally) should not be measured by their ability to forecast recessions, in the same way that the usefulness of doctors is not measured by their ability to forecast heart attacks. Instead, the usefulness of policymakers lies in their response to a recession when it is happening, and their understanding of general risk factors beforehand, just as the usefulness of a doctor lies in her treatment of a heart attack once it is happening, and her prescriptions for a healthy lifestyle to reduce the risk of a heart attack beforehand."*<sup>32</sup>

We disagree. Doctors do try to predict heart attacks. Indeed, the above is not even an accurate characterization of what medical doctors do.<sup>33</sup> Contrary to Vlieghe's assertion, doctors have developed protocols expressly intended to predict individual patients' probability of heart attack. For example, the QRISK protocol is filled out by doctors to predict a patient's risk score for a heart attack.<sup>34</sup> A score over twenty suggests the patient should take statins and stop smoking. These individualized risk probabilities are used to target treatment on the 'right' individuals (Hippisley-Cox et al., 2008).

We argue here that qualitative surveys gave very early indication of the coming of the Great Recession if commentators had only been watching. The turns in the fear of unemployment series appears also to continue to give early warnings of changes in the unemployment rate to come. This is true in the vast majority of EU countries and, as we showed in Blanchflower and Bryson (2022b) is also the case in the United States. Macroeconomists should be evaluated by their ability to model unemployment. We believe that economists should harness the information available in these qualitative surveys we examine to predict economic downturns and, in particular, rising

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<sup>30</sup> 57.5=Nov-92; 56.5=Feb-93; 56=Dec-92; 55.6=Feb-91; 55.6=Oct-92 50.9=Jan-91; 49.8=Aug-08.

<sup>31</sup> 72%=June 1980; and 64%=Nov 1990/90.

<sup>32</sup>[https://www.niesr.ac.uk/sites/default/files/files/GertjanVlieghe\\_Blanchflower%20book%20review\\_11%20June%202019.pdf](https://www.niesr.ac.uk/sites/default/files/files/GertjanVlieghe_Blanchflower%20book%20review_11%20June%202019.pdf)

<sup>33</sup> See for example [https://www.cdc.gov/heartdisease/risk\\_factors.htm](https://www.cdc.gov/heartdisease/risk_factors.htm) and <http://www.cvriskcalculator.com/> and <https://www.mayoclinichealthsystem.org/locations/cannon-falls/services-and-treatments/cardiology/heart-disease-risk-calculator>

<sup>34</sup> The latest version of QRISK is here: <https://www.qrisk.org/>

unemployment which generates major social and economic losses. It would be progress if economists acted more like doctors.<sup>35</sup>

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<sup>35</sup> John Maynard Keynes once said that "*if economists could manage to get themselves thought of as humble, competent people on a level with dentists, that would be splendid.*" Nobel Laureate Esther Duflo (2017) argued that economists should be more like plumbers, while Mankiw (2006) argues that economists have a lot to learn from scientists and engineers. "*God put macroeconomists on earth not to propose and test elegant theories but to solve practical problems*" (p. 29). Exactly.

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Table 1. 4-step Life satisfaction and GDP growth

	Life satisfaction		GDP growth %		Life satisfaction		GDP growth %
	2005	2020	2005-2020		2005	2020	2005-2020
Argentina	2.92	2.89	154	Bulgaria	2.04	2.40	246
Bolivia	2.53	2.82	201	Croatia	2.76	2.96	192
Brazil	2.71	2.81	136	Czechia	2.93	3.17	194
Chile	2.86	2.76	197	Estonia	2.72	2.91	237
Colombia	3.27	3.37	180	Hungary	2.53	2.96	200
Costa Rica	3.34	3.33	222	Latvia	2.62	3.02	237
Dominican Republic	3.35	3.35	213	Lithuania	2.55	3.03	277
Ecuador	2.68	3.10	143	N Macedonia	2.59	2.70	221
El Salvador	2.89	3.31	166	Poland	2.77	3.08	254
Guatemala	3.13	3.39	160	Romania	2.30	2.69	347
Honduras	2.99	3.21	168	Slovakia	2.64	2.90	198
Mexico	3.05	3.22	146	Slovenia	3.10	3.21	171
Nicaragua	2.91	3.21	163				
Panama	3.21	3.29	256				
Paraguay	2.92	2.94	177				
Peru	2.50	3.03	180				
Uruguay	2.89	3.15	191				
Venezuela	3.44	2.88					
Austria	3.05	3.16	164	Luxembourg	3.41	3.14	174
Belgium	3.17	3.18	164	Malta	3.08	3.17	202
Cyprus	3.17	3.20	149	Netherlands	3.42	3.48	159
Denmark	3.60	3.71	178	Portugal	2.54	2.24	154
Finland	3.28	3.17	163	Spain	3.04	3.16	138
France	2.96	3.04	158	Sweden	3.44	3.40	164
Germany	2.99	3.25	178	Turkey	2.90	2.73	234
Greece	2.68	2.60	111	UK	3.21	3.21	140
Ireland	3.28	3.24	232				
Italy	2.83	2.74	143				
Japan (2013*)	2.58	2.64*	130				

Table 2. Life satisfaction regressions

	Growth	CPI	Unemployment rate	N
Life 1991-2023	.0024 (0.03)	-.0029 (2.26)	-.0191 (15.05)	2,787,319
Life 1991-1999	.4759 (1.78)	-.0171 (3.41)	-.0051 (2.31)	237,482
Life 2000-2010	.2333 (1.23)	.0006 (0.17)	-.0070 (3.53)	649,148
Life 2011-2023	.0161 (0.17)	-.0001 (0.03)	-.0243 (11.02)	1,900,689

Country rankings 2011-2023

1. Denmark	.6194 (31.33)	19. N. Macedonia	-.0447 (0.97)
2. Sweden	.4190 (24.78)	20. Croatia	-.0732 (2.99)
3. Netherlands	.4150 (33.25)	21. Poland	-.0938 (7.60)
4. Iceland	.4029 (6.63)	22. Czechia	-.1129 (5.51)
5. Switzerland	.3113 (11.37)	23. Slovakia	-.1421 (12.63)
6. Ireland	.3005 (17.82)	24. Estonia	-.1762(10.95)
7. Finland	.2795 (15.30)	25. Latvia	-.1779 (15.62)
8. Luxembourg	.2605 (14.25)	26. Montenegro	-.1840 (6.00)
9. UK	.2605 (14.25)	27. Lithuania	-.2073 (13.72)
10. Spain	.2162 (9.04)	28. Italy	-.2604 (23.63)
11. Austria	.1637 (8.25)	29. Turkey	-.2714 (8.09)
12. Cyprus	.1392 (8.50)	30. Albania	-.3294 (10.55)
13. Norway	.1181 (4.46)	31. Portugal	-.3524 (11.54)
14. Belgium	.1061 (4.85)	32. Greece	-.3682 (12.02)
15. Malta	.0972 (3.76)	33. Hungary	-.3835 (13.85)
16. Slovenia	.0835 (6.42)	34. Serbia	-.4068 (11.39)
17. Germany	.0556 (3.55)	35. Romania	-.4822 (15.31)
18. France	0	36. Bulgaria	-.6298 (33.31)

T-statistics in parentheses. Source: Eurobarometers

For the list of Eurobarometer surveys see Supplementary Appendix B.

Table 3. Percent saying employment will be worse next year.

	2007	2008	2009	2019	2020	2022
All	.30	.56	.46	.23	.47	.31
Austria	.24	.52	.36	.22	.38	.29
Belgium	.35	.67	.46	.26	.60	.31
Bulgaria	.22	.26	.54	.18	.46	.36
Croatia	.38	.46	.68	.27	.44	.37
Cyprus	.56	.47	.61	.17	.47	.32
Czechia	.30	.42	.51	.18	.53	.32
Denmark	.11	.61	.32	.11	.27	.21
Estonia	.13	.66	.39	.20	.53	.37
Finland	.28	.61	.40	.26	.51	.31
France	.28	.61	.39	.23	.60	.24
Germany	.24	.59	.51	.27	.47	.34
Greece	.53	.65	.43	.28	.54	.43
Hungary	.59	.73	.60	.20	.32	.24
Ireland	.34	.78	.63	.18	.59	.20
Italy	.37	.47	.38	.31	.48	.34
Latvia	.14	.55	.50	.13	.23	.33
Lithuania	.08	.55	.65	.09	.22	.32
Luxembourg	.59	.63	.50	.18	.72	.26
Malta	.35	.41	.38	.12	.17	.21
Netherlands	.13	.61	.48	.21	.73	.20
Northern Macedonia	.37	.38	.39	.27	.32	.45
Poland	.15	.31	.37	.17	.37	.34
Portugal	.49	.48	.50	.31	.50	.45
Romania	.32	.31	.57	.34	.47	.47
Slovakia	.25	.35	.55	.22	.46	.40
Slovenia	.34	.47	.48	.22	.48	.34
Spain	.28	.61	.40	.26	.51	.31
Sweden	.14	.72	.24	.43	.65	.28
Turkey	.40	.61	.50	.40	.42	.55
UK	.39	.70	.32	.33	.69	.30

Table 4. Employment expectation regressions

	Growth	CPI	Unemployment rate	N
Expectations 1995-2023	1.8226 (8.21)	-.0055 (3.92)	-.0069 (3.64)	1,338,763
Expectations 1995-2010	2.5442 (9.00)	-.0010 (0.15)	-.0047 (1.04)	515,719
Expectations 2011-2023	1.2140 (4.55)	-.0060 (4.67)	-.0114 (3.25)	823,584

Country rankings 2011-2023

1. Iceland	.4364 (6.38)	19. France	0
2. Albania	.2714 (6.07)	20. Italy	-.0135 (0.38)
3. Denmark	.2320 (4.23)	21. UK	-.0246 (0.53)
4. Malta	.1867 (3.48)	22. Slovakia	-.0473 (1.27)
5. Montenegro	.1760 (2.76)	23. Germany	-.0573 (1.34)
6. Spain	.1413 (2.67)	24. Turkey	-.0535 (1.17)
7. N Macedonia	.1069 (1.57)	25. Bulgaria	-.0622 (1.69)
8. Sweden	.0891 (1.61)	26. Belgium	-.0710 (1.75)
9. Estonia	.0871 (1.69)	27. Croatia	-.0728 (1.72)
10. Latvia	.0848 (1.80)	28. Hungary	-.0911 (2.29)
11. Serbia	.0680 (1.51)	29. Luxembourg	-.0978 (2.04)
12. Finland	.0659 (1.59)	30. Poland	-.1012 (2.72)
13. Switzerland	.0578 (1.47)	31. Cyprus	-.1195 (1.98)
14. Ireland	.0453 (0.80)	32. Portugal	-.1259 (1.81)
15. Austria	.0384 (0.88)	33. Romania	-.1313 (2.64)
16. Lithuania	.0380 (0.96)	34. Slovenia	-.1872 (4.04)
17. Netherlands	.0211 (0.33)	35. Czechia	-.1965 (4.34)
18. Norway	.0113 (0.08)	36. Greece	-.2067 (3.24)

T-statistics in parentheses. Controls include age and its square and year dummies. Eurobarometers.

Table 5. Expectations, 1995-2023

	Growth	CPI	Unemployment rate	N
Employment	1.8097 (8.10)	-.0055 (3.94)	-.0068 (3.56)	1,292,396
Personal	.6875 (5.47)	-.0046 (4.70)	-.0075 (6.03)	1,169,025
Financial	1.0403 (8.85)	-.0049 (3.75)	-.0112 (7.64)	1,363,490
Life	.8646 (6.60)	-.0039 (3.46)	-.0098 (7.27)	1,348,112
Economic situation	1.7255 (8.33)	-.0055 (3.98)	-.0068 (3.85)	1,331,926

Table 6. Time dummies in life satisfaction and employment expectations equations

	Life satisfaction 1973-2023	Employment expectations 1995-2023
Sep-Nov 2007	0	0
Mar-May 2008	.0211 (3.73)	.1993 (32.85)
<b>Oct-Nov 2008</b>	<b>-.0230 (4.06)</b>	<b>-.2329 (38.28)</b>
<b>Jan-Feb 2009</b>	<b>-.0424 (7.46)</b>	<b>-.3699 (61.03)</b>
<b>Jun-Jul 2009</b>	<b>-.0182 (3.21)</b>	<b>-.1127 (18.64)</b>
<b>Oct-Nov 2009</b>	<b>-.0290 (5.12)</b>	<b>-.0533 (8.82)</b>
May 2010	-.0264 (4.72)	.0376 (6.25)
Nov-Dec 2010	-.0212 (3.76)	.0426 (7.08)
May 2011	-.0173 (3.09)	.1082 (18.08)
June 2011	-.0494 (8.44)	.0480 (7.72)
November 2011	-.0444 (7.91)	-.1170 (19.56)
May 2012	-.0395 (6.97)	-.0299 (4.95)
June 2012	-.0289 (4.91)	-.0752 (12.05)
November 2012	-.0758 (13.60)	-.1164 (19.63)
May 2013	-.0601 (10.78)	-.0024 (0.42)
May-Jun 2013	-.0267 (4.57)	-.1113 (17.80)
November 2013	-.0686 (12.26)	.0550 (9.07)
March 2014	-.0273 (4.71)	.1293 (21.03)
May-Jun 2014	.0578 (10.38)	.1720 (28.84)
June 2014	-.0264 (4.55)	.0318 (5.07)
November 2014	.0355 (6.41)	.0935 (15.80)
May 2015	.0470 (8.45)	.2068 (34.77)
November 2015	.0715 (12.83)	.3132 (51.69)
May 2016	.0694 (12.47)	.2943 (48.62)
November 2016	.0704 (12.64)	.1745 (29.38)
May 2017	.1064 (19.15)	.3286 (54.39)
November 2017	.1114 (20.03)	.2865 (48.29)
March 2018	.1198 (21.53)	.2985 (50.29)
November 2018	.1137 (20.36)	.2417 (40.54)
June-July 2019	.1357 (24.30)	.2424 (40.61)
Nov-Dec 2019	.1317 (23.58)	.1748 (29.30)
July-August 2020	.1444 (25.97)	-.0661 (11.16)
Feb-March 2021	.0406 (7.55)	.0535 (9.38)
June-July 2021	.1444 (26.61)	.2529 (43.79)
Jan-Feb 2022	.1064 (19.62)	.1955 (33.89)
June-July 2022	.1160 (21.36)	.0147 (2.54)
Jan-Feb 2023	.1227 (22.53)	.1630 (28.17)
Constant	3.2791	2.1740
Adjusted R <sup>2</sup>	.1792	.0800
N	3,223,887	1,403,751

