# Labour Market Expectations and Unemployment in Europe

## David G. Blanchflower

Bruce V. Rauner Professor of Economics,
Department of Economics, Dartmouth College,
Adam Smith Business School, University of Glasgow,
GLO, Bloomberg and NBER
Blanchflower@dartmouth.edu

and

## Alex Bryson

Professor of Quantitative Social Science
Social Research Institute
University College London,
NIESR and IZA
a.bryson@ucl.ac.uk

January 27th, 2023

# Abstract

Unemployment is notoriously difficult to predict. In previous studies, once country and year fixed effects are added to panel estimates, few variables predict changes in unemployment rates. Using panel data for 29 European countries collected by the European Commission over 444 months between January 1985 and October 2022 in an unbalanced country*month panel of just over 10000 observations, we predict changes in the unemployment rate 12 months ahead. We do so using individuals' fears of unemployment which predict subsequent changes in unemployment 12 months later in the presence of country fixed effects and lagged unemployment. We also use industrial firm's 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 based on replications from 1,000 random samples. These 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.

Conflict of Interest Statement: The authors declare no conflict of interest.

# 1. Introduction

*"If this thing was so large how come nobody could forsee it?"*
Queen Elizabeth II at the opening of LSE's New Academic Building, 6th November 2008

The Queen was referring to economists' seeming inability to forecast the Great Recession of 2008. Professor Luis Garicano was reported to have responded: "*at every stage, someone was relying on somebody else and everyone thought they were doing the right thing*".[1] He was subsequently reported as saying: "*I think the main answer is that people were doing what they were paid to do, and behaved according to their incentives, but in many cases they were being paid to do the wrong things from society's perspective.*"[2] Several economists followed up three months later in a letter to the Queen from members of the British Academy which concluded: "*In summary, Your Majesty, the failure to forsee the timing, extent and severity of the crisis and to head it off, while it had many causes, was principally a failure of the collective imagination of many bright people….to understand the risks to the system as a whole.*"[3]

The Queen was subsequently 'doorstepped' four years later in a visit to the Bank of England by the Bank's financial policy expert Sujit Kapadia who suggested the Crash was due, in part, to City complacency and poor regulation. The Queen was reported to have replied: "*People got a bit lax…perhaps it is difficult to forsee [a financial crisis].*" Kapadia is reported to have agreed saying that crises were a bit like earthquakes and flu pandemics in being rare and difficult to predict.[4] Subsequent events seem to have borne out the point regarding pandemics. And it is standard in economics to characterize recessions in much the same way as Kapadia did, essentially as random shocks which, by construction, cannot be predicted. We argue here that this is a mistake. We show that micro-data on economic actors' expectations of unemployment accurately predict movements in unemployment over the period 1985-2022.

Several economists did in fact spot the Great Recession coming but were ignored.[5] It started in the United States housing market in 2006 and spread, just as the Great Depression did (Knowlton, 2020): Florida was central to both. As we show below, early warning signs of the impending Great Recession were apparent in business and consumer surveys and Purchasing Manager Indices (PMI) with similar stories from around the globe, but only a very few policymakers were willing to take them at face value that they signaled an imminent recession (Blanchflower, 2008).

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 in Section Two 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

---

[1] See, for example https://www.dailymail.co.uk/news/article-1083290/Its-awful--Why-did-coming--The-Queen-gives-verdict-global-credit-crunch.html
[2] https://www.theguardian.com/uk/2009/jul/26/monarchy-credit-crunch
[3] Letter dated 22nd July 2009 https://www.ma.imperial.ac.uk/~bin06/M3A22/queen-lse.pdf
[4] https://www.theguardian.com/uk/2012/dec/13/queen-financial-crisis-question
[5] Stephen Mihm, 'Dr Doom', Washington Post, August 15th, 2008.

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.

Our empirical analyses 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.[6] 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.

## 2. The Previous Literature Modelling Unemployment

There has been growing interest over time in incorporating qualitative measures into economic forecasts, particularly in relation to GDP and, to some extent, in relation to unemployment. We review this literature below.

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).[7]

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

---

[7] For further work examining the relative predictive power of economic sentiment metrics constructed in various ways see Gelper and Croux (2010).

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).[8]

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.[9]

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).

---

[8] We thank Klaus Zimmermann for bringing these references to our attention.
[9] The Economics of Walking About (EWA) became the Economics of Walking About the Internet (EWAI).

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.[10]

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 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.[11] 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.

## 3. 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.[12] Although the United Kingdom experienced a

---

[10] The introduction of a structural break in March 2008 improves the estimation.

[11] 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.

[12] 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.

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.[13]

The first four columns of Table 1 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 rate reported by Eurostat which were published in 2022. In almost every case the Commission underestimated the rise in the rate, especially by 2010. The main exceptions are Belgium and Germany in 2010 where the EC forecast was lower than the actual rate.

Of particular note is that 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 11th 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 27th July; 75bp on 14th September and 2nd November and by a further 50 BP on December 15th 2022, to 2.5%.[14] 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 2023-2023.

This is what is suggested in Table 2 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:

---

[13] 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*
[14] 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

*Q1. 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.

*Q3. How do you expect your firm's total employment to change over the next 3 months? It will...*
*+ increase (P)*
*= remain unchanged (E)*
*− 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.

Table 2 summarizes the EU Commission data presented in Appendix Tables 1-4. 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.

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.

Their responses have been broadly similar in 2022. The FOMC at the Federal Reserve, and the MPC at the Bank of England and the ECB along with the EU Commission are not expecting large rises in the unemployment rate. However, the fear data in Table 2 appear to be ringing alarm bells,

for many countries, especially if they continue to fall.[15]  The consumer data have risen sharply although not to the same magnitude as in 2008 – column 2 shows large rises of over 30pts in Belgium, Czechia, Denmark, Hungary, Ireland and Sweden. In Portugal the rise was two-times that for 2008.  The data from employers in column 4 showed broadly similar falls in employment expectations in 2022 as in 2008 in Belgium, Denmark, Estonia, Greece, Hungary, Poland and Malta.

The concern is that the trends in these fear data predict a much larger rise in unemployment than central banks are forecasting.[16]  Despite forecasting an eight-quarter long recession the MPC in its November 2022 Monetary Policy Report for the UK its median forecast for the unemployment rate shows only limited rise - as follows.

2022Q3          3.5%
2024Q3          5.7%
2025Q3          6.3%

The European Central Bank is forecasting in 2022 Q4 that the unemployment rate for the EU will go from 6.8 in 2022 to 7.1% in 2023 and 2024.[17]

This all seems highly optimistic.  The question is whether the failures of 2008 are set to be repeated in 2023 and beyond.  It seems to us that they will be, as we show below.

## 4. 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.

As noted above, 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 consumer's expectations of changes in the number of unemployed a year ahead.

