



NATIONAL INSTITUTE ECONOMIC REVIEW

Journal & Vol/Article reference: [NIE] [SETTER NO] **2200018**

Total number of pages (article pages only): [PAGES] **24**

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ARTICLE

THE ECONOMICS OF WALKING ABOUT AND PREDICTING UNEMPLOYMENT IN THE USA

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We show consumer expectations indices from the Conference Board and the University of Michigan predict unemployment upticks in the USA up to 18 months in advance, both at national and at state level. These data predict six of the last six recessions called by the NBER Business Cycle Dating Committee 6–18 months before the date of recession. The consumer expectations data for 2021 and 2022 are consistent with recession.

Keywords: unemployment; recession; consumer expectations

JEL codes: J60; J64; J68

1. Introduction

Following the collective failure to predict the Great Recession of 2008, economists have redoubled their efforts to predict economic downturns. Predicting downturns with traditional methods and data is notoriously difficult. In two earlier papers (Blanchflower and Bryson, 2022, 2021), we examined the predictive power of various type of expectations variables to explain changes in unemployment rates.

Reviewing the comparative cross-country studies, we showed that, once country fixed effects were added to the models, very few variables predict changes in unemployment rates, except lagged unemployment (Blanchflower and Bryson, 2021). However, we showed that qualitative metrics of economic actors' expectations as to what might happen to the economy, to their labour market prospects and to their household finances were all strongly predictive of what happened to aggregate unemployment rates, both at country level in the USA and the rest of the OECD, as well as at state level in the USA (Blanchflower and Bryson, 2021). We also showed that the fear of unemployment obtained in monthly surveys from the European Commission was predictive of rises in unemployment. Evidence from consumers and firms mapped one another remarkably closely.

We argue that the predictive capacity of these expectations metrics arises from what we term '*the economics of walking about*': economic actors on the ground possess information about economic trends based on their own experiences, and the experiences of those in their networks, which allow them to assess likely future economic trends. This is akin to '*the wisdom of crowds*' whereby the aggregate predictions of non-experts often produce more accurate assessments of situations than those offered by 'experts' (Surowiecki, 2005).

We return to the issue in this paper to see whether it is possible to predict changes in unemployment rates in the USA since the late 1970s using qualitative data for the USA from The Conference Board and the University of Michigan on consumer expectations and expectations regarding future unemployment in the economy (what we might call 'fear' of unemployment).

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In our previous paper (Blanchflower and Bryson, 2022), we focused exclusively on the Great Recession of 2008 and showed expectations indexes did a good job of predicting the effects of the economic shock, both in the USA and elsewhere. Indeed, they appeared to do a better job than the Sahm Rule which compares a 3-month moving average of the present with the lowest values of the moving average over the preceding year (Sahm, 2019).

Repeating that exercise here, but for the USA, over the period 1978 to March 2022, we run regression analyses showing that consumer expectations about future economic trends and future unemployment are highly predictive of unemployment rate rises 6–18 months ahead, thus providing an early-warning-system for the economy.

The rest of this paper is set out as follows. Section 2 identifies recessions in the USA with time-series data. Section 3 runs unemployment rate regressions to assess the predictive power of lagged consumer expectations in predicting monthly unemployment. Section 4 considers the prospects for the US economy slowing in 2022. Section 5 concludes.

2. Identifying recessions in the USA with time-series data

Since 1978, the NBER Business Cycle Dating Committee—henceforth NBCDC—has identified six recessions, as set out in table 1.¹ The table shows the dating of peaks which establish the start of recessions, which occurred in:

- 1) January 1980
- 2) July 1981
- 3) July 1990
- 4) March 2001
- 5) December 2007
- 6) February 2020.

Table 1. Dating of business cycle peaks

NBER peak	Jan 1980	July 1981	July 1990	March 2001	Dec 2007	Feb 2020
NBER 'called' it	Jun 1980	Jan 1982	Apr 1991	Nov 2001	Dec 2008	Apr 2020
GDP	Q2 1980	Q4 1981	Q4 1990	Q1 2001	Q1 2008	Q2 2020
Sahm Rule current	Feb 1980	Nov 1981	Oct 1990	Jun 2001	Feb 2008	Apr 2020
Sahm real time	Apr 1980	Nov 1981	Nov 1990	Jun 2001	Apr 2008	Apr 2020
NFP employment falls	Apr 1980	Aug 1981	Jun 1990	Mar 2001	Jul 2007	Mar 2020
CPS employment falls	Mar 1980	Aug 1981	Jun 1990	Apr 2001	Jul 2007	Mar 2020
+0.3 pp unemployment rate	Dec 1979	Apr 1981	Jun 1990	Dec 2000	Nov 2007	Feb 2020

Note: Here we report the dates of the peaks identified by the NBER Business Cycle Dating Committee using six different methods. a) Current revised GDP, b) the Sahm Rule with current data after revisions, c) the Sahm Rule with real-time data, d) two successive months of employment decline using non-farm payrolls, e) two successive months of employment decline using the Current Population Surveys, f) a single month rise of 0.3 percentage points in the seasonally adjusted unemployment rate. The first row refers to the date the NBCDC called the recession. Data sources: OECD for GDP; Fred for Sahm Rule and BLS.

¹<https://www.nber.org/research/business-cycle-dating>

- Prior to this, the NBCDC identified seven other start dates for recessions, making 13 in all since 1945. 1
2
- 7) February–October 1945.² 3
 - 8) November 1948–October 1949 4
 - 9) July 1953–May 1954 5
 - 10) August 1957–April 1958 6
 - 11) April 1960–February 1961 7
 - 12) December 1969–November 1970 8
 - 13) November 1973–March 1975. 9

A further 21 were identified in the period 1857–1937. 10
11

As can be seen from the second row of [table 1](#), there are lags between the dating of recessions and the 12
moment the NBCDC actually called the peak. It takes them between 5 and 12 months *after* the recession 13
started for them to call it. For example, it took the NBCDC a year, until December 2008, to call the start of 14
the Great Recession as December 2007. 15

Nobody is privy to the rules the NBCDC uses to identify the onset of recession, but we compare their 16
judgements with start dates implied by various rules. Row 3 of [table 1](#) shows the date the recession started 17
using the rule of two out of three consecutive quarters of GDP growth, after several years of revisions. 18

Row 4 shows the start dates based on the Sahm (2019) rule with current (most recent, revised) 19
unemployment data.³ Row 5 shows the start date of recession applying the Sahm Rule with real-time 20
unemployment data available to policy makers at the time on which they had to make judgement calls. In 21
row 6, we use the criteria of two successive months of absolute employment decline using establishment- 22
level data on non-farm payrolls (NFPs) and in row 7 from households in the Current Population Survey 23
(CPS). The final row shows the starting month for recession based on when the unemployment rate 24
jumped by 0.3 percentage points. We provide further details on these criteria below. 25