Source: Eurobarometers



Table 7. Gallup World Poll 2005-2023

	GDP Growth	CPI	Unemployment rate	N
Cantril	-.7476 (1.39)	-.0079 (1.61)	-.0626 (11.20)	587,911
Life in 5 years	.2844 (0.40)	-.0069 (1.57)	-.0547 (8.15)	549,085
Pain	.0082 (0.15)	-.0006 (1.34)	+.0010 (1.76)	567,333
Worry	-.0628 (0.83)	+.0010 (2.16)	+.0061 (6.66)	566,139
Stress	-.0406 (0.56)	+.0010 (2.39)	+.0058 (4.61)	541,039
Anger	.0797 (1.33)	.0006 (1.21)	+.0041 (5.09)	564,919
Sadness	-.1223 (2.01)	.0001 (0.01)	+.0035 (4.59)	565,364
Enjoyment	-.0016 (0.02)	-.0023 (5.27)	-.0030 (3.87)	561,456
Well rested	-.1156 (1.80)	-.0013 (2.39)	-.0029 (3.64)	565,088
Smile	-.0542 (0.56)	-.0026 (2.99)	-.0047 (5.22)	557,920

Equations include country and year dummies, age and its square and female. Standard errors clustered by country\*year.

Table 8. Unemployment rates and European Commission forecasts, 2008-2010 and 2021-2024

	2008	2009	2010	2021	2022	2023	2024
Austria	3.9 (4.1)	4.2 (5.3)	4.5 (4.8)	6.2	5.0	5.2	5.3
Belgium	7.1 (7.0)	8.0 (7.9)	8.7 (8.3)	6.3	5.8	6.4	6.3
Bulgaria	6.0 (5.6)	5.8 (6.8)	5.7 (10.3)	5.3	5.2	5.2	5.3
Croatia	9.2 (8.6)	9.0 (9.2)	8.7 (11.7)	7.6	6.3	6.3	5.9
Cyprus	3.9 (3.7)	3.8 (5.4)	3.7 (6.3)	7.5	7.2	7.2	6.9
Czechia	5.0 (4.4)	5.0 (6.7)	5.2 (7.3)	2.8	2.7	3.3	3.6
Denmark	4.3 (3.7)	4.3 (6.4)	3.9 (7.7)	5.1	4.5	5.5	5.6
Estonia	5.0 (5.5)	6.7 (13.5)	7.7 (16.7)	6.2	6.1	6.6	6.2
Finland	6.3 (6.4)	6.5 (8.2)	6.4 (8.4)	7.7	7.0	7.2	6.9
France	8.0 (7.4)	9.0 (9.1)	9.3 (9.3)	7.9	7.7	8.1	7.7
Germany	7.3 (7.5)	7.5 (7.8)	7.4 (7.0)	3.6	3.1	3.5	3.5
Greece	9.0 (7.8)	9.2 (9.6)	9.3 (12.7)	14.7	12.6	12.6	12.1
Hungary	8.1 (7.8)	8.6 (10.0)	8.5 (11.2)	4.1	3.6	4.2	4.2
Ireland	6.1 (6.8)	7.6 (12.6)	7.4 (14.6)	6.2	4.4	4.8	5.0
Italy	6.8 (6.7)	7.1 (7.8)	7.3 (8.4)	9.5	8.3	8.7	8.5
Latvia	6.5 (7.7)	9.2 (17.5)	9.6 (19.5)	7.6	7.1	8.1	7.9
Lithuania	4.9 (5.8)	7.1 (13.8)	8.4 (17.8)	7.1	6.0	7.1	7.0
Luxembourg	4.0 (5.1)	4.3 (5.1)	4.7 (4.4)	5.3	4.7	5.1	4.9
Malta	5.9 (6.0)	6.2 (6.9)	6.4 (6.9)	3.4	3.2	3.1	3.0
Netherlands	3.0 (3.7)	3.4 (4.4)	3.7 (5.0)	4.2	3.7	4.3	4.3
Poland	7.3 (7.1)	7.3 (8.2)	7.8 (9.7)	3.4	2.7	3.0	3.1
Portugal	7.7 (7.7)	7.9 (9.6)	7.9 (11.0)	6.6	5.9	5.9	5.7
Romania	6.1 (5.8)	6.4 (6.9)	6.1 (7.0)	5.6	5.4	5.8	5.4
Slovakia	9.9 (9.5)	9.8 (12.0)	9.6 (14.4)	6.8	6.3	6.4	6.4
Slovenia	4.5 (4.4)	4.8 (5.9)	4.7 (7.3)	4.8	4.1	4.3	4.1
Spain	10.8 (11.3)	13.8 (17.9)	15.5 (19.9)	14.8	12.7	12.7	12.6
Sweden	6.0 (6.2)	6.8 (8.4)	7.3 (8.6)	8.8	7.2	7.6	7.8
UK	5.7 (5.6)	7.1 (7.6)	6.9 (7.8)				

[https://ec.europa.eu/economy\\_finance/publications/pages/publication13290\\_en.pdf](https://ec.europa.eu/economy_finance/publications/pages/publication13290_en.pdf)

[https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/economic-forecasts/autumn-2022-economic-forecast-eu-economy-turning-point\\_en#forecast-for-countries](https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/economic-forecasts/autumn-2022-economic-forecast-eu-economy-turning-point_en#forecast-for-countries) Actual annual numbers in parentheses.

[https://ec.europa.eu/eurostat/databrowser/view/UNE\\_RT\\_A\\_H\\_custom\\_4354648/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/UNE_RT_A_H_custom_4354648/default/table?lang=en)

Table 9. Change in industry and consumer monthly fear, 2008 & 2022

	Consumers		Industry	
	2008	2022	2008	2022
Austria	56	21	-36	-17
Belgium	64	42	-24	-20
Bulgaria	49	0	-29	5
Croatia	34	0	-22	4
Cyprus	13	12	-21	-1
Czechia	56	32	-54	-23
Denmark	43	30	-28	-35
Estonia	51	42	-29	-39
Finland	55	21	-28	-14
France	61	20	-23	0
Germany	50	21	-32	-18
Greece	29	15	-16	-26
Hungary	34	43	-24	-23
Ireland	26	43	-53	-31
Italy	31	5	-15	-8
Latvia	71	21	-31	-12
Lithuania	94	13	-30	-20
Luxembourg	47	21	-25	-18
Malta	28	20	-25	-92
Netherlands	75	22	-29	-10
Poland	36	13	-21	-17
Portugal	16	38	-23	0
Romania	30	n/a	+3	-4
Slovakia	66	5	-42	-25
Slovenia	53	16	-51	-18
Spain	46	26	-20	-4
Sweden	70	55	-29	-19
Turkey	30	-4	-56	-8
UK	43	n/a	-15	n/a

Notes: Fear changes refer to difference between peak and trough during the months January - Nov of that year

[https://ec.europa.eu/economy\\_finance/publications/pages/publication13290\\_en.pdf](https://ec.europa.eu/economy_finance/publications/pages/publication13290_en.pdf)

Table 10. Unemployment and the fear of unemployment, Jan 1985- October 2022.

Fear <sub>t-12</sub>	.0271 (40.71)	.0272 (40.70)	.0228 (33.37)	.0294 (38.37)
Unempt rate <sub>t-12</sub>	.8902 (258.46)	.8901 (258.00)	.9050 (290.29)	.8316 (190.74)
Month dummies	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes
Country dummies	No	No	No	Yes
_cons	.1936	.2116	.1142	.3572
Adjusted R <sup>2</sup>	.8915	.8915	.9203	.9273
N	9,410	9,410	9,410	9,410

Notes: T-statistics in parentheses.

Table 11. Unemployment and the fear of unemployment, pre- and post-Great Recession.

	1985-1999	2000-2009	2010-2022
Fear <sub>t-12</sub>	.0304 (21.32)	.0408 (27.25)	.0276 (23.71)
Unempt rate <sub>t-12</sub>	.8459 (78.42)	.6596 (51.49)	.7433 (96.21)
_cons	.3381	.8996	1.1519
Adjusted R <sup>2</sup>	.8916	.9356	.9433
N	1,935	3,051	4,424

All equations include country, year and month dummies. T-statistics in parentheses.

Table 12. Unemployment regressions by 29 countries, 1985-2022 – significant in 18/29

	Unemployment Rate $t-12$	Fear $_{t-12}$	N
Austria	-.1155 (1.77)	.0039 (1.30)	313
Belgium	.2855 (5.52)	.0003 (0.15)	442
Bulgaria	.4197 (6.94)	.0070 (1.42)	234
Croatia	.5544 (7.23)	-.0087 (1.11)	198
Cyprus	.1052 (1.44)	.0051 (0.65)	246
Czechia	.1470 (2.57)	.0149 (5.27)*	322
Denmark	.2291 (5.00)	.0070 (2.74)*	442
Estonia	.0085 (0.15)	.0568 (8.13)*	249
Finland	.3870 (7.65)	.0053 (1.33)	406
France	.0705 (1.35)	.0025 (1.96)*	442
Germany	.3868 (7.72)	.0035 (2.81)*	370
Greece	.5029 (8.65)	-.0078 (1.55)	283
Hungary	.3569 (6.45)	.0053 (1.90)*	310
Ireland	.4955 (11.08)	.0083 (2.76)*	442
Italy	.5104 (11.05)	-.0009 (0.23)	441
Latvia	-.0247 (0.39)	.0638 (8.27)*	246
Lithuania	.2132 (3.95)	.0385 (7.50)*	246
Luxembourg	.3718 (4.34)	-.0126 (4.72)*	238
Malta	.0485 (0.70)	-.0031 (1.16)	216
Netherlands	.4271 (9.51)	.0051 (4.66)*	442
Poland	.4284 (6.72)	.0077 (2.18)*	246
Portugal	.4034 (8.48)	.0053 (1.93)*	425
Romania	-.0221 (0.29)	.0075 (1.85)*	228
Slovakia	.1004 (1.77)	.0267 (7.21)*	271
Slovenia	.1568 (2.54)	-.0029 (0.88)	308
Spain	.4497 (9.43)	.0094 (2.36)*	425
Sweden	.1369 (2.50)	.0129 (5.84)*	313
Turkey	-.0053 (0.06)	.0178 (1.02)	173
UK	.3874 (7.72)	.0104 (5.11)*	420

Notes: all equations include a full set of year and month dummies and the 'all' equation includes country dummies also. \* significant and positive fear coefficient ( $t > 2$ ). T-statistics in parentheses.

Table 13. Unemployment and the industry views on employment, Jan 1985- October 2022.

Industry Fear $_{t-3}$	-.0144 (26.89)	-.0143 (28.84)	-.0119 (19.34)	-.0165 (23.45)
Unempt rate $_{t-3}$	.9765 (515.5)	.9792 (559.6)	.9787 (537.2)	.9524 (355.4)
Month dummies	No	Yes	Yes	Yes
Year dummies	No	No	Yes	Yes
Country dummies	No	No	No	Yes
_cons	.0951	.5679	.5444	.6507
Adjusted R <sup>2</sup>	.9641	.9694	.9704	.9712
N	10,006	10,006	10,006	10,006

Table 14. Unemployment by industry fear in 29 countries, 1985-2022 – significant in 23/29

	Unemployment Rate $t-3$	Industry Fear $t-3$	N
Austria	.1498 (2.79)	-.0217 (5.81)*	322
Belgium	.2478 (4.77)	-.0090 (2.55)*	451
Bulgaria	.5009 (11.74)	-.0067 (0.91)	271
Croatia	.5838 (9.97)	-.0232 (2.24)*	174
Cyprus	.4066 (6.92)	-.0109 (1.01)	256
Czechia	.7195 (19.97)	-.0122 (5.68)*	334
Denmark	.4207 (9.92)	-.0054 (1.90)*	451
Estonia	.5586 (11.18)	-.0294 (4.09)*	307
Finland	.4832 (10.77)	-.0138 (3.02)*	415
France	.5939 (13.35)	-.0153 (6.56)*	382
Germany	.7314 (29.09)	-.0083 (7.22)*	304
Greece	.8163 (21.27)	-.0179 (3.24)*	292
Hungary	.4412 (8.36)	-.0031 (0.89)	319
Ireland	.5757 (16.28)	-.0055 (2.60)*	451
Italy	.0123 (0.25)	-.0024 (0.38)	450
Latvia	.6564 (15.99)	-.0328 (3.71)*	292
Lithuania	.4981 (12.09)	-.0303 (4.05)*	295
Luxembourg	.4138 (10.48)	-.0092 (8.60)*	451
Malta	.3085 (5.06)	-.0029 (1.71)	240
Netherlands	.6379 (17.16)	-.0085 (3.12)*	451
Poland	.5495 (16.77)	-.0272 (5.35)*	307
Portugal	.7118 (18.81)	-.0113 (2.16)*	430
Romania	.3474 (6.40)	-.0108 (2.09)*	307
Slovakia	.5475 (12.88)	-.0043 (1.07)	295
Slovenia	.4203 (7.68)	-.0097 (3.14)*	319
Spain	.7463 (27.90)	-.0366 (8.30)*	427
Sweden	.4781 (10.67)	-.0148 (5.08)*	394
Turkey	.3043 (4.24)	-.0556 (8.06)*	190
UK	.7585 (22.90)	-.0038 (2.69)*	429

Notes: all equations include a full set of year and month dummies and the 'all' equation includes country dummies also. \* significant and positive fear coefficient ( $t > 2$ ). T-statistics in parentheses

Table 15. Unemployment plus industry and consumer and other controls, Jan 1985- October 2022.