---

[15] The Eurozone manufacturing PMI issued on January 2nd 2023 was 47.8 showing recession.
https://www.pmi.spglobal.com/Public/Home/PressRelease/60e74b1cea3546e3a73f0cfbe40687c0?s=1
[16] At the most recent meeting of the FOMC in December 2016 the median projection was for unemployment to rise from 3.7% in 2022 to only 4.6% in 2023 and 2024 and 4.5% in 2025.
https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20221214.pdf
[17] https://www.ecb.europa.eu/stats/ecb_surveys/survey_of_professional_forecasters/html/table_hist_unem.en.htm

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, 2020) 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

*Q3. 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-November 2021. A twelve-month lag on this fear variable was found to enter significantly positively.[18]

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); 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 5.[19]

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

---

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

[19] Fear data is available through November 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.

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.

Charts 1-3 are the starting point for our analysis of the European fear of unemployment data. We focus on the EU as a whole, followed by the UK and Germany. 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 1 plots the fear variable as well as the overall consumer confidence variable for the European Union.[20] Chart 2 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. Analogously, Chart 3 for Germany shows a pickup in the fear series at the end of 2018, predating a subsequent uptick in unemployment the next year. Both fear measures in the EU and Germany pick up in 2022. For the EU and Germany, it is notable that the industry and consumer labor market measures are essentially mirror images of each other. Chart 4 shows that the industry and consumer fear variables are essentially mirror images of one another.

Taken together the charts provide very powerful descriptive evidence of the predictive power of these qualitative surveys. Now we turn to the econometrics.

In this section 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. Higher levels of home ownership reduced mobility, which in the US has halved over the last fifty years and hence raised unemployment (Blanchflower and Oswald, 2008).

Table 3 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 4 we split the sample into three time periods, with the same controls as in column 2 of Table 3 for the periods 1985-1999, 2000-2008 and 2009-2022. 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.

In Table 5 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 6 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 7 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 8 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 form .03 in Table 4 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.[21]

*Q4. 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*

*Q5. How has the financial situation of your household changed over the last 12 months? It has...*
*+ + got a lot better*
*+ got a little better*

---

[21] Details are here https://economy-finance.ec.europa.eu/system/files/2022-12/bcs_user_guide.pdf

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

*Q6. How do you think consumer prices have developed over the last 12 months*

*+ + risen a lot*
*+ risen moderately*
*= 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.

## 5. Out of Sample Forecasting of Unemployment Rates

In the estimation presented in Section 4 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.[22]

To obtain our out-of-sample predictions of mean unemployment year-on-year in our data we ran our preferred model specification (Table 8, 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.[23] For each year we constructed the gap between actual mean unemployment and the mean out-of-sample prediction under the model. The results

---

[22] https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/economic-forecasts/autumn-2022-economic-forecast-eu-economy-turning-point_en#forecast-for-countries

[23] 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 6 is simply the mean predicted unemployment rate in a given year minus the mean observed unemployment rate in that year.

are presented in Chart 6.  Trends in the mean prediction and mean observed unemployment rates are presented in Chart 7.

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 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.

## 6.  Discussion and Conclusions

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, January 2023, the data from the EU Business and Consumer Surveys analyzed above is available through to December 2022.[24]  Data are available monthly from consumers as well as from firms in construction, retail, services, and industry.

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 that 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.

---

[24] 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
The December 2021 data were released on 21st December 2021
https://ec.europa.eu/info/sites/default/files/flash_consumer_2021_12_en.pdf

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?[25]

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 8th 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%. The EWA had it right.[26]

Lehman Brothers failed on September 15h 2008 and at a Special Meeting on 8th 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 5th, 2008, after RBS had to be rescued.

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.[27] 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.[28]

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*

---

[25] 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.

[26] Chris Williamson of S&P Global Markit Intelligence who produce the PMIs in a tweet on January 20th, 2023, in a conversation with one of us, noted that the UK services PMI released on 5th 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.

[27] 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.

[28] 72%=June 1980; and 64%=November 199090.

*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."*[29]

This is clearly not the case: doctors do try to predict heart attacks. Indeed, the above is not even an accurate characterization of what medical doctors do.[30] 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.[31] 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 that economists should harness the information available in these qualitative surveys we examine to predict economic downturns and, in particular, rising unemployment. It would be progress if economists acted like doctors.[32]

We argue here that qualitative surveys allow us to do just that. They 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 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) in the United States, Economists should be measured by their ability to model unemployment.

---

[29]https://www.niesr.ac.uk/sites/default/files/files/GertjanVlieghe_Blanchflower%20book%20review_11%20June%202019.pdf

[30] See for example 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

[31] The latest version of QRISK is here: https://www.qrisk.org/

[32] 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.

## References

Abberger, K. (2007), 'Qualitative business surveys and the assessment of employment – A case study for Germany', *International Journal of Forecasting*, 23: 249‑58

Askitas, N. and Zimmermann, K. F. (2009), 'Google econometrics and unemployment forecasting', *Applied Economics Quarterly*, 55, 107‑120.

Berge, T.J. and Jorda, Ò (2011), 'Evaluating the classification of economic activity into recessions and expansions', *American Economic Journal: Macroeconomics*,' 3: 246–277.

Blanchflower, D.G. and Graham, C. (2022), 'The mid-life dip in well-being: a critique', *Social Indicators Research*.

Blanchflower, D.G. and Graham, C. (2021), 'The U-shape of happiness: A response', *Perspectives on Psychological Science.*

Blanchflower, D.G., C. Graham and Piper, A. (2023), 'Happiness and age – resolving the debate', *National Institute Economic Review*, forthcoming.

Blanchflower, D.G. (2008), 'Inflation expectations and monetary policy', speech given at the Royal Society, Edinburgh, 29 April 2008, Bank of England. https://www.bankofengland.co.uk/-/media/boe/files/speech/2008/inflation-expectations-and-monetary-policy

Blanchflower, D.G. (2007), 'Recent developments in the UK economy; the economics of walking about,' Bernard Corry Memorial Lecture, Queen Mary College, London, 30th May. https://www.bankofengland.co.uk/-/media/boe/files/speech/2007/recent-developments-in-the-uk-economy-the-economics-of-walking-about.pdf

Blanchflower, D.G. (1991), 'Fear, unemployment and pay flexibility', *The Economic Journal*, May; 483-496.

Blanchflower, D.G., D.N.F. Bell, A. Montagnoli, and Moro, M. (2014), 'The happiness tradeoff between unemployment and inflation', *Journal of Money Credit and Banking,* 46, S2: 117-141.

Blanchflower, D.G. and Bryson, A.J. (2022), 'The Sahm Rule and predicting the Great Recession across OECD countries', *National Institute Economic Review*.

Blanchflower, D.G. and Bryson, A.J. (2021), 'The economics of walking about and predicting unemployment', *National Institute Economic Review*.

Blanchflower, D.G. and Oswald, A.J. (2013), 'Does high home ownership impair the labor market?' Peterson Institute Working Paper #13-3, May,

Blanchflower, D.G. and Shadforth, C. (2009), 'Fear, unemployment and migration', *The Economic Journal*, 119(535), February, F136-F182.