All of these variables are used to determine the end of the peak and the beginning of a recession, 26
sometimes many months *after it has started* not least due to sample revisions which are a major issue at 27
turning points, down as well as up. 28

Rows 3–8 of [table 1](#) are helpful in determining when the NBCDC will call a recession, before they call 29
it, although in almost every case *after* the recession has actually begun. The one exception is the rise in the 30
unemployment rate by 0.3 pp, which occurs ahead of the recession date in the first five cases and exactly 31
on the month in February 2020. 32

2.1. GDP growth 35

For the 297 quarters of GDP growth for the USA from Q2 1947 through Q2 2021, 42 quarters were 36
negative (Source: OECD). There were 10 occasions when there were two or more successive quarters of 37
negative growth which is often used to describe a recession, especially in most other countries that do not 38
have an official recession, peak and trough, dating committee. The 10 are identified below, not all of 39
which were called as recessions by NBCDC. 40

- 1) Q2–Q3 1947 41
- 2) Q1–Q2 1949 42
- 3) Q3–Q4 1953 43
- 4) Q4 1969–Q1 1970 44
- 5) Q3 1974–Q4 1974 45
- 6) Q2–Q3 1980 46

²Our GDP data from the OECD start in 1947. 47
48

³The Sahm Rule identifies signals related to the start of a recession when the 3-month moving average of the national 49
unemployment rate (U3) rises by 0.50 percentage points or more relative to the 3-month moving average low during the 50
previous 12 months. 51

- 7) Q4 1981–Q1 1982
- 8) Q4 1990–Q1 1991
- 9) Q3 2008–Q2 2009
- 10) Q1 2020–Q2 2020.

Table A.1 shows when these successive negative quarters of growth took place within the series of all quarters of negative growth since World War II. In addition, there were five further occasions with two out of three non-consecutive negative quarters of growth a) Q1 and Q3 1956 b) Q2 and Q4 1957 c) Q2 and Q4 1960 d) Q3 1973 and Q1 1974 e) Q1 and Q3 2001.

A comparison of recession on-set using two out of three successive quarters of negative GDP growth with the date identified by the NBCDC indicates that the date identified by GDP is later than the NBCDC. Nevertheless, a couple of negative quarters in a 12-month period, successive or not, seems a good starting rule. However, care must be taken of course, as Blanchflower and Bryson (2021a, 2021b) note, since GDP growth gets revised for a long time and is especially problematic at turning points down, when first estimates tend to overestimate the true rate and frequently have the wrong sign. This occurred, for example, in Q2 2008 in the UK when the first estimate was reported as +0.2 per cent in July 2008 (Blanchflower, 2008) but is now -0.5 per cent.⁴ In the USA, the first estimate of quarterly GDP growth for Q1 2008 was 0.15 per cent compared to the most recent estimate of -0.4 per cent (Blanchflower and Bryson, 2021, p. 7).

Downward revisions at starts of recession occurred in 2001 also. The NBCDC called a recession starting in March 2001, in November 2001. However, as Kliesen (2003) noted, the initial data releases for Q1 2001 and Q2 2001 were both positive. But in July 2002 they were both revised to be negative, as was Q3 2001 that was negative in the initial release and revised up slightly in 2002, which included 911. Of note is that the second quarter of 2001 has now been revised back to positive; the most recent quarter on quarter estimates are Q1 2001 = - 0.32, Q2 2001 = + 0.62 and Q3 2001 = - 0.40.

2.2. Monthly employment change

Rows 6 and 7 of table 1 report peak dates using another rule, namely when there were two successive months of negative growth in a) NFPs obtained from establishment data from the Current Employment Statistics Survey (CES) or b) employment from households in the CPS. Of note is that NFP is revised over the 2 months after it is first published while the CPS is not. Both surveys show early indications of recession. Take, for example, the July 1990 recession: NFP and CPS both have two negative months starting in June 1990.

2.3. Unemployment rates

Rows 4 and 5 of table 1 report the start dates for US recessions since 1978 using the Sahm Rule (Sahm, 2019).⁵ Two sets of estimates are available in the data downloaded from FRED (<https://fred.stlouisfed.org/series/SAHMREALTIME>). Row 4 uses the currently reported (revised) unemployment rate from the BLS while Row 5 uses the first unemployment estimate reported, prior to it being revised by the BLS. The two sets of results are similar. In all cases, the Sahm Rule identifies a start date for recession which is after the date identified by NBER, but before the date the NBCDC 'called' it, except the February 2020 recession which was called by NBCDC and Sahm in April 2020.

Another potentially valuable indicator of recession onset is a jump in the unemployment rate. Column 1 of table A.2 reports the unemployment rate by month for each of the recession events since the late 1970s. In each case, the unemployment rate jumps by 0.3 percentage points close to the date the

⁴See ABMI quarterly revision triangle from the ONS.

<https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/revisiontrianglesforukgdpabmi>

⁵It takes 3 month moving averages of the unemployment rate and takes the current average and deducts the lowest value over the prior 3 months. When that value reaches 0.5 the Sahm Rule identifies recession.

NBCDC calls the recession. For example, for the January 1980 recession the unemployment rate jumps from 6.0 per cent in December 1979 to 6.3 per cent in January 1980. It rises from 7.2 to 7.5 per cent between December 1980 and January 1981; 5.2 to 5.5 per cent in June 1990; 3.9 to 4.2 per cent in December 2000; 4.7 to 5.0 per cent in November 2007 and 3.5 to 4.4 per cent in February 2020.

The final row of [table 1](#) indicates that a 0.3 percentage point rise in the unemployment rate is a good indicator of when the NBCDC will call recession. The unemployment figures have the benefit that they become available a few months after recession has started. They are also available well before the NBCDC calls recession and are likely important components of their recession call. It seems they also have more predictive value than the Sahm Rule (Blanchflower and Bryson, 2021b).

2.4. Qualitative data

We now move on to look at the extent to which it is possible to use qualitative data to predict turning points and especially upticks in the unemployment rate. We are not the first to have done so. Kirchgässner (1982, 2005) pointed to the value of qualitative data in predicting GDP growth using German data, with some work identifying the correlation between public sentiment and subsequent economic growth going back even earlier (Noelle-Neumann, 1980; Steinbuch, 1980).⁶

Berge and Jorda (2011) examine the impact of Purchasing Manager's Indices, the Conference Board's Index of 10 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 and 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 Michigan data). They find the financial variables are a useful supplement to those variables used in traditional forecasting.

Perhaps the most interesting paper to date is Lagerborg *et al.* (2020) who 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 our two data sources for sentiment we use here. Lagerborg *et al.* (2020) are 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.