	1985-2022	1985-2008	2009-2022	1985-2022	1985-2022
Consumer fear <sub>t-12</sub>	.0075 (14.56)	.0089 (12.83)	.0065 (8.26)	.0038 (7.37)	.0025 (4.11)
Industry Fear <sub>t-3</sub>	-.0197 (25.34)	-.0221 (20.09)	-.0214 (17.14)	-.0132 (16.64)	
Unempt rate <sub>t-3</sub>	.7789 (110.94)	.6632 (62.37)	.8146 (84.37)	.7070 (95.02)	.6725 (79.53)
Unempt rate <sub>t-12</sub>	.1642 (24.60)	.2807 (27.38)	.1085 (11.85)	.1935 (29.15)	.2143 (28.76)
Financial situation <sub>t</sub>				-.0171 (13.67)	-.0190 (12.75)
General situation <sub>t</sub>				-.0068 (10.82)	-.0063 (8.31)
Inflation <sub>t</sub>				-.0056 (12.21)	-.0069 (12.18)
Empt Expecs index					-.0204 (15.54)
_cons	.3058	.0388	.9648	.6055	2.8787
Adjusted R <sup>2</sup>	.9721	.9741	.9723	.9749	.9729
N	9,260	4,488	4,772	9,167	7315

All equations include month, year and country dummies. General and economic situations and inflation refer to last 12 months

Employment expectations index is a weighted average of employment questions in retail, construction, industrial and service surveys.