Bryson, A. and Forth, J. (2016), 'The UK's productivity puzzle', Chapter 5 in Askenazy, P., Bellmann, L., Bryson, A. and Moreno-Galbis, E. (eds.) *The Productivity Puzzle across Europe*, Oxford University Press, 129-173.

Claveria, O. (2019a), 'Forecasting the unemployment rate using the degree of agreement in consumer unemployment expectations', *Journal of Labour Market Research*, 53, 3: 1–10.

Claveria, O. (2019b), 'A new consensus-based unemployment indicator', *Applied Economics Letters*, 26,10: 812-817.

Claveria, O., Monte, E., and Torra, S. (2019a), 'Evolutionary computation for macroeconomic forecasting', *Computational Economics,* 53, 2: 833–849.

Claveria, O., Monte, E., and Torra, S. (2019b), 'Empirical modelling of survey-based expectations for the design of economic indicators in five European regions', *Empirica*, 46 (2): 205–227.

Claveria, O., Monte, E., Torra, S., (2017), 'Using survey data to forecast real activity with evolutionary algorithms. A cross-country analysis', *Journal of Applied Econometrics*, 20, 2: 329–349.

Duflo, E. (2017), 'The economist as plumber', *American Economic Review*, 107(5): 1-26.

El-Jahel, L., R. MacCullough and Shafiee, H. (2021), 'How does monetary policy affect welfare? Some new estimates using data on life evaluation and emotional well-being', forthcoming *Journal of Money, Credit and Banking*.

Estrella, A. and F.S. Mishkin (1998), 'Predicting U.S. recessions: financial variables as leading indicators', *The Review of Economics and Statistics*, 80(1): 45-61.

Feng, S. and Sun, J. (2020), 'Misclassification-errors-adjusted Sahm Rule for early identification of economic recession', *IZA Discussion Paper No. 13168.*

Freeman, R. B. (2007), 'Labor market institutions around the world', *NBER Working Paper #13242*

Gelper, S. and Croux, C. (2010), 'On the construction of the European sentiment indicator', *Oxford Bulletin of Economics and Statistics*, 72, 1: 47-62

Hippisley-Cox, J., Coupland, C., Vinogradova, Y., Robson, J., Minhas, R., Sheikh, A., and Brindle, P. (2008), 'Predicting cardiovascular risk in England and Wales: prospective derivation and validation of QRISK2', *British Medical Journal*, 336: a332.

Hutter, C. and Weber, E. (2015), 'Constructing a new leading indicator for unemployment from a survey among German employment agencies', *Applied Economics*, 47, 33: 3540-3558.

Kirchgässner, G. (1982), 'Sind die Erwartungen der Wirtschaftsobjekte 'rational?', Eine empirische Untersuchung für die Bundesrepublik Deutschland', *Weltwirtschaftliches Archiv* 118: 215-240.

Kirchgässner, G. (2005) 'On the rationality of the general public', University of St. Gallen Department of Economics Working Paper No. 2005-13.

Knowlton, C. (202), *Bubble in the Sun: The Florida Boom of the 1920s and How It Brought on the Great Depression*, Barnes and Noble.

Lagerborg, A. Pappa, E. and Ravn, M.O. (2020), 'Sentimental business cycles', working paper, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3661442

Mankiw, N. G. (2006), 'The macroeconomist as scientist and engineer', *Journal of Economic Perspectives*, 20(4):29–46.

Manning, A. and Mazeine, G. (2020), 'Subjective job insecurity and the rise of the precariat: Evidence from the UK, Germany and the United States', *CEP Discussion Paper No. 1712*

Nickell, S., P. Jones and Quintini, G. (2002), 'A picture of job insecurity facing British men', *The Economic Journal*, 112, 476: 1-27.

Noelle-Neumann, E (1980), 'Über den Zusammenhang zwischen Neujahrsstimmung und Wirtschaftswachstum im folgenden Jahr', *Allensbacher Berichte* #31.

Sahm, C. (2019), 'Direct stimulus payments to individuals', Brookings. https://www.brookings.edu/wp-content/uploads/2019/05/ES_THP_Sahm_web_20190506.pdf

Schanne, N., Wapler, R. and Weyh, A. (2010), 'Regional unemployment forecasts with spatial interdependencies', *International Journal of Forecasting*, 26, 4: 908-926

Smith, P. (2016), 'Google's MIDAS touch: predicting UK unemployment with internet search data', *Journal of Forecasting*, 35: 263-284.

Sorić, P., Lolic, I., Claveria, O., Monte, E. and Salvador, T. (2019), 'Unemployment expectations: A socio-demographic analysis of the effect of news', *Labour Economics*, 60: 64-74.

Sun, J., Feng, S. and Hu, Y. (2021), 'Misclassification errors in labor force statuses and the early identification of economic recessions', *Journal of Asian Economics*, 75: 101319.

Surowiecki, J. (2005), *The Wisdom of Crowds: Why the Many Are Smarter Than the Few*, Penguin Random House.

Tian, R. and Shen, G. (2019), 'Predictive power of Markovian models: Evidence from US recession forecasting', *Journal of Forecasting*, 38, 6: 525–551.

Vincente, M. R., Lopez-Menendez, A. J. and Perez, R. (2015), 'Forecasting unemployment with internet search data: does it help to improve predictions when job destruction is skyrocketing?' *Technological Forecasting and Social Change*, 92: 132-139.

Table 1. 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://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

Table 2.  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 |
| 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 |
| 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 - November of that year

Autumn 2008 forecast

https://ec.europa.eu/economy_finance/publications/pages/publication13290_en.pdf

Table 3. Unemployment and the fear of unemployment, Jan 1985- October 2022.

| | | | | |
|---|---|---|---|---|
| $Fear_{t-12}$ | .0271 (40.71) | .0272 (40.70) | .0228 (33.37) | .0294 (38.37) |
| Unempt rate$_{t-12}$ | .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$^2$ | .8915 | .8915 | .9203 | .9273 |
| N | 9,410 | 9,410 | 9,410 | 9,410 |

Notes: T-statistics in parentheses.