In a previous paper, we showed individuals' fear of unemployment was predictive of subsequent unemployment rates across many countries in the OECD (Blanchflower and Bryson, 2021a). We have broadly comparable monthly time-series data on fear for the USA from the University of Michigan (UM). In addition, there are other consumer expectations data from The Conference Board (CB) and UM, including data for the eight largest states.⁷

⁶We thank Klaus Zimmermann for bringing these references to our attention.

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The Conference Board Expectations Index is drawn from the Board's Consumer Confidence Survey (https://conference-board.org/pdf_free/press/TCB_CCS_TechNote_May2021.pdf) and is based on respondents' expectations about conditions *6 months hence* in relation to three issues, namely business conditions, employment conditions and total family income. The expectation survey questions have three response options: positive, negative or neutral. The response proportions to each question are seasonally adjusted. For each question, the positive figure is divided by the sum of the positive and negative to yield a proportion, which is labelled the 'relative' value. For each question, the average relative value for the calendar year 1985 is then used as a benchmark to yield the index value for that question. The expectations index simply averages the indexes from the three questions.

There is also a question on the respondent's views of what will happen to unemployment over the next year, similar to the question on the fear of unemployment used in Europe used in Blanchflower and Bryson (2021a) that we discuss further below:

Q1. *'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?'*

In what follows, we make use of the proportion saying 'more'.

The University of Michigan also has an Expectations Index which is a subset of its Index of Consumer Sentiment and is derived from three questions:

Q2. *'Now looking ahead—do you think that a year from now you (and your family living there) will be better off financially, or worse off, or just about the same as now?'*

Q3. *'Now turning to business conditions in the country as a whole—do you think that during the next twelve months we'll have good times financially, or bad times, or what?'*

Q4. *'Looking ahead, which would you say is more likely—that in the country as a whole we'll have continuous good times during the next five years or so, or that we will have periods of widespread unemployment or depression, or what?'*

The expectations index sums responses to these three questions and rebases the index to 1966 as the base year.⁸ The data going back to 1978 which we use here can be found at <https://data.sca.isr.umich.edu/data-archive/mine.php>. Curtin (2019) points to the predictive power of the index with respect to unemployment.

Charts 1 and 2 plot the UM and CM monthly expectations series from 1978 against the unemployment rate 12 months later.⁹ Chart 3 plots the proportion saying that unemployment will be 'more in a year', from the Michigan Surveys. The great advantage of using these data on unemployment expectations is that they have the potential to be lead indicators capable of predicting unemployment change well in advance. So, we plot the expectations index for January 2012 against the January 2013 unemployment rate.

In the table below, we see that in each of the six recessions since 1978 the expectations index peaks well before the recession date called by the NBCDC and by that date is approximately 20 points below the peak. We find similarly in 2021 even though the unemployment rate has continued to drop.

In table 2, we report the UM's series regarding unemployment expectations—the degree to which people 'fear' unemployment will be higher 12 months hence. The numbers in square brackets are the percent saying 'more' in the relevant month dated by NBCDC as the start of recession. The final column shows the percentage point rise in those expecting more unemployment in the coming 12 months, that is, the difference between the peak and the trough in columns 2 and 3. In all cases, the percentage point difference exceeds 10 points, often by considerably more than that.

⁸For further details, see <https://data.sca.isr.umich.edu/fetchdoc.php?docid=24770>

⁹Appendix table A.3 contains the detailed data for the six recessions.

Fig. 1 - Colour online, Colour in print

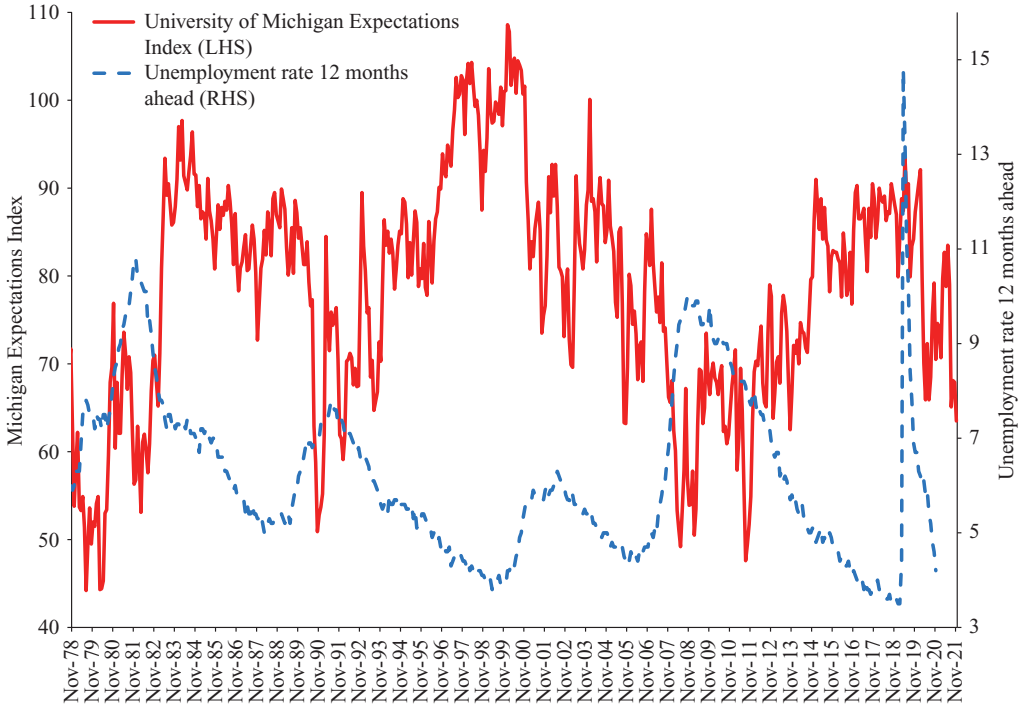


Chart 1. University of Michigan Expectations Index and 12 months ahead unemployment rate