Chart 1. 4-step Life Satisfaction





Chart 2. 4-step Life Satisfaction



Chart 3. 4-step Life Satisfaction



Chart 4. 4-step Life Satisfaction

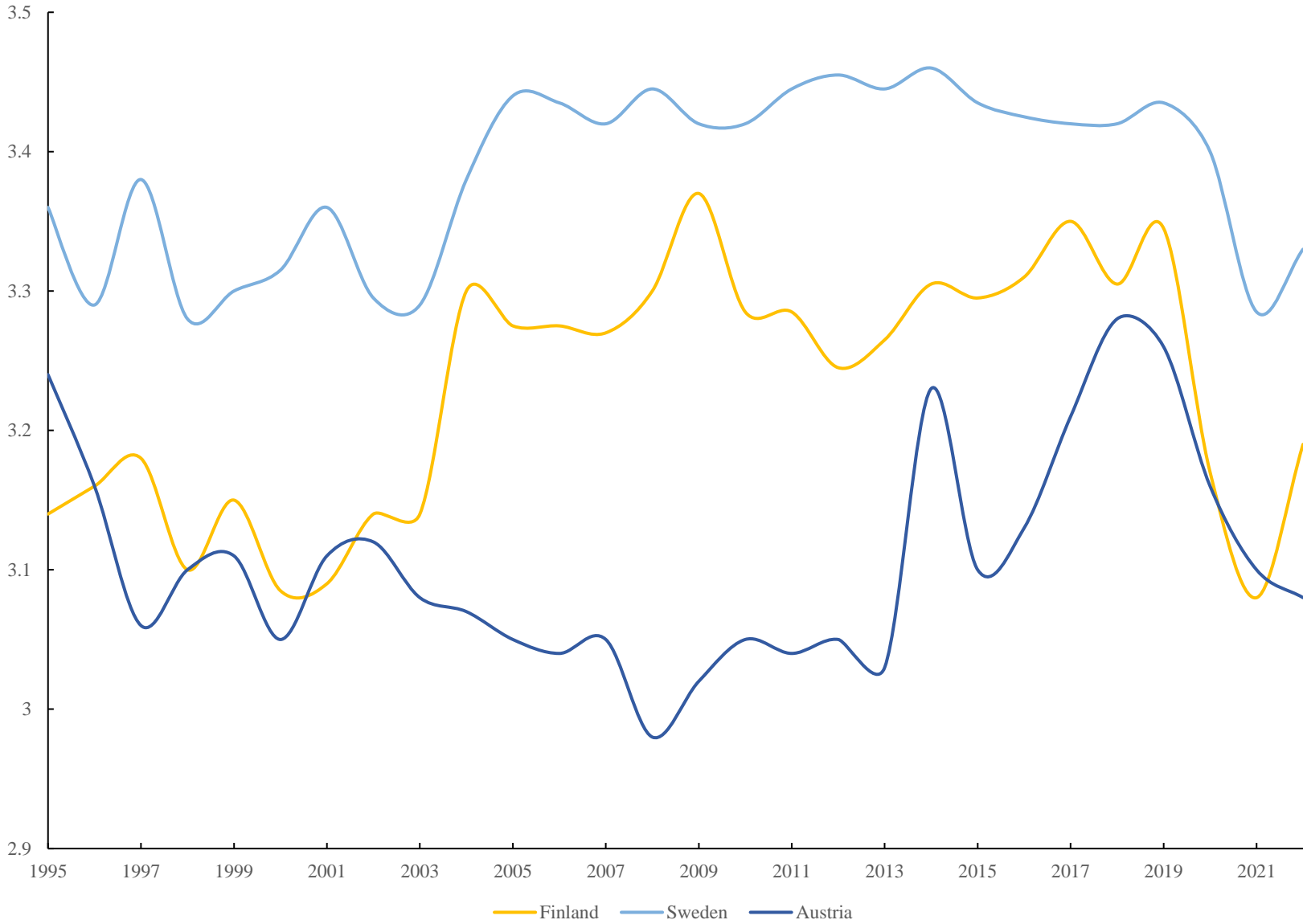


Chart 5. 4-step Life satisfaction

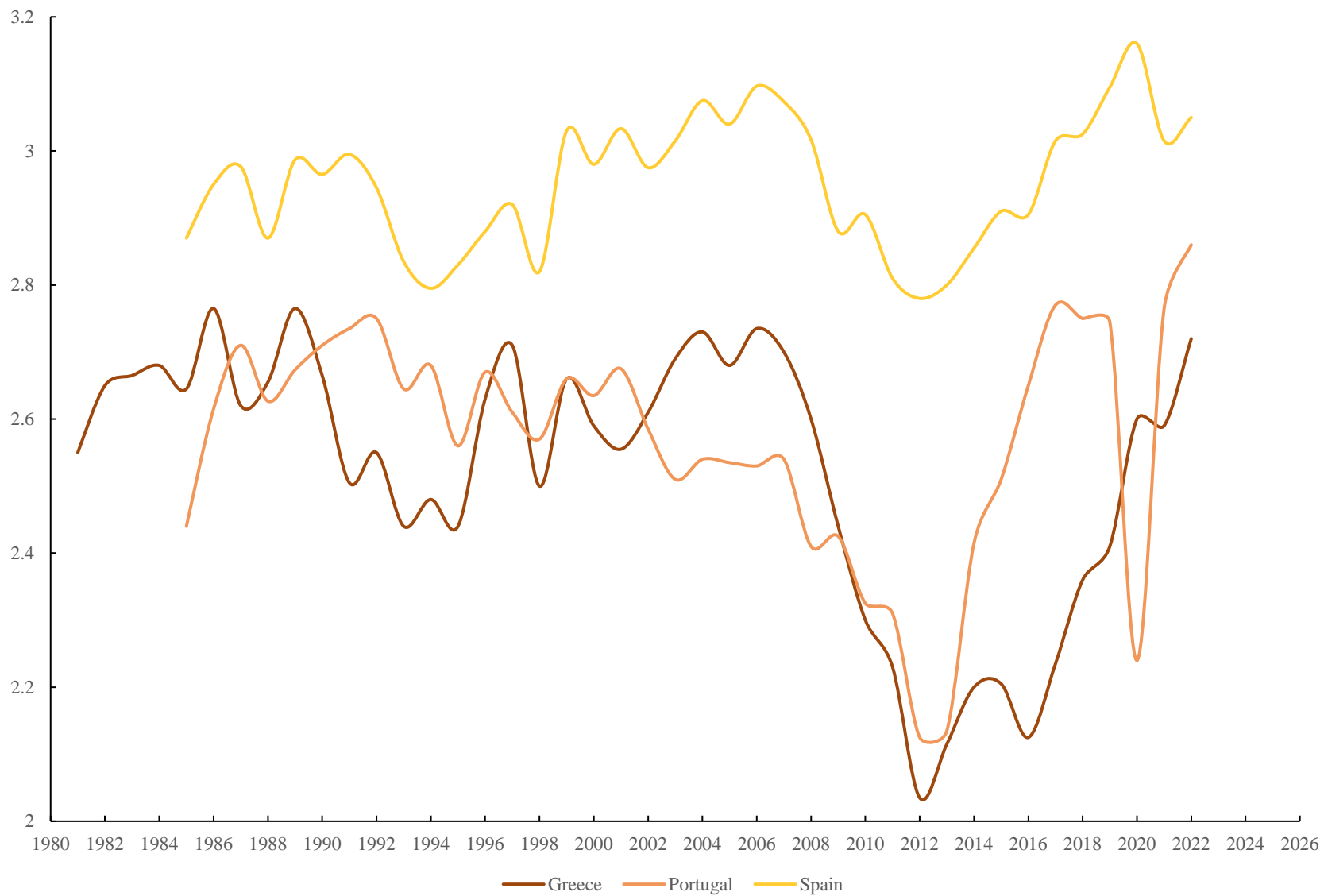


Chart 6. 4-step Life Satisfaction

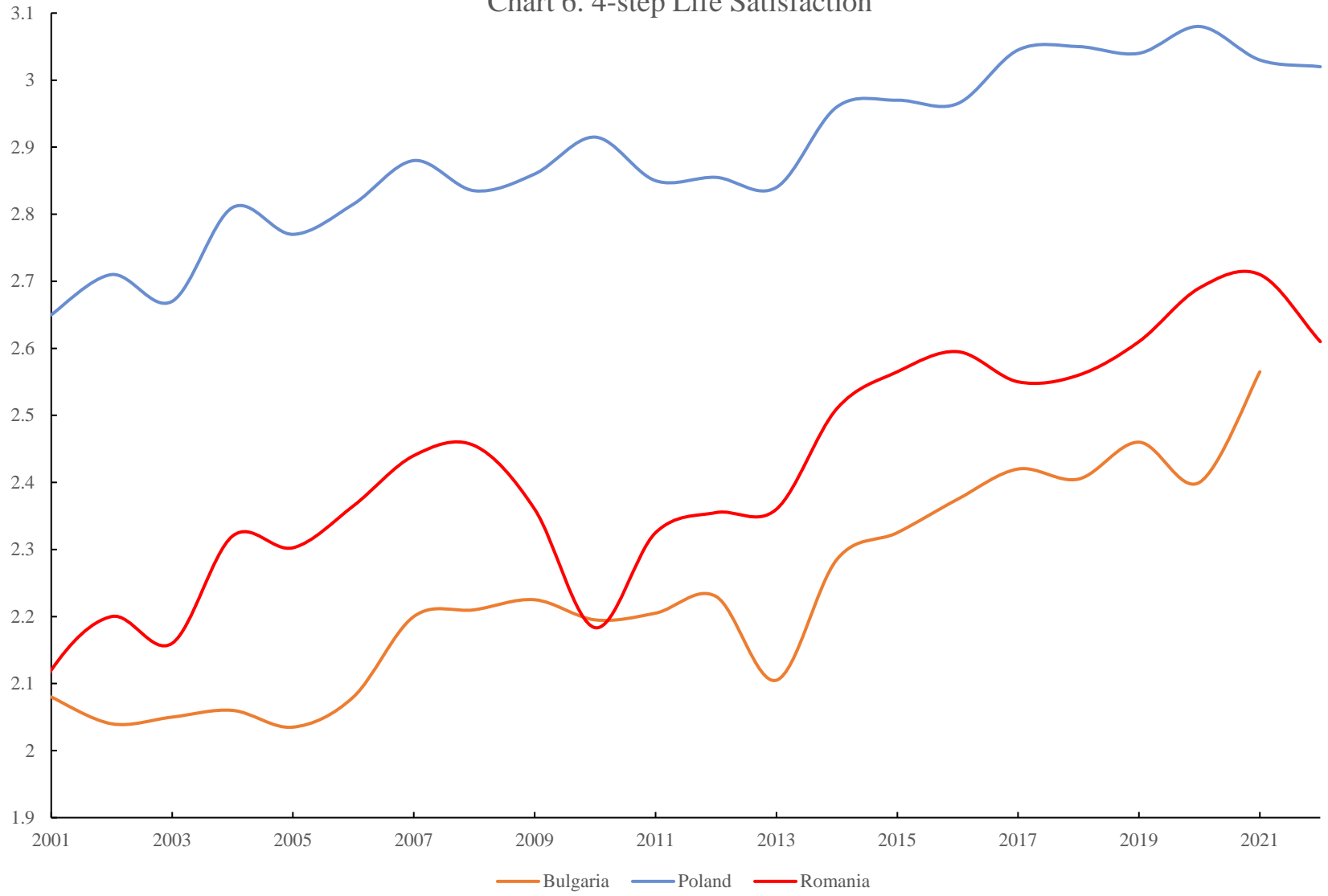


Chart 7a. GDP per capita and life satisfaction by 38 countries, 2022

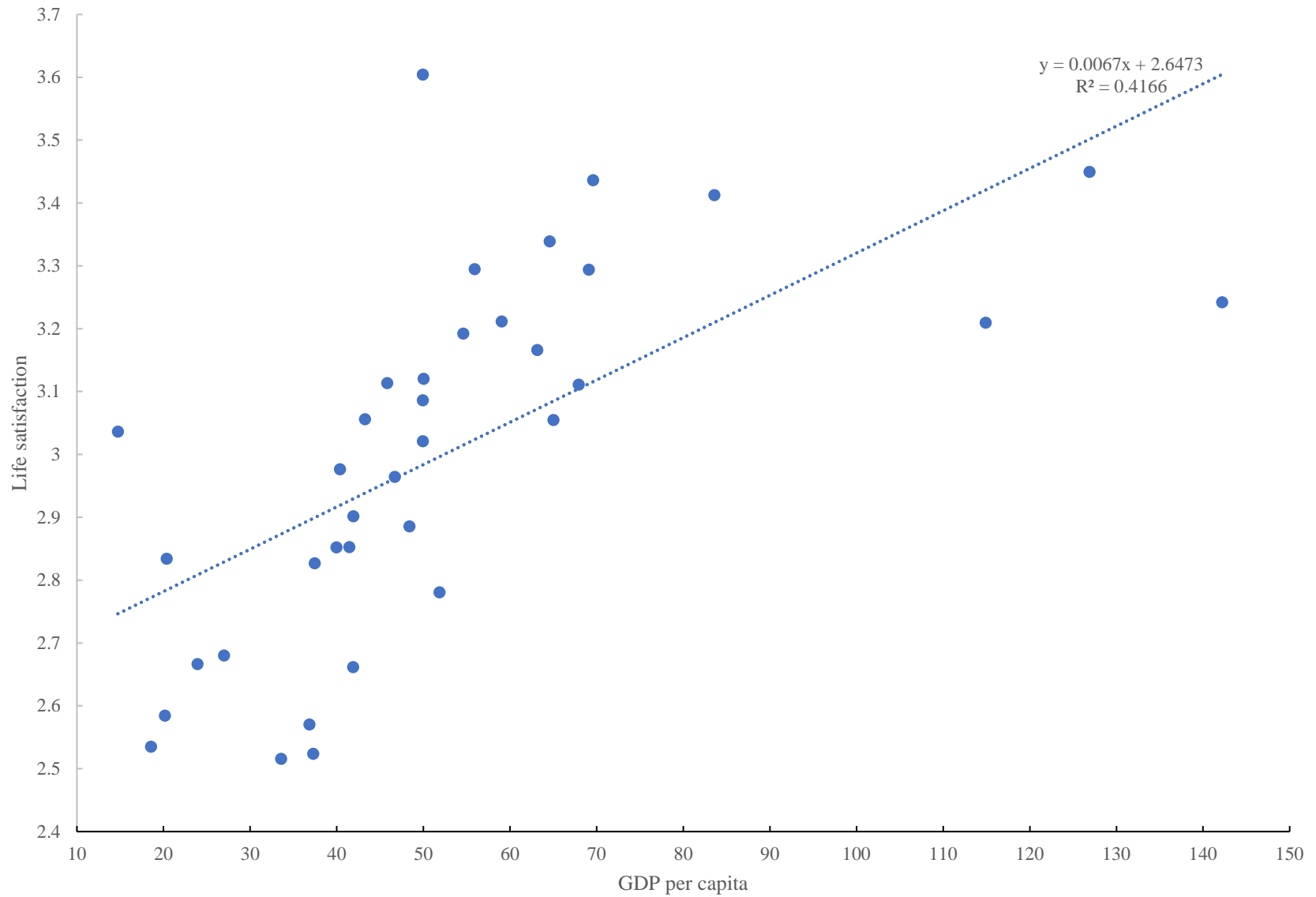


Chart 7b. GDP per capita and employment expectations, 2022 in 38 countries