Table 4.  Unemployment and the fear of unemployment, pre- and post-Great Recession.

| | 1985-1999 | 2000-2009 | 2010-2022 |
|---|---|---|---|
| $Fear_{t-12}$ | .0304 (21.32) | .0408 (27.25) | .0276 (23.71) |
| Unempt rate$_{t-12}$ | .8459 (78.42) | .6596 (51.49) | .7433 (96.21) |
| | | | |
| _cons | .3381 | .8996 | 1.1519 |
| Adjusted R$^2$ | .8916 | .9356 | .9433 |
| N | 1,935 | 3,051 | 4,424 |

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

Table 5.  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 6. 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$^2$ | .9641 | .9694 | .9704 | .9712 |
| N | 10,006 | 10,006 | 10,006 | 10,006 |

Table 7. 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 8. Unemployment plus industry and consumer and other controls, Jan 1985- October 2022.

| | 1985-2022 | 1985-2008 | 2009-2022 | 1985-2022 | 1985-2022 |
|---|---|---|---|---|---|
| Consumer fear$_{t-12}$ | .0075 (14.56) | .0089 (12.83) | .0065 (8.26) | .0038 (7.37) | .0025 (4.11) |
| Industry Fear$_{t-3}$ | -.0197 (25.34) | -.0221 (20.09) | -.0214 (17.14) | -.0132 (16.64) | |
| Unempt rate$_{t-3}$ | .7789 (110.94) | .6632 (62.37) | .8146 (84.37) | .7070 (95.02) | .6725 (79.53) |
| Unempt rate$_{t-12}$ | .1642 (24.60) | .2807 (27.38) | .1085 (11.85) | .1935 (29.15) | .2143 (28.76) |
| Financial situation$_t$ | | | | -.0171 (13.67) | -.0190 (12.75) |
| General situation$_t$ | | | | -.0068 (10.82) | -.0063 (8.31) |
| Inflation$_t$ | | | | -.0056 (12.21) | -.0069 (12.18) |
| | | | | | |
| Empt Expecs index | | | | | -.0204 (15.54) |
| | | | | | |
| _cons | .3058 | .0388 | .9648 | .6055 | 2.8787 |
| Adjusted R$^2$ | .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.  EU Fear and Consumer Confidence
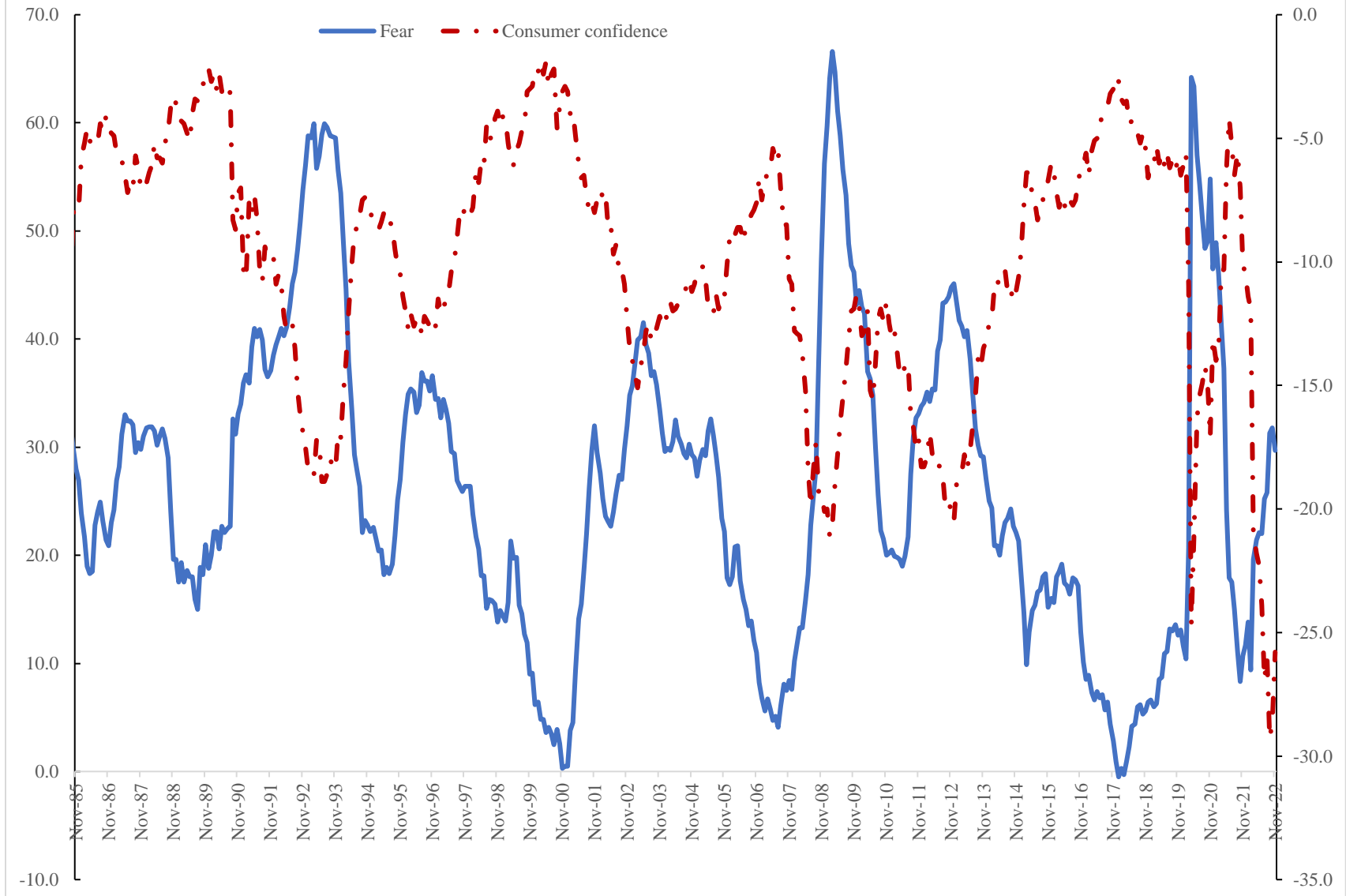
Chart 2. UK Fear and the Unemployment Rate 12 Months Ahead.
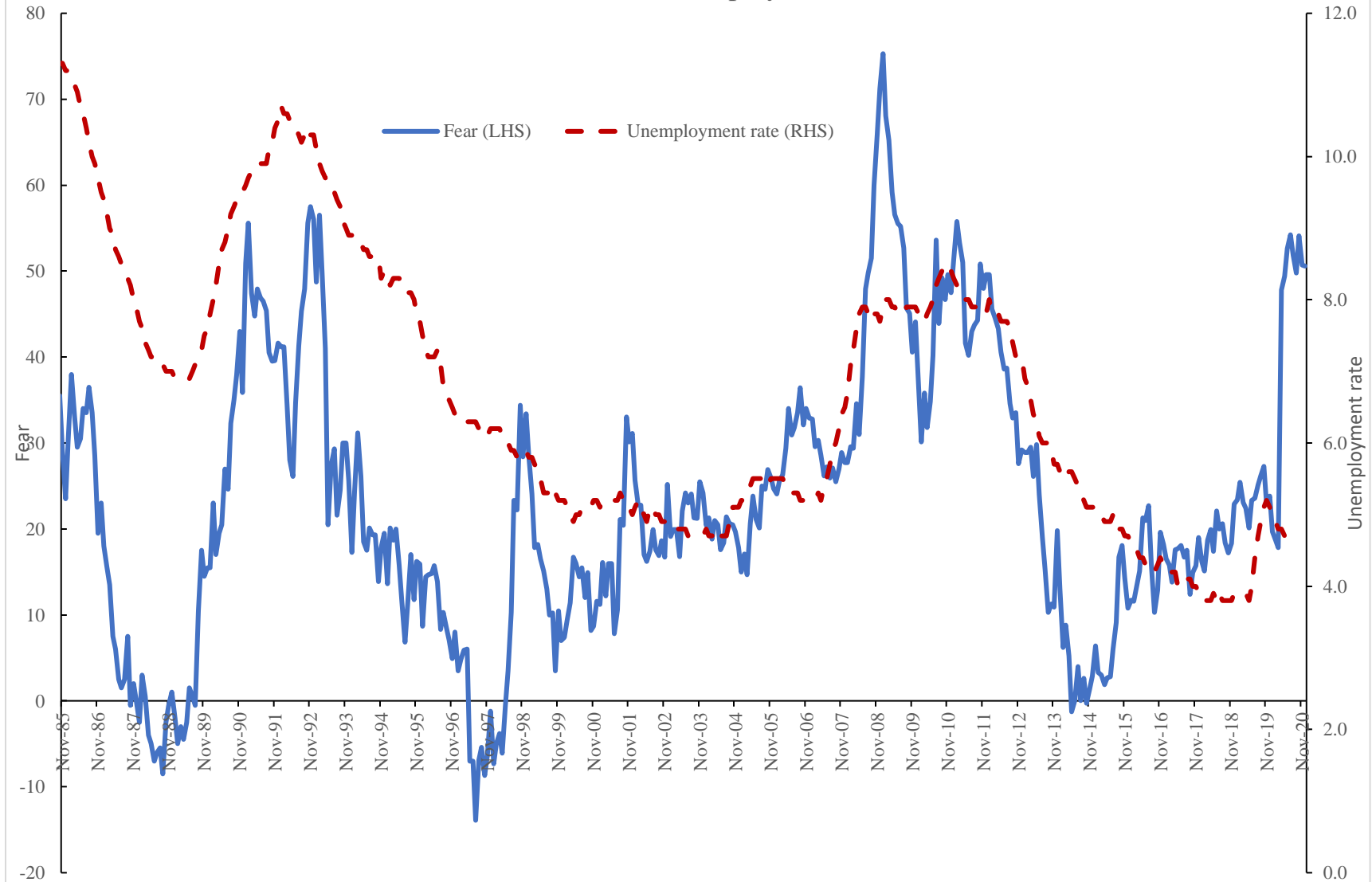
Chart 3. German Fear and the Unemployment Rate (%)
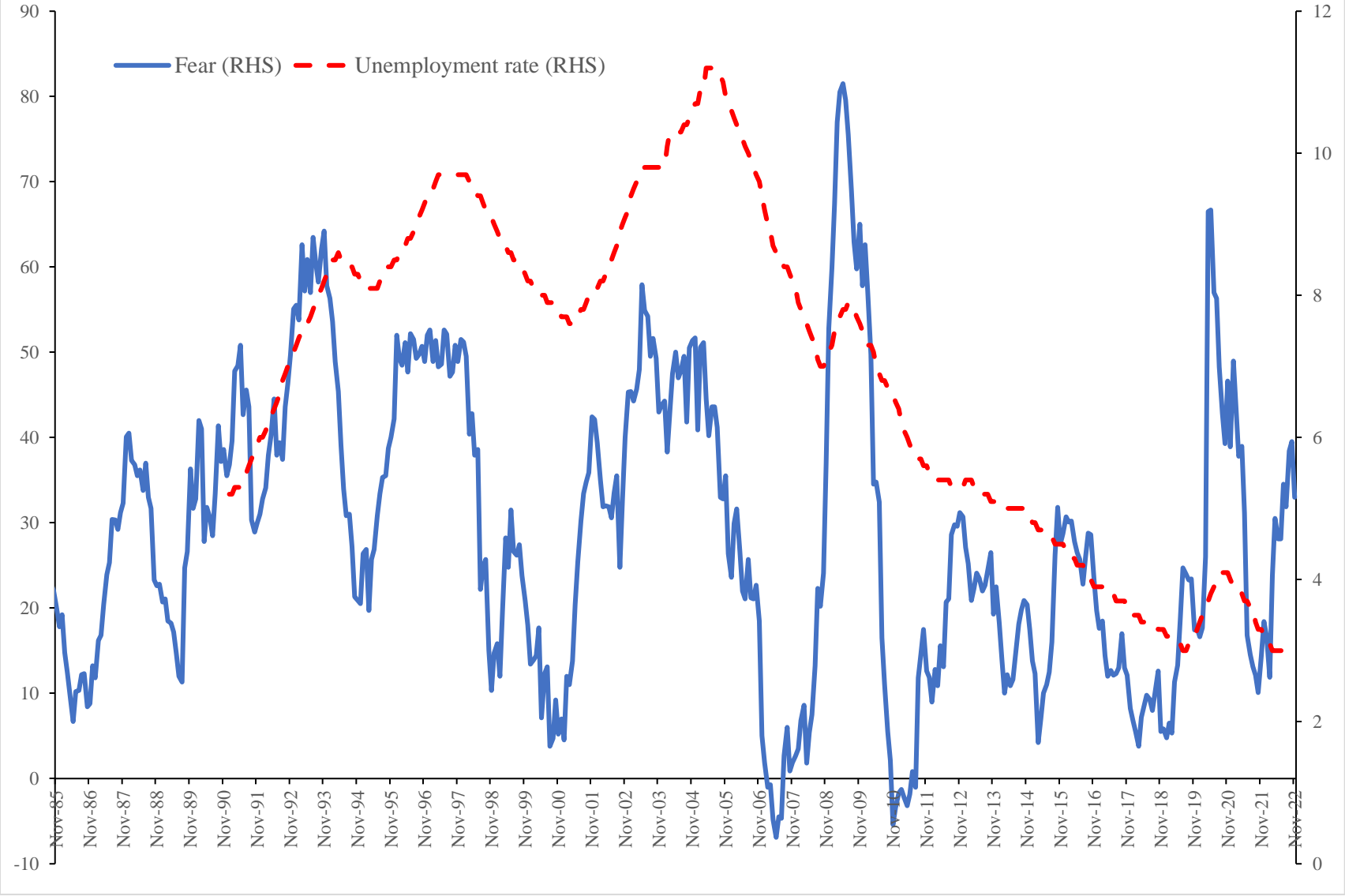
Chart 4. European Union Industry and Consumer Fear, 1985-2022