Fig. 2 - Colour online, Colour in print

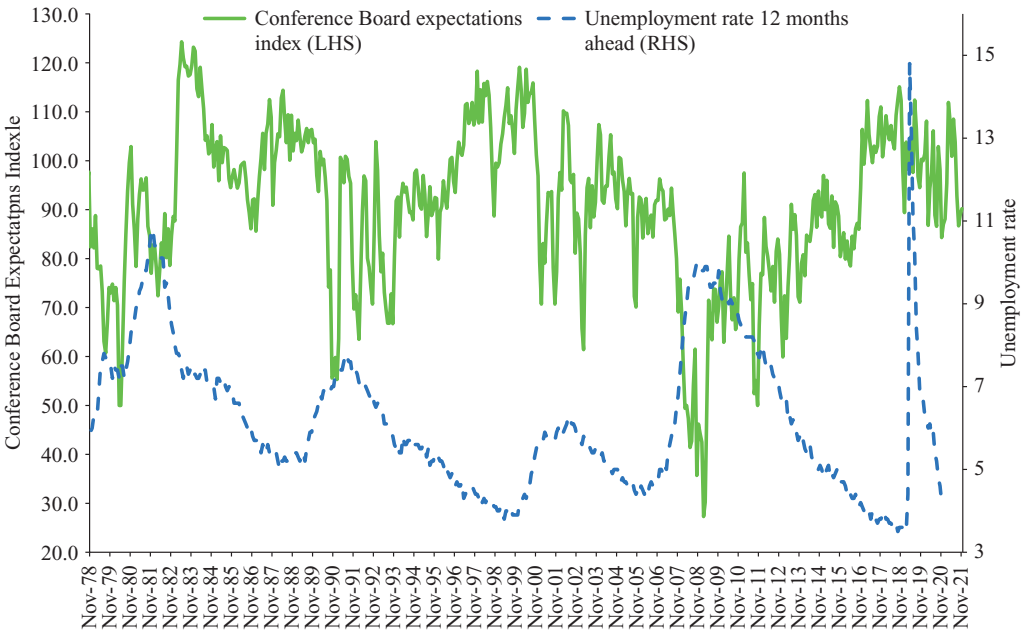


Chart 2. Conference Board Expectations Index and 12 months ahead unemployment rate. Copyright of The Conference Board (2021). This chart is the property of The Conference Board, Inc. and its contents may not be copied or emailed to multiple sites or posted to a listserv or distributed on a local area or wide area network (such as corporate intranets or networks) without the copyright holder's express written permission. All rights reserved

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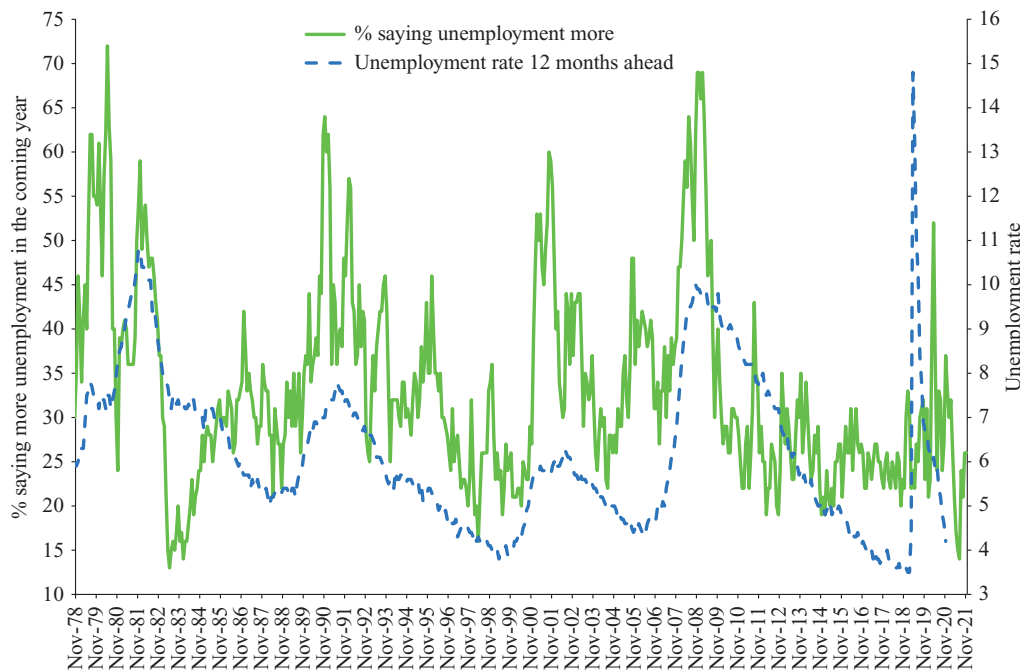


Fig. 3 - Colour online, Colour in print

Chart 3. University of Michigan % unemployment will be 'more' a year ahead and the 12 months ahead unemployment rate. *The question was 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?*

We also have monthly consumer expectations data from The Conference Board on the eight biggest US states—California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania and Texas—from February 2007 through February 2022 for the Michigan Survey and March 2022 for the Conference Board. This allows us to establish whether expectations are predictive of changes in employment and unemployment at state level. As we show below it seems they are.

With these figures in mind, what happened to state-level expectations data prior to the Great Recession and the COVID-induced recession? Part a) of [table 3](#) reports the monthly Conference Board Expectations Index in 2007 and shows drops from the peak (in bold) in every state from early in 2007 before reaching lows later in 2007. As indicated in the final column and final row in panel (a) the average percentage point drop in expectations across these eight states is 18 points and is above 10 points in all eight states and Florida—the place to initially feel the effects of bad mortgage debt—suffers by far the biggest drop (64 points).

The same expectations data from The Conference Board show similar patterns in part b) of [table 3](#) in 2021 and 2022 (where peaks are also in bold). They reached a peak in the spring of 2021, recovered a little up in December 2021 before falling back again. This time the average drop is 35 points as reported in the final row of the table. The biggest fall has been in Illinois (54 points) and the smallest in Ohio (20 points). These data appear to be suggestive of slowing in the US economy in 2022 and 2023.

3. Regression analyses using lagged expectations to predict monthly unemployment

We now move on to estimate a series of monthly unemployment equations to establish the role played by consumer expectations and unemployment expectations. [Table 4](#) uses 519 monthly observations of the unemployment rate and the 3 consumer expectations variables with 12-month lags from January 1978 through March 2022 (February 2022 in the case of the University of Michigan data). Each equation

Table 2. Business cycle peaks

	The Conference Board		University of Michigan	
	Peak	Points drop	Peak	Points drop
January 1980	97.7 (Oct-78)	26.3	71.7 (Oct-78)	17.6
July 1981	102.9 (Nov-80)	8.8	76.9 (Nov-80)	6.1
July 1990	108.3 (Feb-89)	16.5	89.9 (Jan-89)	13.3
March 2001	119.1 (Jan-00)	36.0	87.6 (Jan-07)	22.0
December 2007	94.4 (Jul-07)	20.5	87.6 (Jan-07)	21.4
February 2020	108.1 (Feb-20)	21.3	92.1 (Feb-20)	21.3
March 2022	111.9 (Mar-21)	35.3	83.5 (Jun-21)	24.1
University of Michigan more unemployment than now?				
	Trough	Peak	Points rise trough to peak	
January 1980 [54]	34 (Feb-79)	72 (May-80)	38	
July 1981 [36]	24 (Nov-80)	59 (Dec-81)	35	
July 1990 [37]	26 (Sep-89)	62 (Oct-90)	36	
March 2001 [50]	23 (Aug-00)	60 (Sep-01)	37	
December 2007 [47]	27 (Jan-07)	69 (Nov-08)	32	
February 2020 [23]	21 (Jan-20)	37 (Nov-20)	16	
March 2022 [26]	14 (Jul-21)	26 (Nov-21)	12	

includes a lagged dependent variable which is everywhere significant and positive with a coefficient around 0.5.¹⁰ The results are similar when month dummies are included (not reported). We should note here that the Conference Board measure refers to 6 months ahead while the Michigan measure refers to a year ahead.