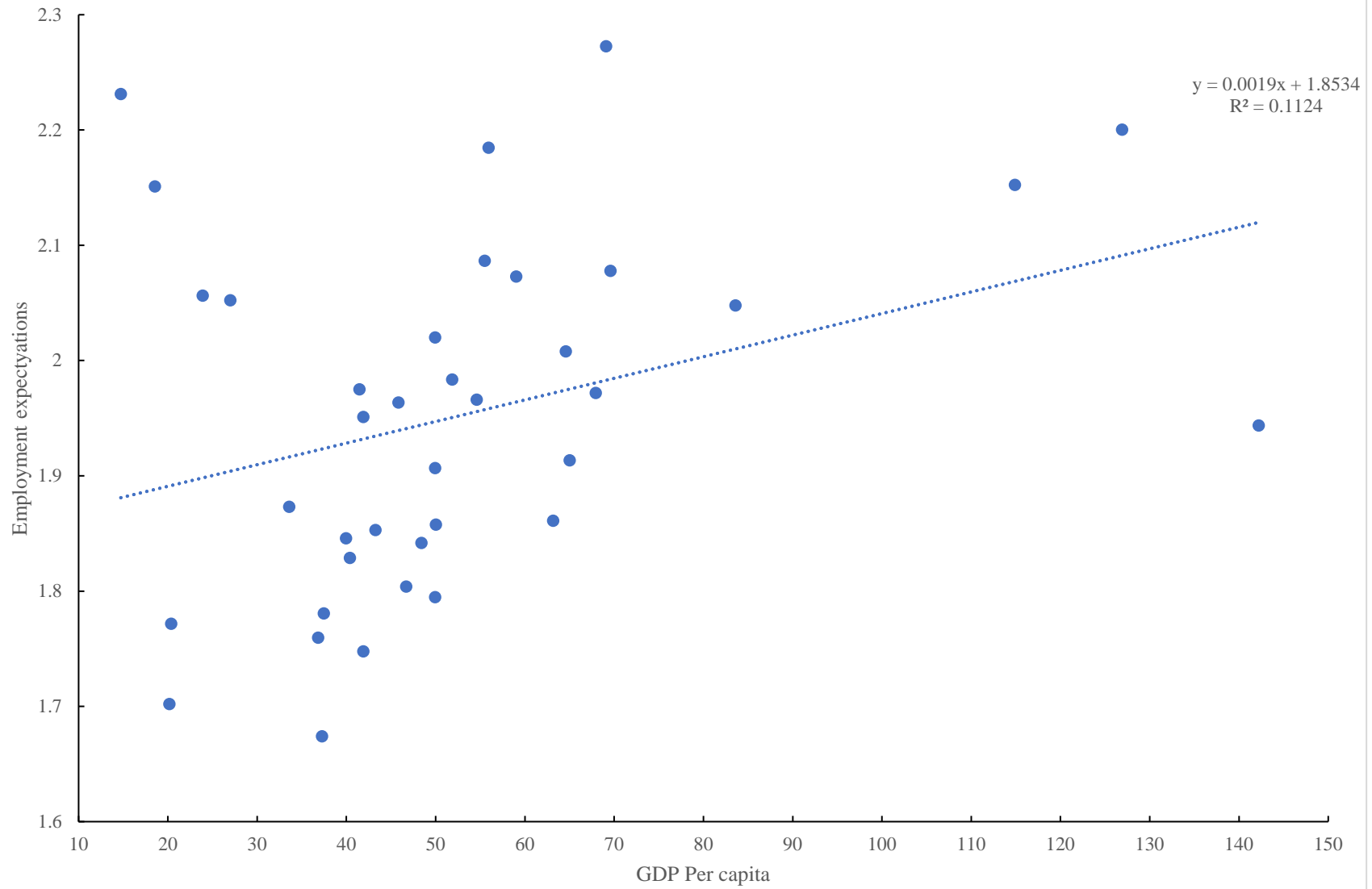


Chart 8. Percent saying employment will get worse next year

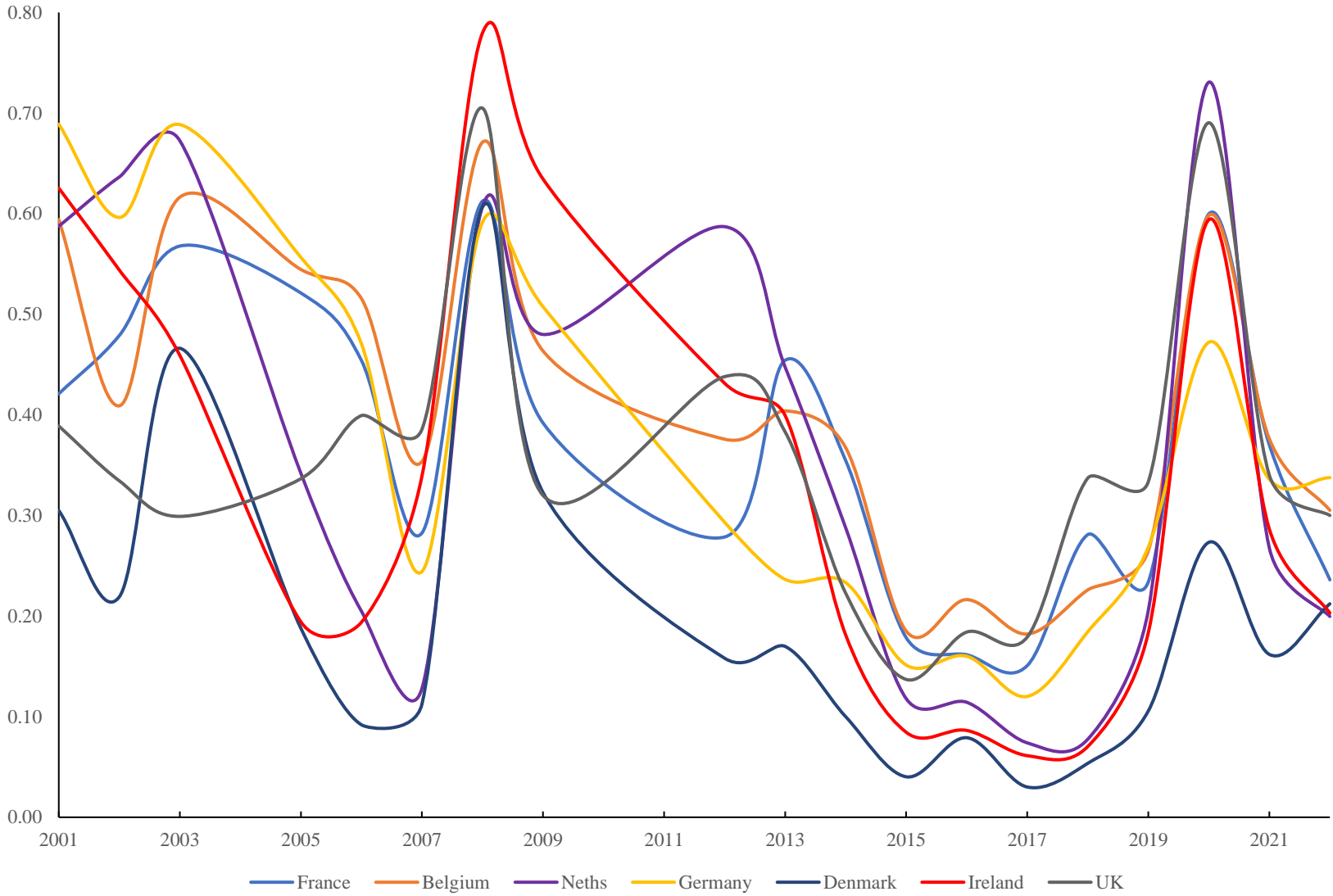




Chart 9. Percent saying employment situation will get worse next year

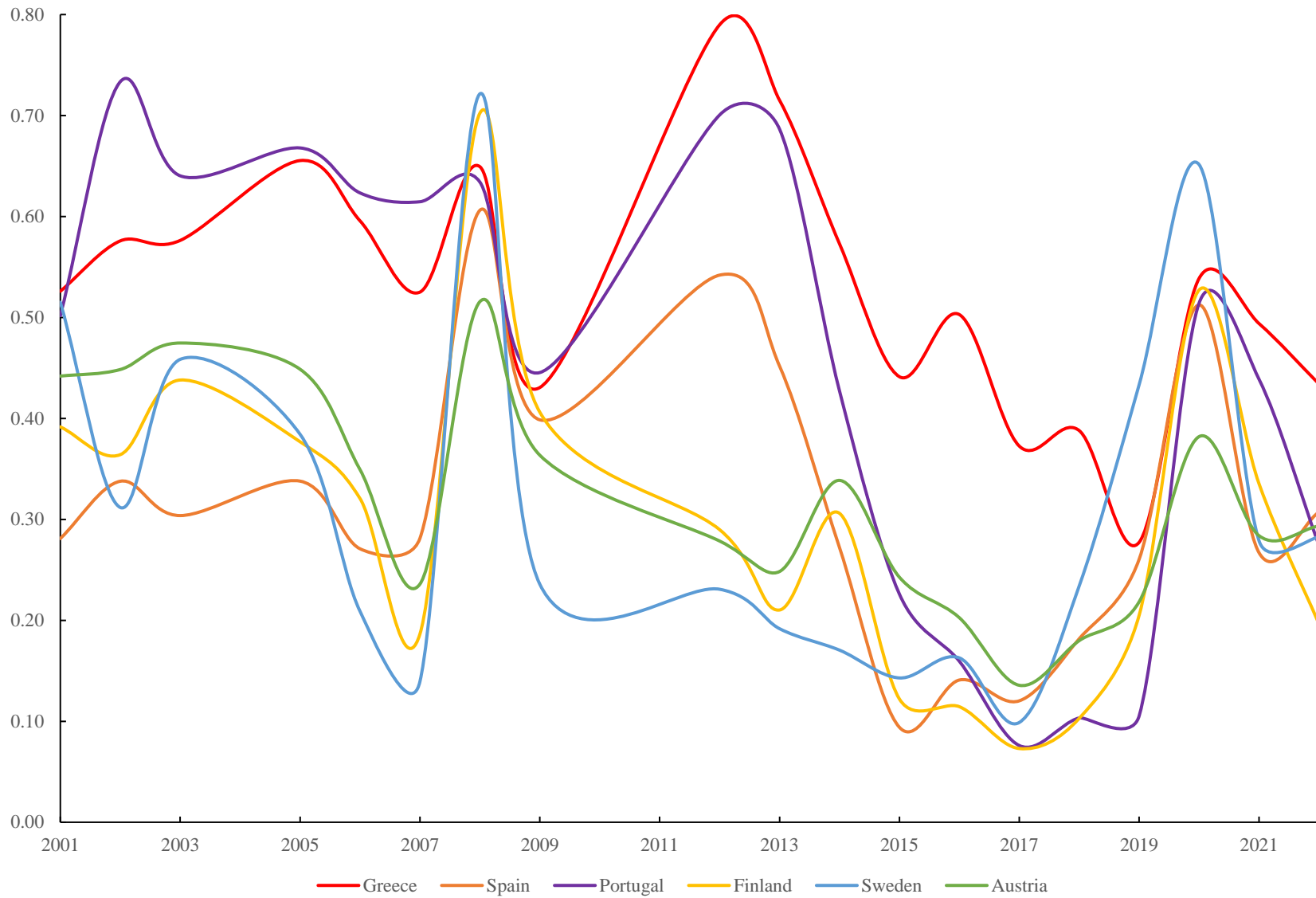


Chart 10. Unemployment and employment expectations for the European Union

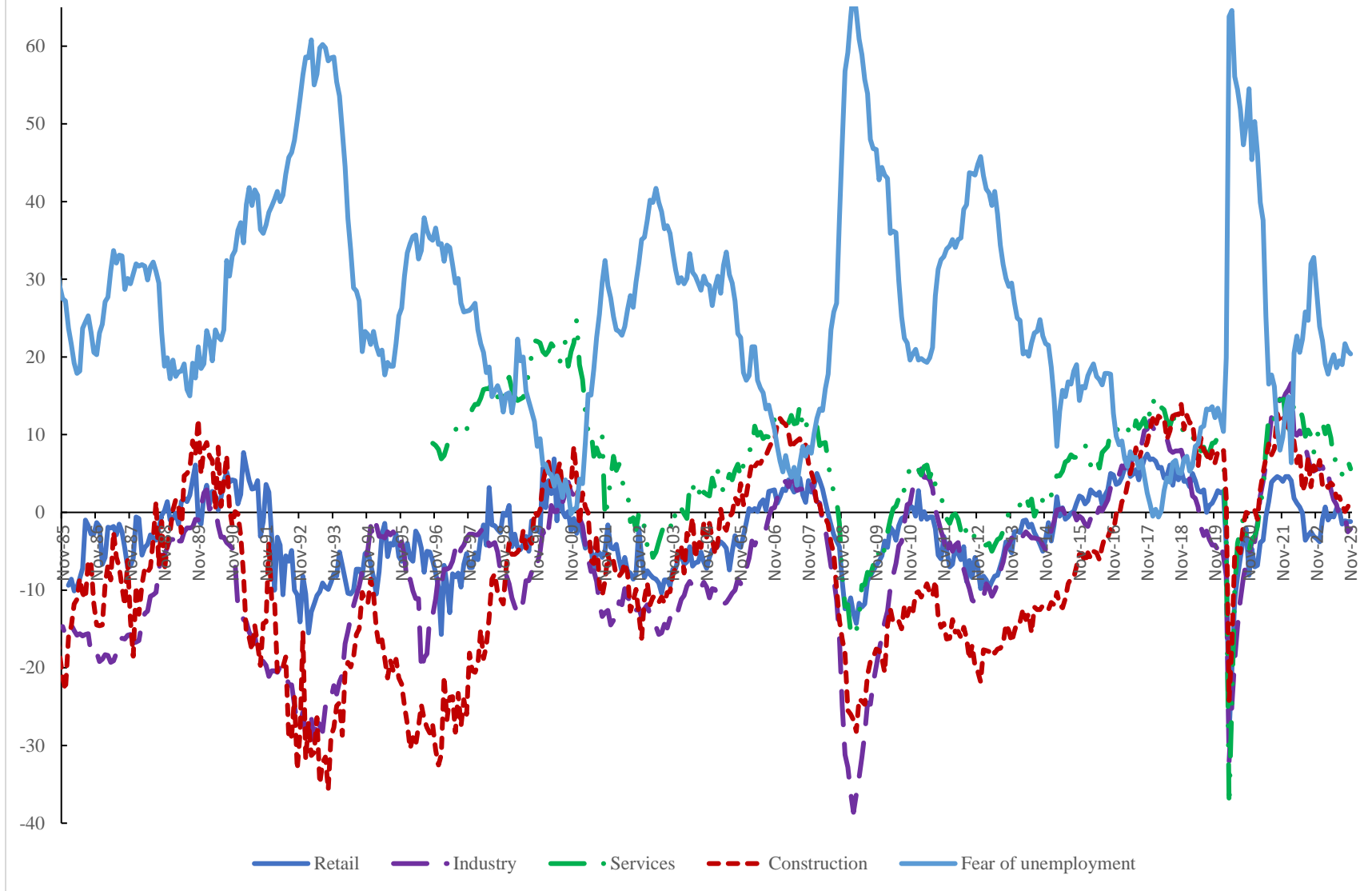


Chart 11. EU fear of unemployment and EU27 unemployment rate, 2000-2023

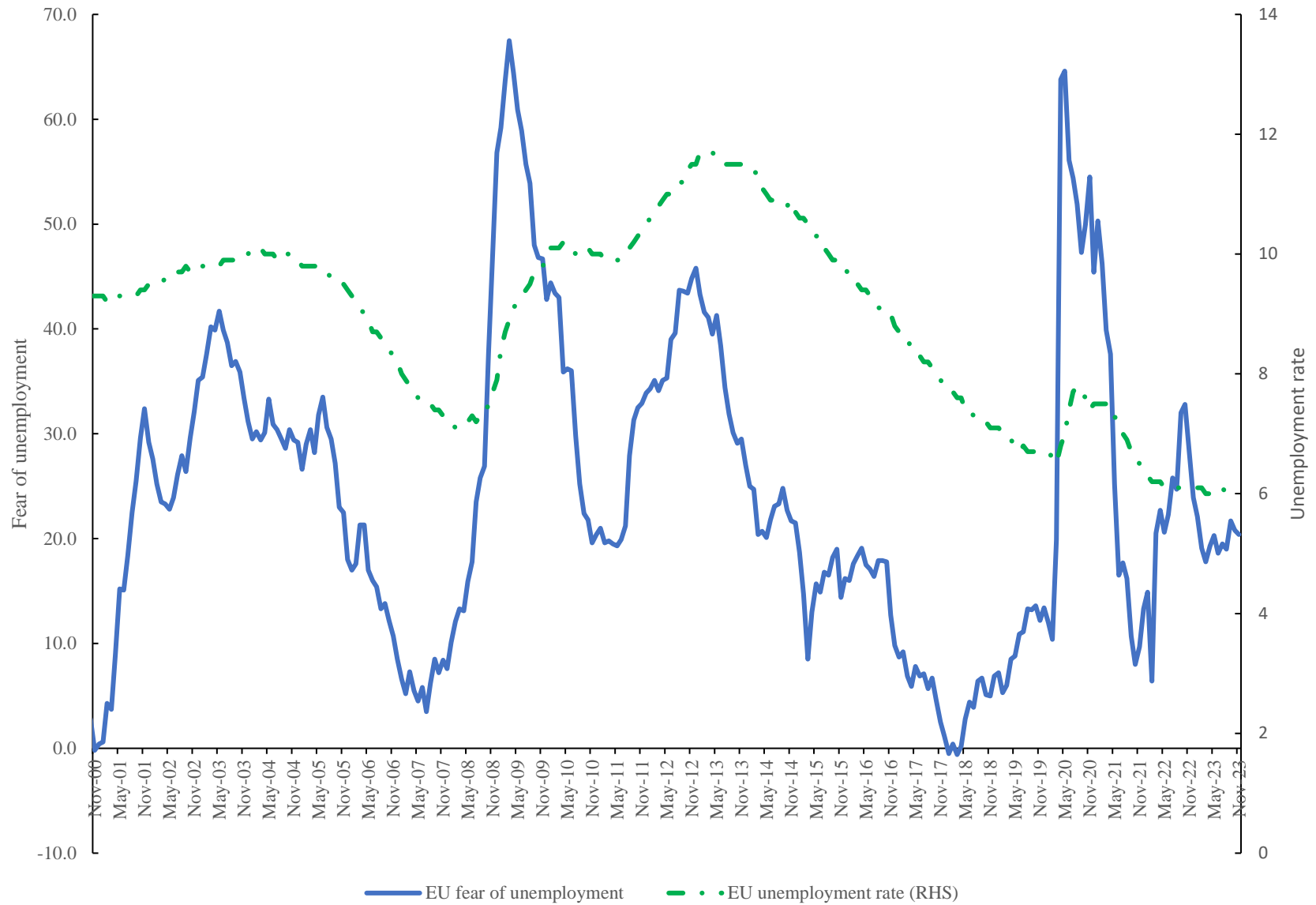


Chart 12. UK fear and the unemployment rate 12 months ahead.