Industry fear —— Consumer fear
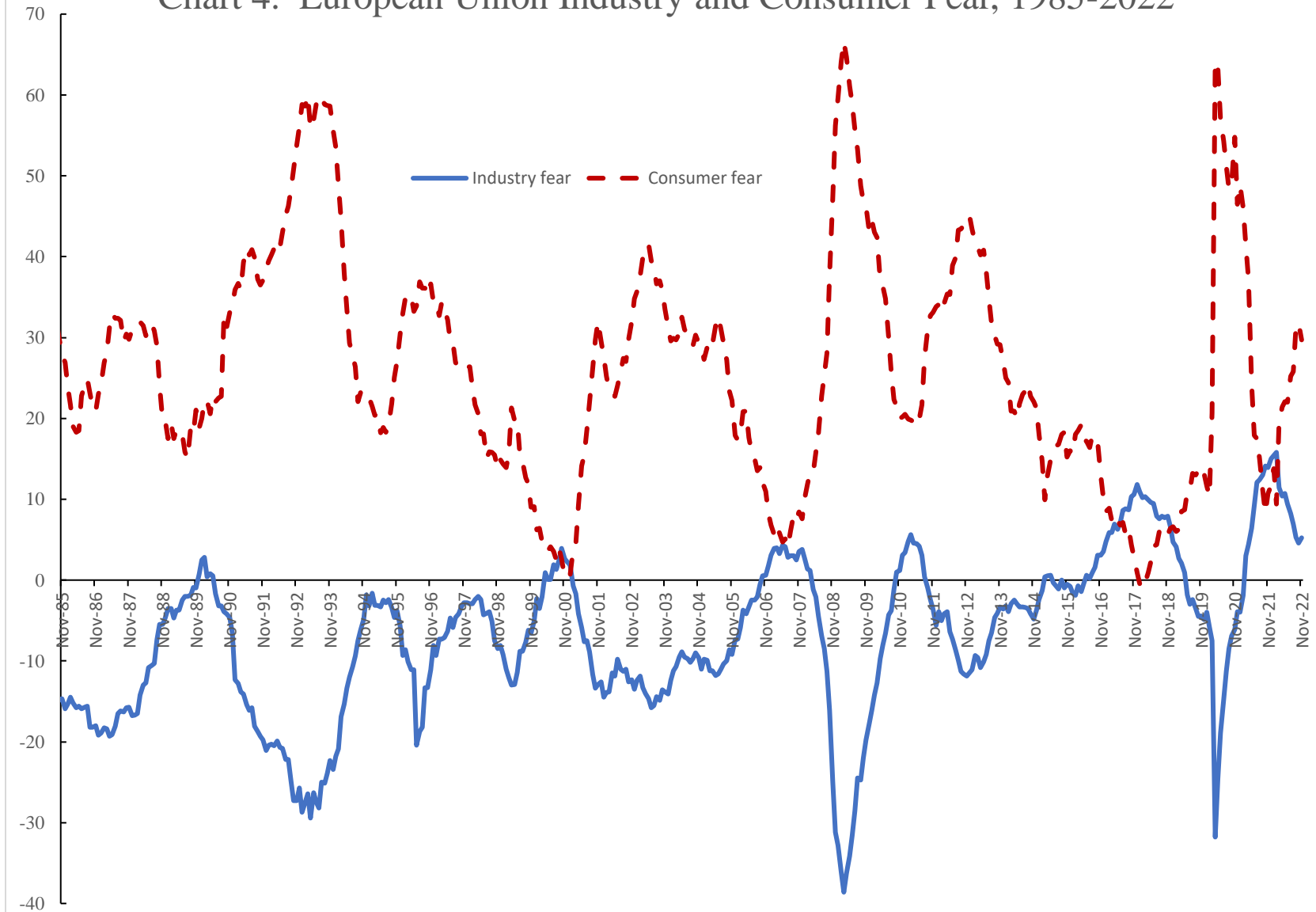
# Chart 5. German Industry and Consumer fear 1997-2022