Each column incorporates different combinations of the expectations data until in the final column we incorporate all three expectations alongside the lagged dependent variable. In column 1, CB expectations are significant and negative—higher consumer expectations for 12 months hence mean lower unemployment 12 months hence—but the size of the coefficient drops markedly in the final column and becomes statistically non-significant. UM expectations are also negative and statistically significant when entered alongside the lagged dependent variable in column 2. They remain significant when the two variables are included together in column 3. Unemployment expectations for 12 months hence are positive and statistically significant in column 4 when entered alongside UM consumer expectations which has a negative sign. When the three variables are included together in column 5 the Conference Board variable moves to insignificance although the two UM variables are significant.

We have state-level expectations data for 6 months ahead from the CB for eight states, so in table 5 we report the results of estimating unemployment equations with a lagged dependent variable using state-level expectations data from 2007 to 2021. There are a total of 1448 observations (8 states * 181 months).

¹⁰Appendix table A.4 provides more detailed data from The Conference Board on respondents' views on business conditions, employment and income as well as data from the University of Michigan on respondents' views on their financial situation, and business conditions in 1 and 5 years.

Table 3. Conference Board Expectations Index by eight largest states

	California	Florida	Illinois	Michigan	New York	Ohio	Pennsylvania	Texas	USA
2007									
Feb-07	94.7	123.5	96.0	35.1	80.7	77.8	81.2	110.6	94
Mar-07	101.2	96.6	89.6	31.5	76.7	75.5	70.0	111.6	88
Apr-07	87.5	102.3	78.2	23.3	79.0	51.8	93.5	117.4	88
May-07	107.2	94.5	71.8	27.0	71.2	64.9	77.8	101.4	90
Jun-07	91.4	91.4	92.5	42.2	63.1	70.0	57.0	112.0	89
Jul-07	84.2	104.3	93.1	46.7	77.4	70.9	91.8	111.1	94
Aug-07	92.8	95.1	87.5	51.0	53.6	61.0	64.4	91.5	89
Sep-07	87.4	73.9	90.2	29.9	72.8	64.6	86.1	95.9	85
Oct-07	93.2	75.0	69.4	31.6	64.8	67.6	73.7	106.6	80
Nov-07	66.7	58.5	61.2	24.8	60.4	60.3	62.4	93.4	69
Dec-07	71.0	59.8	68.8	38.4	55.8	54.7	50.4	90.5	76
Fall	36	64	27	13	25	23	43	27	18
2021									
Jan-21	96.3	95.6	100.9	109.8	113.9	99.7	88.3	104.5	88
Feb-21	121.2	100.2	99.9	95.4	119.4	93.1	79.9	93.2	95
Mar-21	127.5	121.3	127.7	91.8	129.2	93.2	106.9	119.6	112
Apr-21	122.1	115.2	115.2	87.8	120.7	98.9	104.5	117.6	108
May-21	114.1	109.8	104.1	69.5	93.0	83.0	95.9	114.4	101
Jun-21	115.5	117.3	93.7	89.8	119.5	96.2	108.1	112.5	109
July-21	108.9	102.8	100.6	91.4	111.9	95.4	90.4	99.3	104
Aug-21	103.5	100.9	91.3	91.9	105.5	87.6	75.1	89.1	93
Sep-21	93.2	95.6	89.2	87.4	77.3	78.4	63.9	101.8	87
Oct-21	94.3	106.5	91.8	93.3	104.6	80.9	78.8	88.8	89
Nov-21	97.7	98.6	97.6	101.1	99.9	82.7	88.5	90.3	90
Dec-21	107.5	103.0	81.6	89.7	100.7	86.2	76.9	86.4	95
Jan-22	96.5	105.8	94.3	75.4	89.5	72.8	84.6	100.6	89
Feb-22	99.8	96.7	88.5	85.1	84.8	72.4	65.7	90.6	81
Mar-22	104.6	79.7	73.4	63.7	90.1	78.8	68.6	82.3	77
Fall	23	42	54	46	39	20	39	36	35

Note: Data for 2020 and 2021 from 'Consumer Confidence Improved Again in December,' The Conference Board, Release #9062, 22nd December 2021. Fall in 2007 is from peak (in bold) to Dec-07 level. In 2021, it is from peak (in bold) to Dec-21 level.

Table 4. Monthly unemployment rate equations, January 1978–March 2022

Unemployment rate_{t-12}	0.5418 (16.01)	0.4628 (12.72)	0.4757 (12.95)	0.5289 (13.95)	0.5296 (13.95)
CB expectations _{t-12}	-0.0323 (8.97)		-0.0127 (2.18)		-0.0026 (0.43)
UM expectations _{t-12}		-0.0474 (9.79)	-0.0337 (4.25)	-0.0216 (3.08)	-0.0196 (2.31)
UM unempt rise more _{t-12}				0.0364 (4.97)	0.0353 (4.54)
Constant	5.7592	7.0402	7.0358	3.3906	3.5015
Adjusted R ²	0.4771	0.4902	0.4939	0.5141	0.5133
N	519	519	519	518	518

Note: Unemployment rates are from the BLS. *T*-statistics in parentheses. University of Michigan data only available through February 2022.

Table 5. Monthly state unemployment rate equations, February 2007–March 2022

Unemployment rate _{t-12}	0.4308 (19.71)	0.3706 (16.84)	0.2947 (12.79)	0.1189 (4.16)	0.2906 (12.93)
CB expectations _t	-0.0333 (13.07)				
CB expectations _{t-6}		-0.0429 (16.86)			-0.0254 (8.40)
CB expectations _{t-12}			-0.0501 (18.51)		-0.0351 (11.03)
CB expectations _{t-18}				-0.0148 (5.31)	
Florida	-0.7507 (3.44)	-0.8072 (3.73)	-0.8783 (4.01)	-1.2491 (7.91)	-0.8670 (4.06)
Illinois	-0.6264 (2.88)	-0.7345 (3.41)	-0.8375 (3.85)	-0.7021 (4.51)	-0.9059 (4.25)
Michigan	-0.5216 (2.40)	-0.6513 (3.02)	-0.7286 (3.34)	-0.6037 (3.88)	-0.7847 (3.69)
New York	-1.0454 (4.76)	-1.2154 (5.57)	-1.3931 (6.28)	-1.3325 (8.23)	-1.4694 (6.79)
Ohio	-1.0786 (4.93)	-1.2309 (5.67)	-1.3715 (6.22)	-1.4134 (8.86)	-1.4470 (6.73)
Pennsylvania	-1.2804 (5.79)	-1.4803 (6.73)	-1.6730 (7.48)	-1.6131 (9.79)	-1.7929 (8.21)
Texas	-0.9333 (4.21)	-0.9538 (4.33)	-1.0188 (4.58)	-1.8305 (10.91)	-0.9723 (4.27)
Constant	7.3739	8.7147	9.9032	8.6229	10.8312
Adjusted R ²	0.3504	0.3869	0.4027	0.4433	0.4321
N	1448	1400	1328	1304	1352

Note: Excluded California. *T*-statistics in parentheses.