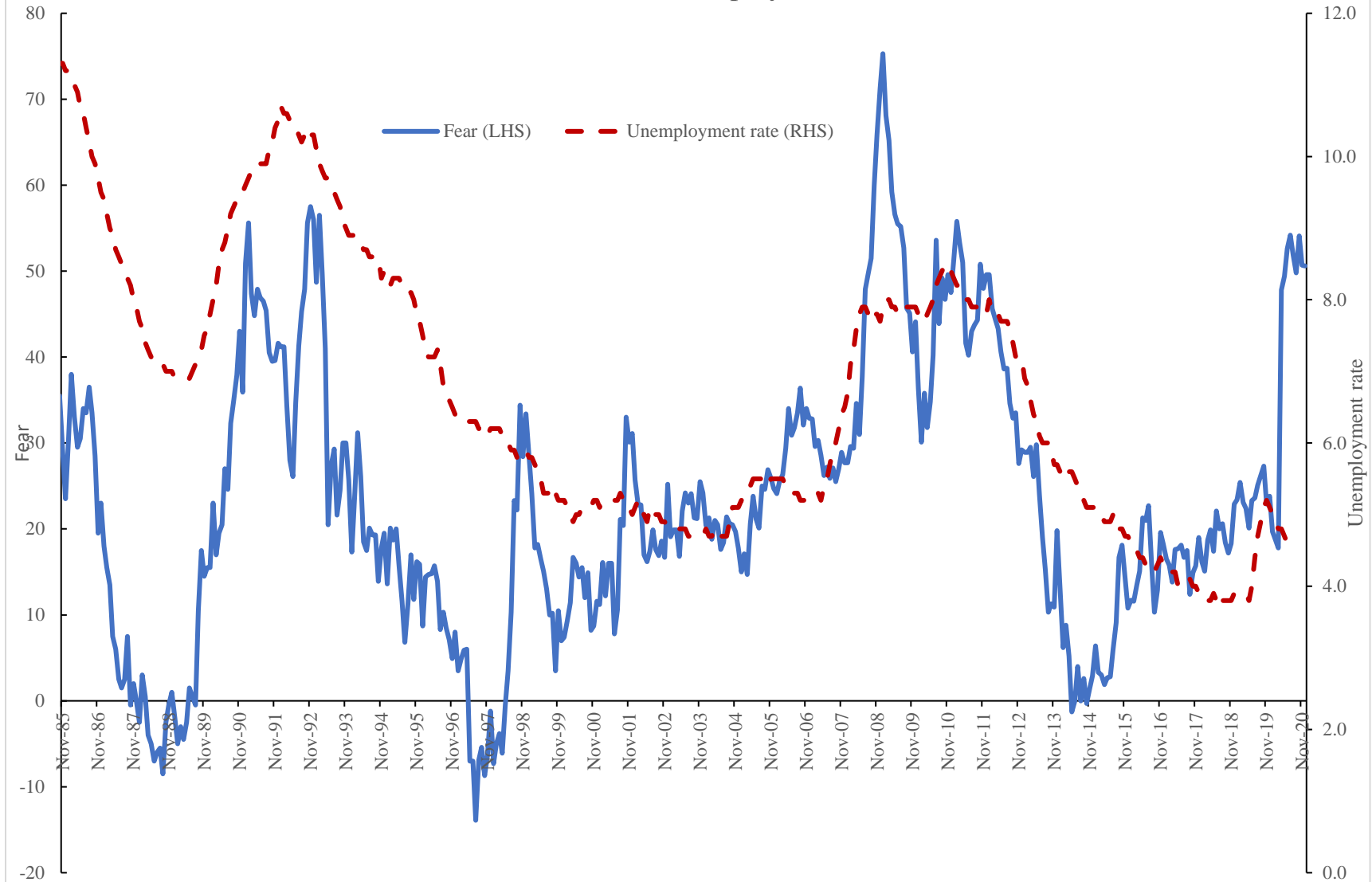


Chart 13. The gap between the predicted and actual unemployment rates

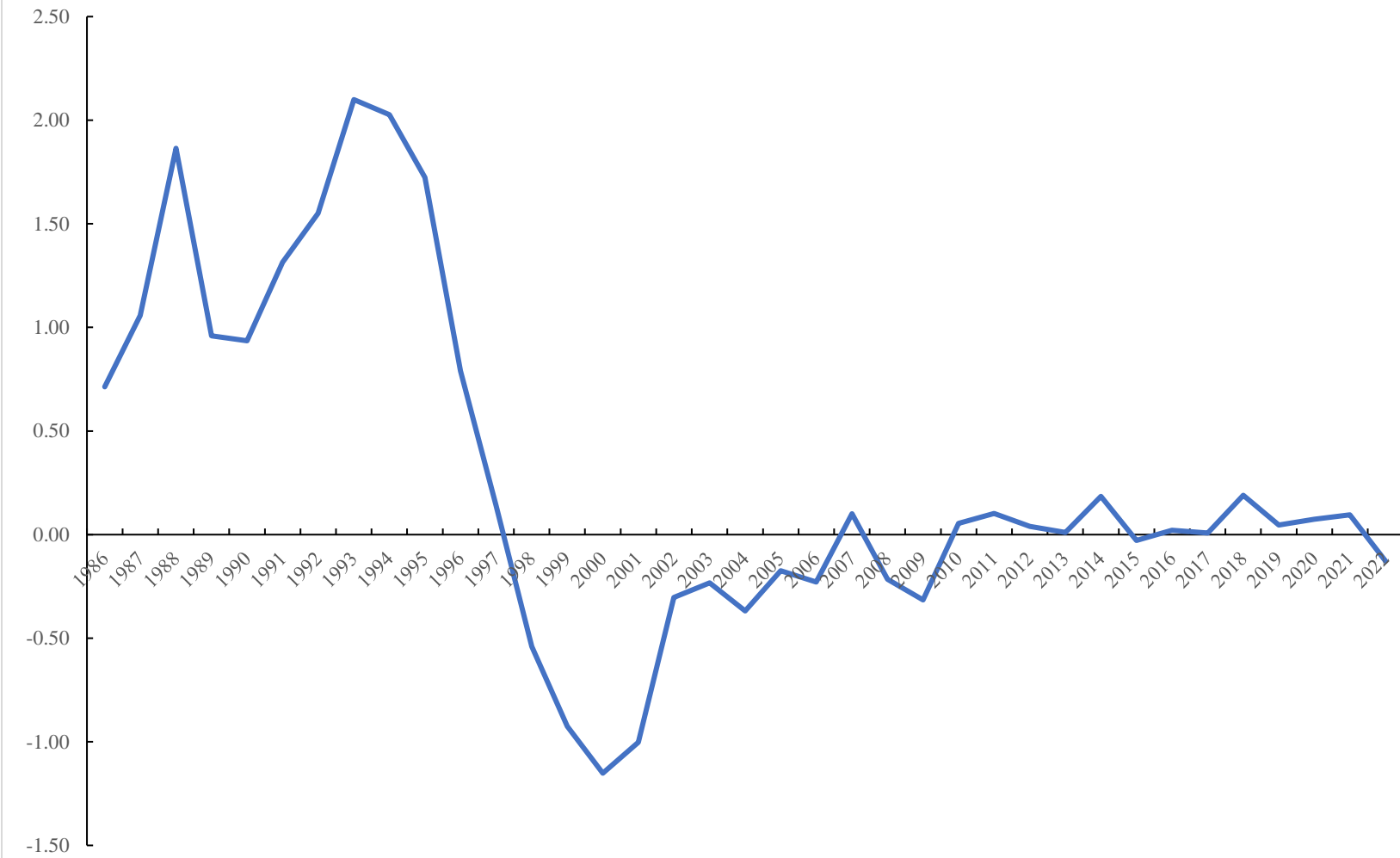
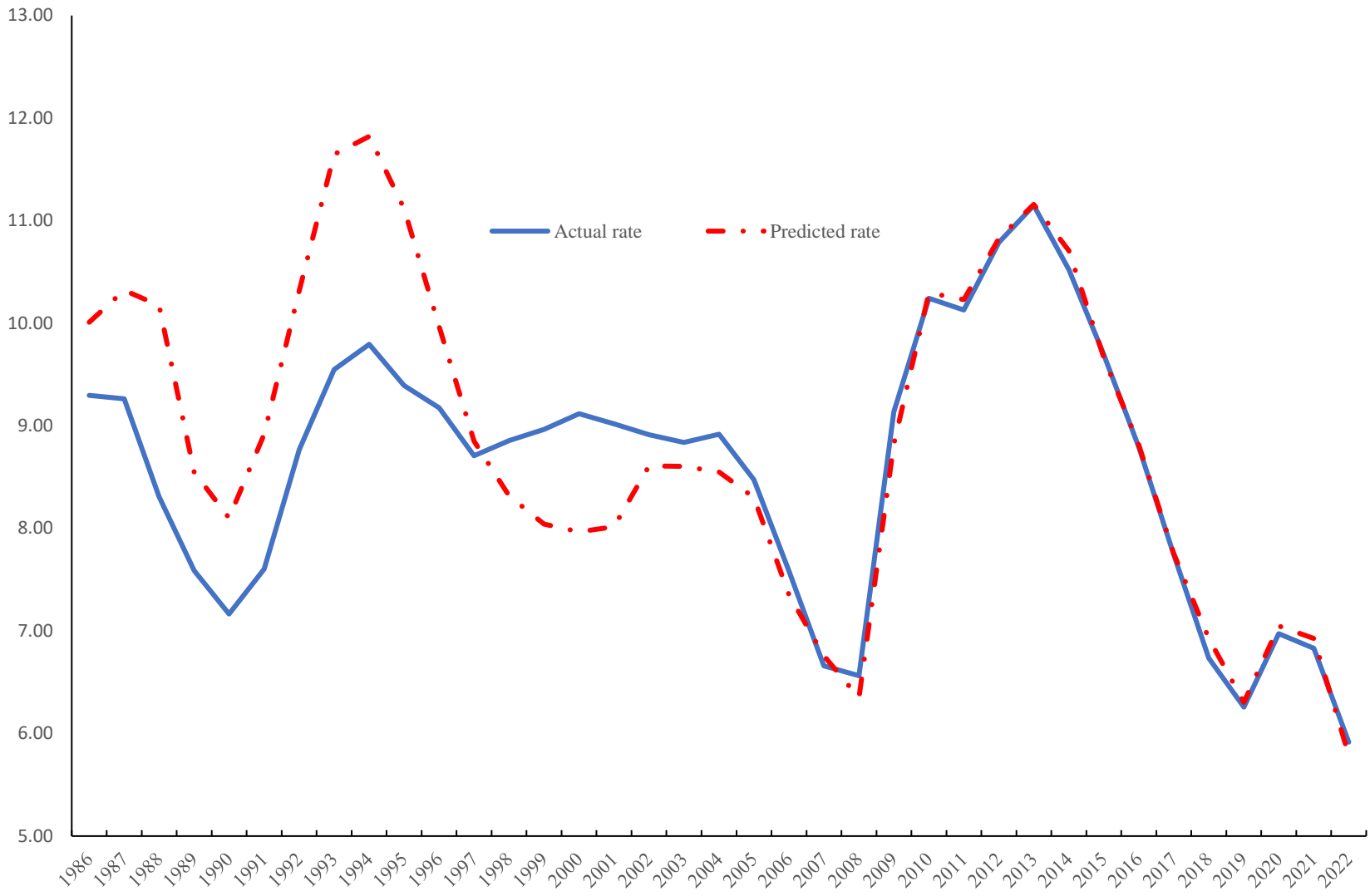


Chart 14. Predicted and actual unemployment rates



## **Supplementary Appendix A.**

### **1) MPC Minutes August 8<sup>th</sup> 2008**

<https://www.bankofengland.co.uk/-/media/boe/files/minutes/2008/minutes-august-2008.pdf?la=en&hash=2D16D0F903280E22C840755DDB63832E76689945>

31. "UK Q2 GDP growth had been estimated at 0.2%, although subsequent industrial production data for June had been weaker than embodied in the GDP estimate. Overall the economy had slowed by more than previous data had suggested. Surveys of output in July had suggested that growth was continuing to ebb. Consumer confidence had weakened further and, despite a robust Q2 figure, retail sales appeared to be slowing on a range of indicators. House prices had fallen sharply in July and loan approvals had fallen to a further low in June. The labour market had also eased. (para 31)

38.. Given the current stance of monetary policy and the prospective weakness in the economy, the resulting increase in spare capacity should bear down on inflation. That would help to counter the risk of high inflation in the near-term becoming embedded in inflation expectations, and to bring inflation back to the target. There would, however, still be significant risks to the inflation outlook.

39. Most members of the Committee judged that the current stance of monetary policy was broadly appropriate and that Bank Rate should be maintained at 5% this month."

### **2) Bank of England Agents, Survey, August 2008**

<https://www.bankofengland.co.uk/-/media/boe/files/agents-summary/2008/august-2008.pdf?la=en&hash=E2E6946167A9E49080878074DFA8D31F57E047B2>

- The Agents' score for business services output fell sharply in July, its largest monthly decline for nearly seven years
- Agents' scores for investment intentions declined. The score for the service sector fell to its lowest level since the series began in 1997.
- Consumption growth eased further, reflecting weakness in demand for consumer services.
- The slowdown in housing demand continued.
- The score for construction output fell further in July. The sharp fall in housing starts that had began around Easter had yet to have its maximum impact on output, and some Agencies expected further score reductions in the months ahead.
- Capacity constraints in manufacturing and services declined.
- Labour demand continued to weaken in July, particularly in construction and housing-related services. Many firms were looking to reduce the volume of labour inputs as product demand slowed

## Supplementary Appendix B. List of Eurobarometer surveys used for

### A) Life satisfaction

#0 Sep-Oct 1973; #30 May 1975; #40 Oct 1975; #50 May-Jun 1976; #60 Nov-Dec 1976; #70 Apr-May 1977; #80 Oct-Nov 1977; #90 May-Jun 1978; #10.0 Oct-Nov 1978; #11.0 April 1979; #13.0 Apr-May 1980; #15.0 Mar-Apr 1981; #17.0 Mar-May 1982; #18.0 October 1982; #19.0 Mar-Apr 1983; #20.0 Sep-Nov 1983; #21.0 Mar-Apr 1984; #22.0 Oct-Nov 1984; #23.0 Mar-Apr 1985; #24.0 Oct-Nov 1985; #25.0 Mar-Apr 1986; #26.0 Oct-Nov 1986; #27.0 April 1987; #28.0 Oct-Nov 1987; #28.1 Oct-Nov 1987; #29.0 Mar-Apr 1988; #31.0 Mar-Apr 1989; #31.1 July 1989; #32.0 Oct-Nov 1989; #33.0 Mar-Apr 1990; #34.0 Oct-Nov 1990; #34.2 Dec 1990; #35.1 April 1991; #36.0 Oct-Nov 1991; #37.0 Mar-Apr 1992; #37.1 Apr-May 1992; #37.2 Apr-May 1992; #38.0 Sep-Oct 1992; #38.1 Nov 1992; #39.0 Mar-Apr 1993; #40.0 Oct-Nov 1993; #41.0 Mar-May 1994; #42.0 Nov-Dec 1994; #43.1 Apr-May 1995; #44.4 Feb-Apr 1996; #47.1 Mar-Apr 1997; #49.0 Apr-May 1998; #52.0 Oct-Nov 1999; #52.1 Nov-Dec 1999; #53.0 Apr-May 2000; #54.1 Nov-Dec 2000; #54.2 Jan-Feb 2001; #55.1 Apr-May 2001; #56.1 Sep-Oct 2001; #56.2 Oct-Nov 2001; #57.1 Mar-May 2002; #57.2 Apr-Jun 2002; #58.1 Oct-Nov 2002; #60.1 Oct-Nov 2003; #62.0 Oct-Nov 2004; #62.2 Nov-Dec 2004; #63.4 May-Jun 2005; #64.2 Oct-Nov 2005; #65.2 Mar-May 2006; #66.1 Sep-Oct 2006; #67.2 Apr-May 2007; #68.1 Sep-Nov 2007; #69.2 Mar-May 2008; #70.1 Oct-Nov 2008; #71.1 Jan-Feb 2009; #71.2 May-Jun 2009; #71.3 Jun-Jul 2009; #72.4 Oct-Nov 2009; #73.4 May 2010; #73.5 June 2010; #74.2 Nov-Dec 2010; #75.3 May 2011; #75.4 June 2011; #76.3 Nov 2011; #77.3 May 2012; #77.4 June 2012; #78.1 Nov 2012; #79.3 May 2013; #79.4 May-Jun 2013; #80.1 Nov 2013; #80.2 Nov-Dec 2013; #81.1 January 2014; #81.2 March 2014; #81.4 May-Jun 2014; #81.5 June 2014; #82.1 Sep-14; #82.2 October 2014; #82.3 Nov 2014; #82.4 Nov-Dec 2014; #83.1 Feb-Mar 2015; #83.2 March 2015; #83.3 May 2015; #83.4 May-Jun 2015; #84.2 October 2015; #84.3 Nov 2015; #84.4 Nov-Dec 2015; #85.1 April 2016; #85.2 May 2016; #85.3 June 2016; #86.1 Sep-Oct 2016; #86.2 Nov 2016; #86.3 Nov-Dec 2016; #87.1 March 2017; #87.2 April 2017; #87.3 May 2017; #87.4 June 2017; #88.1 Sep-Oct 2017; #88.2 October 2017; #88.3 Nov 2017; #88.4 December 2017; #89.1 March 2018; #89.2 April 2018; #89.3 June-July 2018; #90.1 Sep-18; #90.2 Oct-Nov 2018; #90.3 Nov 2018; #90.4 December 2018; #91.2 March 2019; #91.3 April 2019; #91.4 May 2019; #91.5 June-July 2019; #92.1 Sep-19; #92.2 October 2019; #92.3 Nov-Dec 2019; #92.4 December 2019; #93.1 July-August 2020; #93.2 Aug-Sep 2020; #94.1 Oct-Nov 2020; #94.3 Feb-March 2021; #95.1 Mar-Apr 2021; #95.2 April-May 2021; #95.3 June-July 2021; #96.1 Sep-Oct 2021; #96.3 Jan-Feb 2022; #97.3 April-May 2022; #97.5 June-July 2022 and #98.2 Jan-Feb 2023.