Legend: Industry fear (LHS), Fear (RHS)
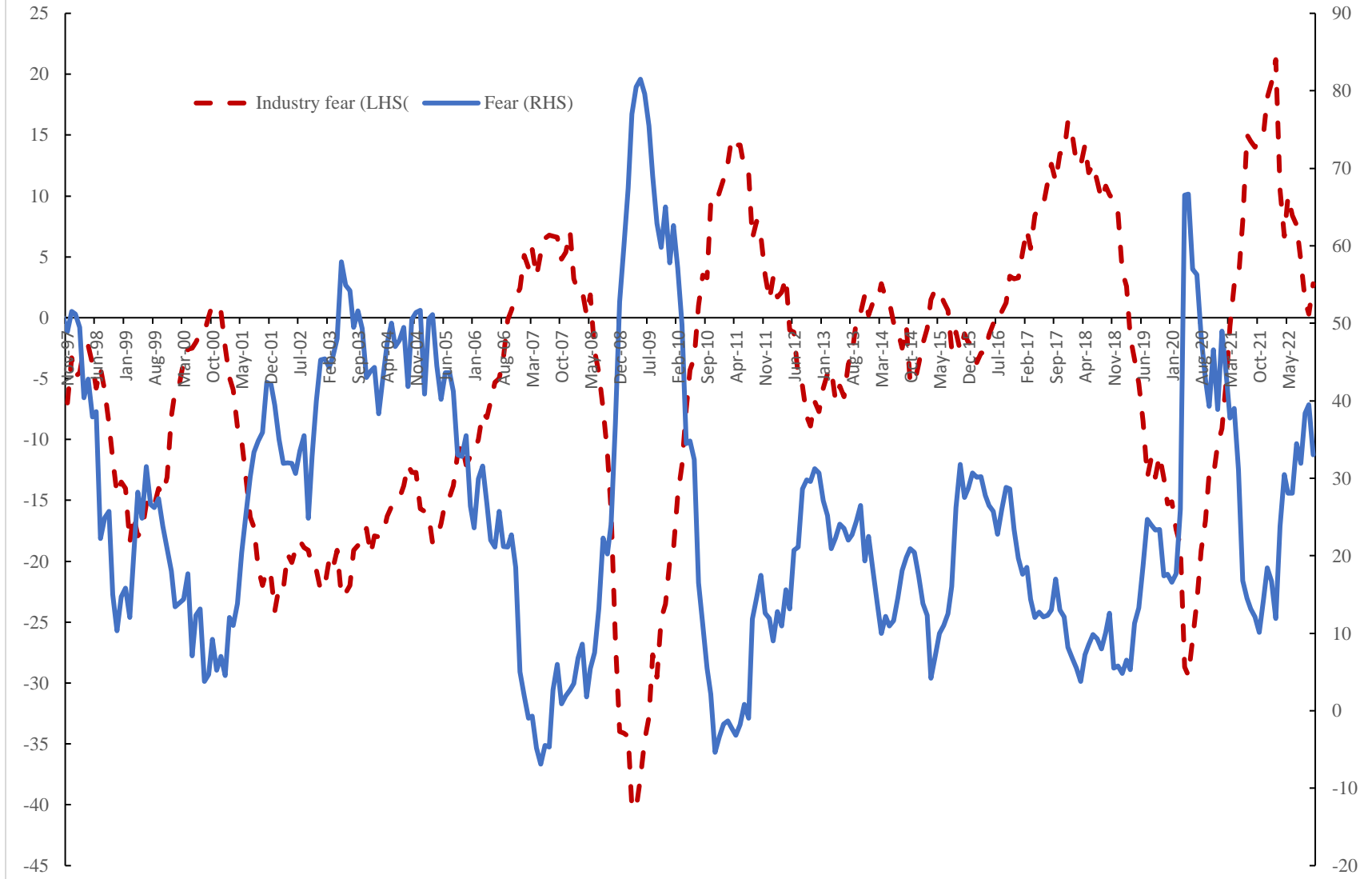
Chart 6.  The gap between the predicted and actual unemployment rates
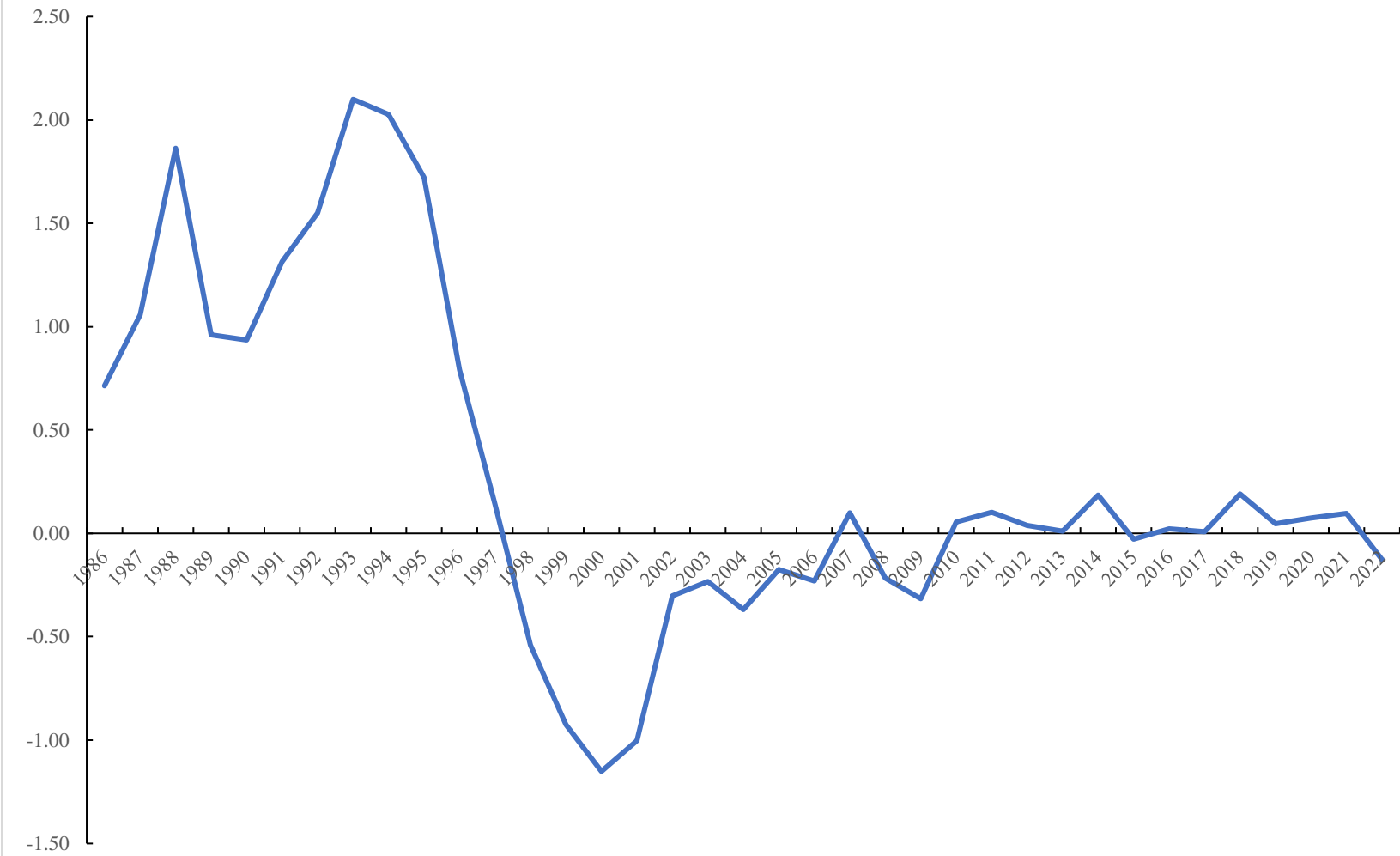
Chart 7. Predicted and actual uemployment rates
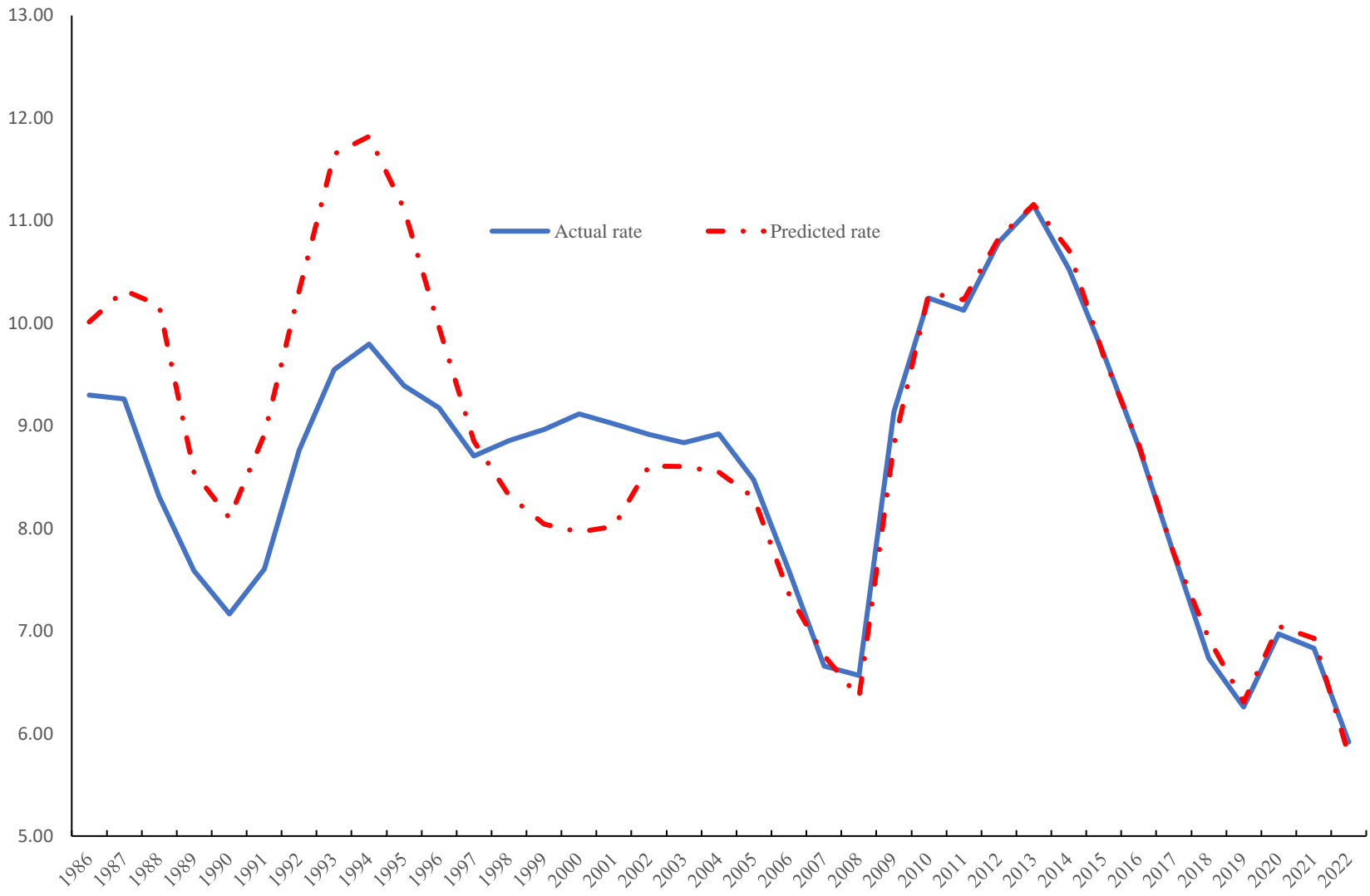
**Appendix A.**
   **1) MPC Minutes August 8th 2008**
https://www.bankofengland.co.uk/-/media/boe/files/minutes/2008/minutes-august-2008.pdf?la=en&hash=2D16D0F903280E22C840755DDB63832E76689945