The state by month unemployment rate is regressed on a 12-month lag of the state unemployment rate, along with a full set of state, year and month dummies. In column 1, we include the contemporaneous expectations variable which negative and highly significant. We then replace it with, in turn, 6-, 12- and 18-month lagged expectations terms. All three are negative and significant. The final column includes the 6- and 12-month lags and both are significantly negative, not least as the measure relates to 6 months ahead. Lagged expectations predict movements in the unemployment rate.

The evidence we have presented above shows that there has been a rapid slowing in consumer expectations in the monthly data from both The Conference Board and the University of Michigan. Evidence from table 3 showed that the declines in the eight largest states look comparable to those seen in these states in 2007. The main difference is that in 2007, as shown in table A.2, the labour market data were also slowing. This has not been the case in 2021 or 2022. The most recent data available from the

Table 6. Unemployment forecasts for the USA based on expectations data

a) Monthly using column 3 of table 3							
	February 2001	November 2007	February 2022				
Conference Board _t	70.7	69.1	80.8				
Michigan expectations _t	80.8	66.2	59.4				
Unemployment rate	4.2	4.7	3.8				
Actual unemployment rate _{t+12}	5.7	6.8	—				
Predicted unemployment rate _{t+12}	5.4	6.2	5.8				
b) State forecasts using column 3 of table 4							
	Expectations	Unemployment rate			Expectations	Unemployment rate	
	Nov 2007	Actual	Predicted	Actual	Feb 2022	Actual	Predicted
		Nov-2007	Nov 2008	Nov 2008		Feb 2022	Feb 2023
California	93.2	5.7	6.9	8.8	99.8	5.4	6.5
Florida	75.0	3.9	7.3	7.1	96.7	3.3	6.0
Illinois	69.4	5.5	8.0	7.4	88.5	4.8	6.9
Michigan	31.6	7.3	10.5	9.6	85.1	4.7	7.0
New York	64.8	4.7	8.0	6.3	84.8	4.9	7.1
Ohio	67.6	5.7	8.2	7.7	72.4	4.2	7.5
Pennsylvania	73.7	4.8	7.6	6.2	65.7	5.1	8.1
Texas	106.6	4.7	4.4	5.6	90.6	4.7	6.7

Bureau of Labor suggest that employment rates continue to rise and unemployment rates continue to fall. It should be said though that the employment rate remains well below its pre-pandemic level.¹¹ The question is what do our two sets of regressions in tables 4 and 5 forecast and how well did they do in the past?

Table 6 reports forecasts in part a) using the monthly data in table 4 and in part b) using the state monthly data. Part a) makes use of the specification from column 3 of table 4 which includes both 12-month lagged Conference Board and University of Michigan 12-month lagged expectations terms. We examine three dates—February 2001, November 2007, February 2022—and calculate what the predicted unemployment rate 12 months later would be by simply solving them out. We should note that the NBER called recession in March 2001 and December 2007, so the first two of these three dates are simply 1 month prior to that call. To illustrate in February 2001 the unemployment rate was 4.2 per cent and the rate a year later in February 2002 was 5.7 per cent. Using the two expectations values, the equation predicts an unemployment rate of 5.4 per cent in February 2002—just 0.3 percentage points lower than the actual outturn. Taking November 2007 and looking forward, the actual rate in November 2008 was 6.2 per cent and the equation predicts 6.8 per cent. Turning to our most recent data, the equation for data in February 2022 predicts an unemployment rate of 5.8 per cent by February 2023, up from 3.8 per cent in

¹¹The employment rate in March 2022 is 60.1 versus 61.1 in January 2020 while the unemployment rate at these dates was 3.5 and 3.6 per cent, respectively.

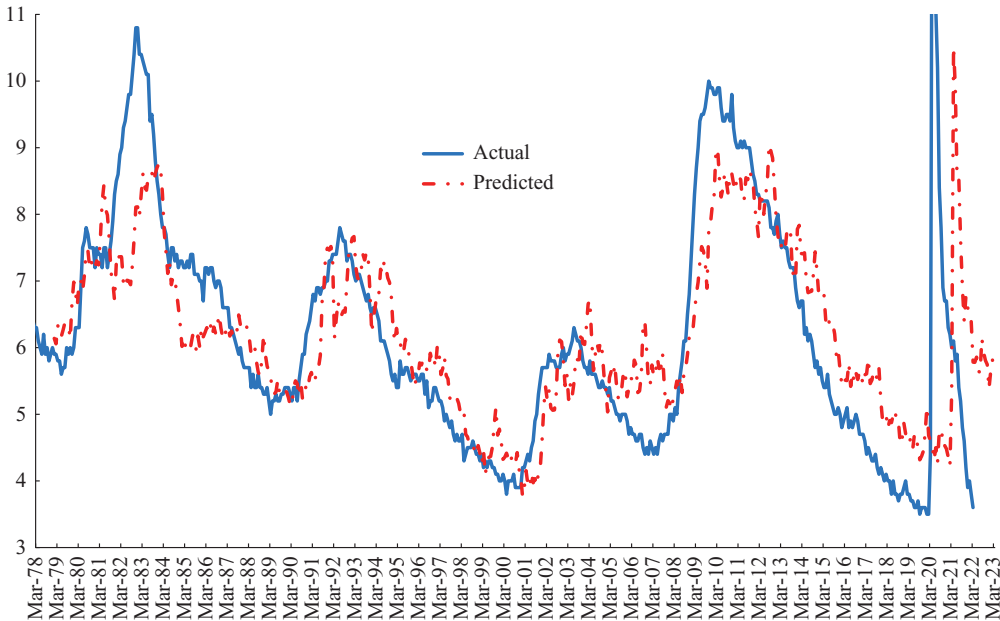


Fig. 4 - Colour online, Colour in print

Chart 4. Actual and predicted US unemployment rates 1978–2020

February 2022. An increase of this magnitude would constitute a recession similar to other recent recessions.

Chart 4 plots the actual unemployment rate and the predicted rates for the period 1978–2020. The predicted rates appear to do a good job of picking up the six turning points. The predicted data for 2020 and 2021 are driven by the impact of the rise in the unemployment rate to 14.7 per cent in the Spring of 2020. The regression misses on the low side in the Spring of 2021 and then on the high side in 2021 as the lagged dependent variable remains large.¹² The declining expectations scores drive the predictions at the end of 2022, which are counterbalanced by the falling unemployment rate, which declines from 6.0 per cent in February 2021 to 3.8 per cent in February 2022. For the 12-month period February 2022 to February 2023 the prediction averages 5.8 per cent.