### b) Employment expectations

#44.1 Nov-Dec 1995; #52.0 Oct-Nov 1999; #54.1 Nov-Dec 2000; #56.2 Oct-Nov 2001; #58.1 Oct-Nov 2002; #60.1 Oct-Nov 2003; #61.0 Feb-Mar 2004; #62.0 Oct-Nov 2004; #63.4 May-Jun 2005; #64.2 Oct-Nov 2005; #65.2 Mar-May 2006; #66.1 Sep-Oct 2006; #66.3 Nov-Dec 2006; #67.2 Apr-May 2007; #68.1 Sep-Nov 2007; #69.2 Mar-May 2008; #70.1 Oct-Nov 2008; #71.1 Jan-Feb 2009; #71.3 Jun-Jul 2009; #72.4 Oct-Nov 2009; #73.4 May 2010; #74.2 Nov-Dec 2010; #75.3 May 2011; #75.4 June 2011; #76.3 Nov 2011; #77.3 May 2012; #77.4 June 2012; #78.1 Nov 2012; #79.3 May 2013; #79.4 May-Jun 2013; #80.1 Nov 2013; #81.2 March 2014; #81.4 May-Jun 2014; #81.5 June 2014; #82.3 Nov 2014; #83.3 May 2015; #84.3 Nov 2015; #85.2 May 2016; #86.2 Nov 2016; #87.3 May 2017; #88.3 Nov 2017; #89.1 March 2018; #90.3 Nov 2018; #91.5 June-July 2019; #92.3 Nov-Dec 2019; #93.1 July-Aug 2020; #94.3 Feb-March 2021; #95.3 June-July 2021; #96.3 Jan-Feb 2022; #97.5 June-July 2022 and #98.2 Jan-Feb 2023.



Appendix Table 1. Eurobarometers % saying empty situation will get worse next year

	France	Belgium	Netherlands	Germany	Italy	Luxemburg	Denmark	Ireland	UK
2001	.42	.59	.59	.69	.31	.42	.30	.63	.39
2002	.48	.41	.64	.60	.50	.56	.22	.54	.33
2003	.57	.62	.67	.69	.48	.58	.47	.46	.30
2005	.52	.54	.34	.56	.46	.61	.19	.19	.34
2006	.45	.52	.20	.47	.35	.68	.09	.19	.40
2007	.28	.35	.13	.24	.37	.59	.11	.34	.39
2008	.61	.67	.61	.59	.47	.63	.61	.78	.70
2009	.39	.46	.48	.51	.38	.50	.32	.63	.32
2012	.28	.38	.59	.29	.57	.44	.16	.43	.44
2013	.45	.40	.45	.24	.50	.36	.17	.40	.38
2014	.35	.37	.29	.23	.42	.38	.10	.18	.22
2015	.18	.19	.12	.15	.21	.20	.04	.08	.14
2016	.16	.22	.11	.16	.26	.16	.08	.09	.18
2017	.15	.18	.07	.12	.24	.10	.03	.06	.18
2018	.28	.23	.08	.18	.30	.17	.05	.07	.34
2019	.23	.26	.21	.27	.31	.18	.11	.18	.33
2020	.60	.60	.73	.47	.48	.72	.27	.59	.69
2021	.37	.38	.27	.34	.37	.43	.16	.29	.34
2022	.24	.31	.20	.34	.34	.26	.21	.20	.30
	Greece	Spain	Portugal	Finland	Sweden	Austria			
2001	.53	.28	.50	.39	.52	.44			
2002	.58	.34	.73	.36	.31	.45			
2003	.58	.30	.64	.44	.46	.47			
2005	.66	.34	.67	.38	.38	.45			
2006	.60	.27	.62	.32	.21	.35			
2007	.53	.28	.61	.19	.14	.24			
2008	.65	.61	.63	.70	.72	.52			
2009	.43	.40	.45	.41	.24	.36			
2012	.79	.54	.70	.29	.23	.28			
2013	.72	.45	.69	.21	.19	.25			
2014	.57	.27	.43	.31	.17	.34			

2015	.44	.09	.23	.12	.14	.24
2016	.50	.14	.16	.11	.16	.20
2017	.37	.12	.08	.07	.10	.14
2018	.39	.18	.10	.10	.23	.18
2019	.28	.26	.11	.21	.43	.22
2020	.54	.51	.51	.53	.65	.38
2021	.49	.27	.44	.34	.28	.28
2022	.43	.31	.27	.20	.28	.29
	Cyprus	Czechia	Estonia	Hungary	Latvia	Lithuania
2005	.51	.42	.19	.47	.23	.22
2006	.32	.33	.10	.47	.15	.13
2007	.56	.30	.13	.59	.14	.08
2008	.47	.42	.66	.73	.55	.55
2009	.61	.51	.39	.60	.50	.65
2012	.61	.51	.18	.56	.15	.30
2013	.72	.46	.18	.39	.15	.22
2014	.40	.34	.18	.31	.14	.18
2015	.22	.17	.14	.25	.09	.11
2016	.14	.14	.12	.22	.13	.10
2017	.10	.13	.11	.17	.10	.14
2018	.17	.12	.14	.18	.13	.14
2019	.17	.18	.20	.20	.13	.09
2020	.47	.53	.53	.32	.23	.22
2021	.37	.49	.35	.28	.41	.38
2022	.32	.32	.37	.24	.33	.32
	Malta	Poland	Slovakia	Slovenia	Bulgaria	Romania
2005	.53	.34	.43	.52	.29	.45
2006	.41	.31	.31	.40	.32	.37
2007	.35	.15	.25	.34	.22	.32
2008	.41	.31	.35	.47	.26	.31
2009	.38	.37	.55	.48	.54	.57
2012	.28	.45	.40	.59	.47	.32
2013	.08	.38	.40	.64	.32	.39

2014	.13	.32	.33	.44	.31	.32
2015	.08	.19	.19	.20	.18	.25
2016	.07	.21	.18	.19	.16	.25
2017	.07	.14	.16	.12	.13	.28
2018	.08	.15	.18	.19	.21	.38
2019	.12	.17	.22	.22	.18	.34
2020	.17	.37	.46	.48	.46	.47
2021	.26	.38	.45	.44	.31	.47
2022	.21	.34	.40	.34	.36	.47
	Turkey	Croatia	NMaced	Montenegro	Serbia	Albania
2005	.34	.44				
2006	.35	.44				
2007	.40	.38	.37			
2008	.61	.46	.38			
2009	.50	.68	.39			
2012	.37	.43	.30	.42	.46	.28
2013	.37	.38				
2014	.39	.43	.35	.27	.39	
2015	.36	.24	.28	.20	.33	.14
2016	.37	.26	.27	.20	.29	.19
2017	.30	.27	.22	.17	.22	.15
2018	.41	.28	.34	.19	.28	.22
2019	.40	.27	.32	.27	.21	.26
2020	.42	.44	.44	.36	.33	.28
2021	.46	.32	.45	.31	.25	.25
2022	.55	.37	.45	.26	.24	.25
	TCC	Norway	Swiss	Iceland	Bosnia/Herz	Kosovo
2014				.05		
2021	.56	.15	.32	.11	.38	.15
2022	.64	.16	.20	.12	.38	.22

Appendix Table 2. Fear of unemployment and the unemployment rate in 28 countries by month in 2008-2012

Month	Fear of unemployment				Unemployment rate (%)						
	2008-01	2008-08	2008-11	2008-12	2008-01	2008-08	2008-10	2008-12	2009-08	2010-01	2011-01
Austria (56)	1	11	46	57	4.6	4.7	4.3	5.1	5.8	5.2	5.4
Belgium (64)	4	16	59	70	7.1	7.6	6.9	6.9	8.0	8.7	7.5
Bulgaria (49)	7	9	39	56	6.1	5.5	5.1	5.3	8.4	10.2	12.3
Croatia (34)	9	14	20	43	9.1	8.5	8.3	8.3	9.5	10.5	14.2
Czechia (56)	2	5	43	58	4.7	4.1	4.2	4.8	7.4	7.8	7.3
Denmark (43)	3	23	38	46	3.2	3.8	3.6	4.2	7.1	7.5	8.1
Estonia (51)	10	32	54	61	4.3	6.3	6.9	9.3	14.5	17.8	14.8
Finland (55)	5	12	33	60	6.5	6.4	6.3	6.7	8.8	9.5	8.6
France (61)	7	18	60	68	7.2	7.5	7.6	8.0	9.2	9.5	9.2
Germany (50)	6	9	37	56	8.0	7.1	7.0	7.0	7.4	7.0	6.4
Greece (29)	44	52	63	73	7.7	7.8	7.6	8.5	9.8	11.1	15.4
Hungary (34)	47	44	73	81	7.8	7.8	8.0	8.4	10.0	10.8	11.1
Ireland (26)	47	52	71	73	5.3	7.4	8.1	9.0	13.2	13.8	15.2
Italy (31)	19	26	33	50	6.7	6.7	7.0	6.9	7.9	8.6	8.7
Latvia (71)	4	28	62	75	6.2	7.6	9.6	11.6	19.5	20.8	17.4
Lithuania (94)	-23	12	51	71	4.2	6.4	7.7	9.0	14.9	16.7	17.4
Luxembg (47)	19	22	52	66	4.3	5.1	5.2	5.2	5.1	4.6	5.0
Malta (28)	-4	5	30	24	6.1	6.1	6.1	6.1	6.8	7.1	6.6
Neths (75)	-11	0	44	64	5.0	4.7	4.7	4.8	5.6	6.2	5.2
Poland (36)	-12	-10	13	24	7.8	6.8	6.6	7.0	8.4	10.2	10.0
Portugal (16)	50	54	64	66	9.0	9.4	9.3	9.8	11.7	11.9	13.1
Romania (42)	18	13	48	60	5.6	5.5	5.7	5.8	8.4	9.4	7.5
Slovakia (66)	-14	-10	46	52	10.4	9.0	8.7	9.1	12.6	15.0	14.2
Slovenia (53)	8	13	52	61	4.8	4.3	4.2	4.3	6.3	6.5	8.6
Spain (46)	25	52	62	71	9.1	11.5	12.9	14.8	18.2	19.1	20.8
Sweden (70)	-3	27	59	67	6.1	6.1	6.5	7.0	9.0	9.3	8.4
Turkey (30)	21	36	42	51	9.3	9.8	10.6	12.0	13.2	12.2	11.1
UK (43)	28	48	65	71	5.1	5.8	6.1	6.5	7.7	7.9	7.8