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

Appendix Table 1.  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 2. Industry fear 2008

| | January | February | March | April | May | June | July | August | September | October | November |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 3.  Fear of unemployment in 32 countries by month in 2022. Parentheses low to high

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

Appendix Table 4. Industry views on employment in 32 countries by month in 2022.

| | January | February | March | April | May | June | July | August | September | October | November |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 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-November

Appendix Table 5.  Consumer Fear by country by year, 1985-2021

| | 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 |

Appendix Table 6.  Employment rates, ages 15-64, 2007-2014

| TIME | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | |
|---|---|---|---|---|---|---|---|---|---|
| *Austria* | *69.9* | *70.8* | *70.3* | *70.8* | *71.1* | *71.4* | *71.4* | *71.1* | |
| Belgium | 62.0 | 62.4 | 61.6 | 62.0 | 61.9 | 61.8 | 61.8 | 61.9 | |
| Bulgaria | 61.7 | 64.0 | 62.6 | 59.8 | 58.4 | 58.8 | 59.5 | 61.0 | |
| Croatia | 59.0 | 60.0 | 59.4 | 57.4 | 55.2 | 53.5 | 52.5 | 54.6 | |
| Cyprus | 71.0 | 70.9 | 69.0 | 68.9 | 67.6 | 64.6 | 61.7 | 62.1 | |
| Czechia | 66.1 | 66.6 | 65.4 | 65.0 | 65.7 | 66.5 | 67.7 | 69.0 | |
| Denmark | 77.0 | 76.3 | 73.5 | 71.8 | 71.6 | 71.0 | 70.7 | 71.1 | |
| Estonia | 69.8 | 70.1 | 63.8 | 61.2 | 65.3 | 67.1 | 68.5 | 69.6 | |
| Finland | 70.3 | 71.1 | 68.7 | 68.1 | 69.0 | 69.4 | 68.9 | 68.7 | |
| France | 63.8 | 64.4 | 63.5 | 63.5 | 63.4 | 63.5 | 63.5 | 63.7 | |
| *Germany* | *69.0* | *70.1* | *70.3* | *71.3* | *72.7* | *73.0* | *73.5* | *73.8* | |
| Greece | 60.9 | 61.4 | 60.8 | 59.1 | 55.1 | 50.8 | 48.8 | 49.4 | |
| Hungary | 57.0 | 56.4 | 55.0 | 54.9 | 55.4 | 56.7 | 58.1 | 61.8 | |
| Iceland | 85.1 | 83.6 | 78.3 | 78.2 | 78.5 | 79.7 | 81.1 | 82.9 | |
| Ireland | 71.7 | 69.7 | 63.6 | 61.0 | 60.0 | 59.9 | 61.7 | 63.1 | |
| Italy | 58.6 | 58.6 | 57.4 | 56.8 | 56.8 | 56.6 | 55.5 | 55.7 | |
| Latvia | 68.1 | 68.2 | 60.3 | 58.5 | 60.8 | 63.0 | 65.0 | 66.3 | |
| Lithuania | 65.0 | 64.4 | 59.9 | 57.6 | 60.2 | 62.0 | 63.7 | 65.7 | |
| Luxembourg | 64.2 | 63.4 | 65.2 | 65.2 | 64.6 | 65.8 | 65.7 | 66.6 | |
| Malta | 55.0 | 55.5 | 55.3 | 56.2 | 57.9 | 59.9 | 62.2 | 63.9 | |
| *Netherlands* | *73.5* | *74.9* | *74.6* | *73.9* | *74.2* | *74.4* | *73.6* | *73.1* | |
| North Macedonia | 40.7 | 41.9 | 43.3 | 43.5 | 43.9 | 44.0 | 46.0 | 46.9 | |
| Norway | 76.8 | 78.0 | 76.4 | 75.3 | 75.3 | 75.7 | 75.4 | 75.2 | |
| Poland | 57.0 | 59.2 | 59.3 | 58.9 | 59.3 | 59.7 | 60.0 | 61.7 | |
| Portugal | 67.6 | 68.0 | 66.1 | 65.3 | 63.8 | 61.4 | 60.6 | 62.6 | |
| Romania | 58.8 | 59.0 | 58.6 | 60.2 | 59.3 | 60.2 | 60.1 | 61.0 | |
| Slovakia | 60.7 | 62.3 | 60.2 | 58.8 | 59.3 | 59.7 | 59.9 | 61.0 | |
| Slovenia | 67.8 | 68.6 | 67.5 | 66.2 | 64.4 | 64.1 | 63.3 | 63.9 | |
| Spain | 65.8 | 64.5 | 60.0 | 58.8 | 58.0 | 55.8 | 54.8 | 56.0 | |
| Sweden | 74.2 | 74.3 | 72.2 | 72.1 | 73.6 | 73.8 | 74.4 | 74.9 | |
| Türkiye | 44.6 | 44.9 | 44.3 | 46.3 | 48.4 | 48.9 | 49.5 | 49.5 | b |
| United Kingdom | 71.5 | 71.5 | 69.9 | 69.4 | 69.3 | 69.9 | 70.5 | 71.9 | |

Source: Eurostat.