Part b) of table 6 performs a similar exercise for the eight states using the specification in column 3 of table 5 once again plugging in the current unemployment rates and Conference Board lagged expectations variable. We are only able to provide a forecast for the 2007 recession as the data start in February 2007. Starting in 2007, the equation forecasts large jumps in the unemployment rate over the succeeding year. For example, in Florida the forecast for November 2008, based on expectations in November 2007, is 7.3 per cent. This compares to an actual rate in November 2008 of 7.1 per cent. Performing a similar exercise for Texas, we see the predicted rate for November 2008 is 5.9 per cent, compared with an actual outturn of 5.6 per cent. The predicted rate for Michigan is especially high (10.5 per cent), reflecting what turned out to be a particularly large spike in unemployment to 9.6 per cent. Turning now to 2023, the predicted rate is everywhere higher than the unemployment rates in 2022. The highest is for Pennsylvania (8.1 per cent) and the lowest Florida (6.0 per cent).

There is also evidence of slowing, based on consumer expectations in Europe. In chart 5, we plot the fear of unemployment series examined in Blanchflower and Bryson (2022) and updated through March 2022, this time for the Euro Area. The question related to the extent to which respondents think

¹²The April 2020 predicted unemployment rate is 4.5 per cent (14.7 per cent), with the actual rates in parentheses, while the April 2021 predicted rate is 10.5 per cent (6.1 per cent). The February 2022 predicted rate is 6.4 per cent (3.8 per cent).

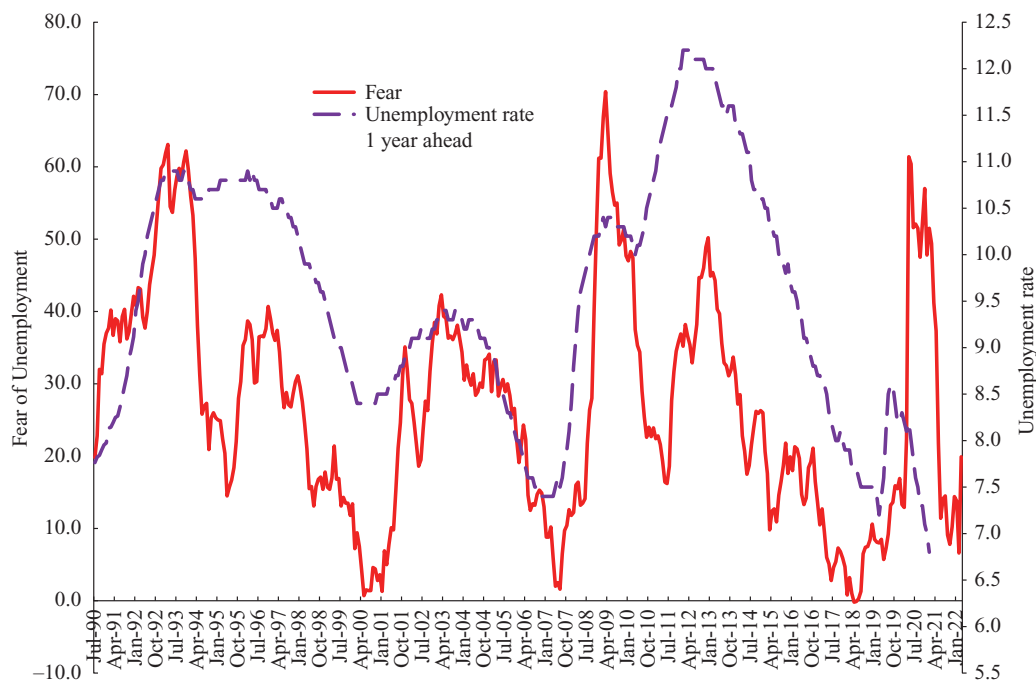


Chart 5. Euro area fear of unemployment and the unemployment rate

unemployment will rise in the next year. A higher number means a larger rise. The chart plots the fear of unemployment against the unemployment rate a year ahead as we did above in the earlier charts for the USA, and, once again, they track each other closely. The fear series started picking up sharply in June 2007, whereas the unemployment rate picked up a year later. Of note is that there was a big rise in the series in March 2022 of +13 both for the Euro Area and for the EU27.¹³

4. Conclusions

In this paper, we have examined the value of data from consumers—the economics of walking about—in predicting economic downturns in the USA.

We showed that consumer expectations indices from both The Conference Board and the University of Michigan predict rising unemployment up to 18 months in advance in the USA, both at national and at state level. The fear of unemployment is also predictive of unemployment a year later in Europe.

All the recessions since the 1980s have been predicted by at least 10 and sometimes many more point drops in these indices. This is comparable to what we found in an earlier paper using fear of unemployment data to predict turning points in European countries (Blanchflower and Bryson, 2021a).

A single monthly rise of at least 0.3 percentage points in the unemployment rate ex-post also predicts well the date of recession called by the NBER months before they call it and in most cases before recession starts. Two consecutive months of employment rate declines are also useful indicators but give a call a few

¹³The increase in fear by the 18 member countries of the Euro Area between February and March 2022 was Austria +21; Belgium +11; Cyprus +30; Estonia +8; Finland +17; France +6; Germany +13; Greece +9; Ireland +17; Italy +14; Latvia +3; Lithuania +7; Luxembourg +19; Malta -5; Netherlands +6; Portugal +22; Slovakia +3; Slovenia +6; Spain +16. In addition, there were big increases in the other two major EU countries that are not EA18 members. Sweden +25 and Denmark +14. 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

months after the +0.3 pp unemployment rate rise does. This is true whether establishment or household data are used. These data are relatively timely and are published a few months after the month they relate to, and revisions are minimal. In contrast, GDP data give a clear picture years later after the data have been subject to a long revision process. This is a particular problem at turning points when early estimates of GDP growth are biased *upwards*.

The economic situation in 2022 is exceptional, however, since unprecedented direct government intervention in the labour market through furlough-type arrangements has enabled employment rates and unemployment rates to recover quickly from the huge downturn in 2020. As we have shown, ordinarily when recession is coming, we would expect to see an increase in the unemployment rate—our rule of thumb is a 0.3 percentage point upturn in consecutive months—and declining employment. This is not what is happening. On the other hand, there are clear downward movements in consumer expectations in the last 6 months which, according to our rules of thumb regarding 10-point declines, would suggest the economy in the USA may be on a downward trajectory—even though employment and wage growth figures suggest otherwise. We showed that the latest data are suggestive of a surge in the unemployment rate over the next year.