Appendix Table 3. Industry fear 2008

	January	February	March	April	May	June	July	August	September	October	Nov
Austria (-36)	14	14	14	13	9	13	7	-7	-2	-11	-22
Belgium (-24)	1	0	2	-4	-5	-5	-6	-4	-8	-14	-26
Bulgaria (-29)	-2	10	0	-1	2	4	4	-8	-4	-11	-19
Croatia (-22)					12	8	10	9	5	5	-10
Cyprus (-32)	20	15	14	31	20	13	6	11	12	6	-1
Czechia (-54)	14	9	8	8	4	-1	-1	-4	-14	-15	-40
Denmark (-28)	4	2	-6	-7	-3	-9	-14	-12	-16	-17	-24
Germany (-29)	3	2	2	0	2	-3	-5	-8	-11	-16	-26
Estonia (-28)	3	4	-5	-10	-14	-10	-9	-9	-20	-24	-32
Finland (-23)	9	13	9	6	4	-7	-2	-3	-8	-17	-38
France (-32)	1	1	0	-1	-9	-8	-13	-13	-16	-19	-32
Greece (-16)	2	-1	0	0	-4	2	-6	-3	-3	-11	-18
Ireland (-53)	16	6	14	-7	0	-10	-11	-20	-22	-29	-37
Italy (-15)	1	-1	-1	-2	-1	-4	-3	-5	-7	-10	-16
Latvia (-31)	0	-3	-7	-8	-15	-12	-14	-14	-17	-22	-31
Lithuania (-30)	0	-4	-5	-9	-5	-2	-14	-18	-24	-28	-30
Luxembg (-25)	-2	-1	3	5	0	-6	-2	-4	-8	-21	-30
Hungary (-24)	-4	4	-5	-1	-8	-4	-5	-4	0	-13	-28
Malta (-25)	1	-2	-2	-14	-7	-23	-7	-25	-23	-24	-28
Neths (-29)	10	9	9	8	7	1	0	-1	-2	-5	-19
Poland (-21)	6	4	4	0	1	-3	-5	-6	-7	-10	-15
Portugal (-23)	3	3	4	7	3	1	0	1	-3	-9	-16
Romania (-5)	-8	-7	-5	-9	-5	-8	-9	-5	-6	-10	-19
Slovenia (-51)	9	13	9	6	4	-7	-2	-3	-8	-17	-38
Slovakia (-42)	2	6	-5	-1	-6	-3	-10	-16	-15	-31	-36
Spain (-20)	2	-1	0	0	-4	2	-6	-3	-3	-11	-18
Sweden (-29)	-7	-7	-9	-9	-10	-17	-21	-20	-26	-31	-36
Turkey (-56)	15	11	6	4	7	4	0	-1	-12	-18	-41
UK (-15)	-13	-21	-10	-17	-19	-21	-32	-22	-22	-35	-28

Appendix Table 4. Fear of unemployment in 32 countries by month in 2022. Parentheses low to high

	January	February	March	April	May	June	July	August	September	October	Nov	
EU (21)	14	9	20	21	22	22	25	26	31	32	32	30
Austria (21)	8	-1	20	19	21	14	23	18	27	26	26	20
Belgium (42)	6	-4	8	15	11	12	12	16	36	36	36	38
Bulgaria (0)	28	24	31	25	33	30	31	32	36	32	32	24
Croatia (0)	17	18	20	14	18	19	17	17	16	16	16	14
Cyprus (17)	22	14	33	27	32	28	35	31	29	30	30	31
Czechia (32)	12	13	22	26	25	31	30	29	37	44	44	44
Denmark (30)	-4	-8	6	13	11	15	21	18	19	29	29	22
Estonia (42)	13	12	19	32	38	36	39	40	48	52	52	55
Finland (21)	6	-6	11	11	8	9	11	15	13	18	18	15
France (20)	7	-4	9	10	7	11	10	6	14	15	15	16
Germany (21)	17	12	24	31	28	28	35	32	38	39	39	33
Greece (15)	42	23	32	33	36	28	37	41	42	43	43	38
Hungary (43)	19	22	27	27	31	35	35	48	54	62	62	62
Ireland (43)	2	-14	3	11	8	6	16	17	23	24	24	29
Italy (5)	24	21	32	29	23	27	30	27	41	41	41	26
Latvia (21)	31	11	14	23	30	29	22	24	31	29	29	35
Lithuania (13)	18	18	24	24	26	28	22	26	39	39	39	31
Luxembourg (21)	14	1	18	18	19	17	16	15	23	22	22	22
Malta (20)	-2	-1	-6	-14	-4	-3	-1	3	4	6	6	6
Netherlands (22)	-4	-12	-7	-3	-8	-10	-11	-5	5	9	9	10
Poland (13)	30	23	30	27	27	28	31	31	34	35	35	39
Portugal (38)	17	5	27	30	24	24	21	23	28	35	35	43
Slovenia (16)	17	18	20	16	22	21	25	23	29	34	34	32
Slovakia (5)	24	23	25	27	25	26	26	25	29	31	31	28
Spain (26)	8	-3	16	18	12	18	28	31	32	28	28	23
Sweden (55)	1	-14	12	8	8	9	16	16	31	41	41	41
Montenegro (3)	18	16	25	17	13	22	26	22	27	21	21	19
N. Macedonia (4)	16	16	15	21	18	17	15	12	22	33	33	19
Albania (1)	8	8	14	14	13	9	9	8	11	17	17	9
Serbia (15)	-15	-17	-17	-16	-6	-2	-1	-4	-3	-1	-1	-2
Turkey (-4)	32	34	32	32	32	34	32	30	31	29	29	28

Appendix Table 5. Industry views on employment in 32 countries by month in 2022.

	January	February	March	April	May	June	July	August	September	October	Nov
EU (-10)	15	16	11	10	11	9	8	7	5	5	5
Austria (-17)	23	21	19	20	9	19	14	10	10	7	6
Belgium (-20)	6	9	2	6	0	-1	1	0	-5	-13	-11
Bulgaria (5)	4	4	5	9	8	11	8	9	8	6	6
Croatia (4)	15	21	13	19	17	23	11	12	18	15	19
Cyprus (1)	1	0	0	1	1	2	1	1	1	1	0
Czechia (-23)	10	11	5	13	2	4	4	2	0	-4	-10
Denmark (-35)	25	22	27	8	10	8	-5	-5	-8	-13	-10
Estonia (-39)	27	24	17	5	9	9	3	-7	-11	-13	-12
Finland (-14)	18	19	20	10	13	9	7	9	10	7	6
France (0)	14	15	13	15	13	13	12	15	14	16	15
Germany (-18)	19	21	11	7	10	9	8	5	1	0	3
Greece (-26)	20	10	2	2	-6	1	7	0	-5	-6	9
Hungary (-23)	19	18	7	8	10	9	10	4	-1	4	-4
Ireland (-31)	37	38	28	39	54	28	29	12	20	27	23
Italy (-8)	7	9	6	7	7	8	7	5	1	1	4
Latvia (-12)	7	8	5	5	3	-1	-3	-1	-2	-5	-4
Lithuania (-20)	21	21	15	16	11	13	10	10	1	2	6
Luxembg (-18)	9	16	-1	9	16	15	24	5	-2	-1	-3
Malta (-92)	13	18	3	33	53	34	29	27	10	0	-39
Neths (-10)	21	21	19	18	18	16	17	15	13	12	11
Poland (-17)	-3	-4	-8	-8	-7	-9	-13	-11	-13	-14	-12
Portugal (0)	9	8	6	6	6	4	6	6	3	3	12
Romania (-5)	5	4	0	2	2	2	0	0	0	3	1
Slovenia (-18)	29	24	21	28	17	21	15	15	10	11	11
Slovakia (-25)	29	24	21	28	17	21	15	15	10	11	4
Spain (-4)	2	4	4	4	4	4	3	4	1	2	0
Sweden (-19)	29	29	26	23	24	23	27	20	14	13	10
Montenegro (-22)	4	11	12	20	1	9	0	-2	4	2	8
N. Macedonia (-4)	0	2	-2	-2	3	0	4	8	4	3	3
Albania (-16)	20	18	11	12	20	17	15	10	10	9	4
Serbia (-10)	15	17	12	7	8	6	10	10	7	11	12
Turkey (-)	17	15	15	10	14	14	11	12	9	10	12

Numbers in parentheses change January-Nov

Appendix Table 6. Consumer Fear by country by year, 1985-2022

	UK	Belgium	Denmark	Germany	Ireland	Greece	Spain	France	Italy	Netherlands	Portugal	Finland
1985	34	33	-4	23	46	12		47	44	-3		
1986	31	30	1	11	43	25	23	31	36	-10	21	
1987	6	33	27	26	43	31	27	38	38	5	12	14
1988	-3	21	33	33	32	22	18	27	39	10	8	9
1989	4	8	28	21	17	19	7	16	30	-2	3	-6
1990	28	9	23	35	14	35	14	20	33	5	3	7
1991	46	25	26	40	42	44	26	51	41	19	9	33
1992	42	41	31	42	48	49	49	54	53	27	25	10
1993	34	56	27	59	41	40	57	60	65	61	61	19
1994	20	33	-3	36	24	40	30	37	31	31	55	-12
1995	15	34	-13	32	17	48	21	16	15	14	46	-10
1996	11	35	0	50	10	47	16	49	23	9	49	-4
1997	-3	39	-11	50	-13	49	7	34	27	-9	16	-14
1998	11	16	-8	31	-18	55	2	14	24	-15	23	-15
1999	15	10	8	23	-23	51	-1	9	25	-9	15	-13
2000	12	-11	-5	10	-20	35	-1	-7	16	-20	11	-11
2001	19	16	3	25	16	42	10	19	4	12	18	8
2002	20	27	8	34	34	37	20	33	11	31	43	14
2003	22	44	25	49	42	50	14	49	17	56	60	23
2004	20	34	10	47	15	38	12	32	19	35	50	20
2005	22	37	-1	40	11	44	11	28	25	18	50	13
2006	31	23	-12	22	12	41	10	13	18	-10	45	7
2007	28	10	-8	-1	33	35	12	5	19	-16	43	-2
2008	45	22	20	17	54	50	46	27	27	11	51	18
2009	55	65	31	70	63	63	42	61	43	61	64	43
2010	42	37	5	25	38	84	27	37	42	23	56	11
2011	48	16	5	5	32	88	20	35	42	18	65	16
2012	38	43	10	21	25	82	44	47	54	53	72	31
2013	21	47	1	23	11	75	31	45	44	54	57	32
2014	4	32	-9	16	-8	48	4	40	29	19	17	32
2015	8	19	-11	17	-16	46	-9	33	8	4	10	29
2016	16	18	1	27	-12	62	-3	21	12	5	5	16
2017	16	2	-9	14	-12	51	-7	9	13	-23	-13	-6
2018	19	-1	-9	8	-12	30	-1	9	8	-26	-11	-8
2019	24	10	1	16	7	7	13	9	14	-7	-1	6
2020	43	51	15	44	26	52	48	45	41	52	53	29
2021	n/a	21	-7	25	-4	46	19	29	31	11	31	5
2022	n/a	15	12	28	10	36	19	8	30	-5	23	10



	Austria	Estonia	Czechia	Latvia	Hungary	Slovenia	Slovakia	Sweden
1992		72						
1993		72		49	43			
1994		43		40	19			
1995	38	25	25	32	42			5
1996	46	26	24	34	35	32		24
1997	39	35	49	32	24	30		10
1998	32	30	55	30	10	29		-3
1999	19	52	62	30	23	24	54	-2
2000	2	47	43	22	25	13	36	-19
2001	15	37	14	14	22	12	32	19
2002	21	21	27	17	14	28	32	13
2003	31	19	40	17	37	31	22	24
2004	30	11	30	16	31	29	6	22
2005	31	3	15	7	35	35	0	19
2006	17	-17	6	-5	42	20	-4	-1
2007	-3	-7	3	-4	53	11	-12	-18
2008	17	34	14	32	53	19	1	29
2009	52	47	45	66	71	54	53	39
2010	14	5	26	27	29	43	22	-10
2011	10	0	29	13	37	39	29	2
2012	27	9	40	11	42	44	36	25
2013	27	1	36	8	27	43	33	17
2014	34	5	17	8	14	28	13	1
2015	42	13	8	8	17	13	8	17
2016	43	17	4	14	11	9	-2	16
2017	12	6	0	10	4	-5	-5	3
2018	-2	2	0	6	1	-5	-8	2
2019	8	6	10	6	-2	7	2	19
2020	27	34	42	29	32	45	47	36
2021	3	21	27	25	23	29	37	-2
2022	18	33	27	24	36	22	26	13

	Albania	Bulgaria	Croatia	Cyprus	Lithuania	Luxembourg	Malta	Poland	Romania	Montenegro	Macedonia	Turkey
2001	15		33	37			55					
2002	26		32	24	25	15	52	32				
2003	20		33	7	40	12	42	44				
2004	15		41	-5	36	24	22	43				
2005	15	26	46	-15	34	24	16	31				
2006	17	19	46	-26	34	19	1	37				
2007	9	10	41	-27	21	5	-14	31			19	
2008	15	17	37	12	29	5	-6	16			38	
2009	57	55	56	73	62	31	38	21		36	32	
2010	48	56	52	45	33	29	22	70		22	23	
2011	42	40	55	17	29	27	26	71		22	11	
2012	48	50	64	17	45	24	36	53	29	15	12	
2013	40	41	65	11	43	1	34	44	26	4	14	
2014	35	40	33	13	34	-2	21	46	10	3	23	
2015	28	18	14	7	23	-10	13	37	9	1	32	
2016	-1	22	13	-6	5	8	-13	4	23	8	-1	29
2017	-4	19	9	-11	6	-1	-18	-3	23	13	-1	29
2018	0	14	-1	-12	5	-3	-30	-6	18	14	1	29
2019	4	15	-1	-7	3	10	-24	-2	19	10	-5	42
2020	19	38	32	47	29	49	14	39	16	25	16	41
2021	21	29	24	33	21	26	-12	28		18	20	32
2022	11	30	17	28	27	16	-2	29		20	19	32