So, what is going on? The answer appears to lie in the exceptional nature of the COVID-induced shock to the economy. It has been both an economic shock and a health shock, and one with the potential to derail the economy again over the coming months. It seems likely that, in spite of improvements in traditional labour market indicators, declining consumer expectations about the future of the economy is linked to COVID-related fears and anxieties. This is borne out by the survey by The Conference Board discussed above indicating a recent rise in the percent of workers—and especially women—worried about returning to the workplace for fear of contracting COVID-19, a substantial increase from June 2021 when only 24 per cent expressed this concern.

Qualitative data from consumers are a valuable resource as they provide early warnings of recessions. The wisdom of crowds warrants the attention of economic forecasters.

Acknowledgements. The data used in this paper are used with the permission of The Conference Board. The Conference Board does not in any way endorse this paper or its findings. We thank two referees and an editor for helpful comments and suggestions.

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Appendix

Table A.1. Forty-two quarters of negative GDP growth—source OECD

1.	Q2–1947	(1)
2.	Q3–1947	
3.	Q1–1949	(2)
4.	Q2–1949	
5.	Q4–1949	
6.	Q3–1953	(3)
7.	Q4–1953	
8.	Q1–1954	
9.	Q1–1956*	
10.	Q3–1956	
11.	Q2–1957*	
12.	Q4–1957	
13.	Q1–1958	
14.	Q2–1960*	
15.	Q4–1960	
16.	Q4–1969	(4)
17.	Q1–1970	
18.	Q4–1970	
19.	Q3–1973*	
20.	Q1–1974	
21.	Q3–1974	(5)
22.	Q4–1974	
23.	Q1–1975	
24.	Q2–1980	(6)
25.	Q3–1980	
26.	Q2–1981*	
27.	Q4–1981	(7)
28.	Q1–1982	

(Continued)

Table A.1. Continued

29.	Q3-1982	
30.	Q4-1990	(8)
31.	Q1-1991	
32.	Q1-2001*	
33.	Q3-2001	
34.	Q1-2008	
35.	Q3-2008	(9)
36.	Q4-2008	
37.	Q1-2009	
38.	Q2-2009	
39.	Q1-2011	
40.	Q1-2014	
41.	Q1-2020	(10)
42.	Q2-2020	

Note: *2/3 successive quarters, of negative GDP growth.


Table A.2. Employment change and unemployment rates by eight largest states, 2007

a) Monthly employment change (000 s)									
	California	Florida	Illinois	Michigan	New York	Ohio	Pennsylvania	Texas	USA
Jan-07	14	10	-3	-5	-1	3	3	8	58
Feb-07	5	5	-4	-7	-5	0	0	4	29
Mar-07	0	0	-2	-8	-8	-1	-1	1	263
Apr-07	0	-5	1	-8	-9	-1	-1	1	-734
May-07	1	-8	5	-8	-7	-3	0	3	317
Jun-07	4	-9	7	-7	-3	-4	2	6	160
Jul-07	6	-9	8	-7	2	-4	4	9	-158
Aug-07	7	-7	7	-6	6	-3	5	13	-223
Sep-07	8	-4	6	-5	10	-1	6	18	562
Oct-07	6	-2	5	-4	11	0	6	21	-298
Nov-07	4	-2	5	-4	11	2	6	23	649
Dec-07	2	-4	5	-4	9	2	7	24	-322
b) Unemployment rates									
	California	Florida	Illinois	Michigan	New York	Ohio	Pennsylvania	Texas	USA
Jan-07	4.9	2.7	4.6	7.0	4.2	5.4	4.4	4.5	4.6
Feb-07	5.0	2.8	4.6	7.0	4.2	5.5	4.4	4.4	4.5

(Continued)

Table A.2. *Continued*

b) Unemployment rates									
	California	Florida	Illinois	Michigan	New York	Ohio	Pennsylvania	Texas	USA
Mar-07	5.0	2.9	4.7	6.9	4.2	5.5	4.4	4.4	4.4
Apr-07	5.1	3.0	4.8	6.9	4.3	5.5	4.4	4.3	4.5
May-07	5.1	3.1	4.9	6.9	4.3	5.6	4.4	4.3	4.4
Jun-07	5.2	3.2	5.0	6.9	4.4	5.6	4.5	4.3	4.6
Jul-07	5.3	3.3	5.1	7.0	4.5	5.7	4.5	4.3	4.7
Aug-07	5.4	3.4	5.2	7.1	4.5	5.7	4.6	4.3	4.6
Sep-07	5.5	3.6	5.3	7.2	4.6	5.7	4.7	4.4	4.7
Oct-07	5.7	3.7	5.5	7.3	4.6	5.7	4.8	4.4	4.7
Nov-07	5.7	3.9	5.5	7.3	4.7	5.7	4.8	4.4	4.7
Dec-07	5.8	4.0	5.6	7.2	4.7	5.7	4.8	4.4	4.7

 Table A.3. Recessions and consumer expectations 1980–2001 recessions

	Unemployment rate (%)	Conference Board	University of Michigan	
			Expectations	More unemployment
a) January 1980 recession				
Jul-78	6.2	93.3	72.0	32
Aug-78	5.9	97.4	67.0	33
Sep-78	6.0	95.3	69.8	31
Oct-78	5.8	97.7	71.7	30
Nov-78	5.9	82.4	62.8	35
Dec-78	6.0	86.1	53.8	46
Jan-79	5.9	82.2	58.4	41
Feb-79	5.9	88.8	62.2	34
Mar-79	5.8	78.0	53.7	41
Apr-79	5.8	77.9	53.3	45
May-79	5.6	78.5	54.9	40
Jun-79	5.7	73.3	51.4	52
Jul-79	5.7	63.1	44.2	62
Aug-79	6.0	60.7	49.3	62
Sep-79	5.9	66.9	53.6	55
Oct-79	6.0	74.1	49.5	55
Nov-79	5.9	73.0	52.0	54

(Continued)

Table A.3. Continued

	Unemployment rate (%)	Conference Board	University of Michigan	
			Expectations	More unemployment
a) January 1980 recession				
Dec-79	6.0	74.8	51.5	61
Jan-80	6.3	71.4	54.1	54
Feb-80	6.3	74.1	54.9	46
b) July 1981 recession				
Nov-80	7.5	102.9	76.9	24
Dec-80	7.2	91.1	60.4	39
Jan-81	7.5	85.9	67.9	38
Feb-81	7.4	78.4	62.1	40
Mar-81	7.4	88.1	62.1	41
Apr-81	7.2	93.1	68.8	40
May-81	7.5	96.3	73.6	36
Jun-81	7.5	94.0	71.2	36
Jul-81	7.2	94.1	67.1	36
Aug-81	7.4	96.5	70.8	36
c) July 1990 recession				
Jan-89	5.4	104.1	89.9	34
Feb-89	5.2	108.3	88.8	30
Mar-89	5.0	104.9	87.6	33
Apr-89	5.2	101.8	83.2	29
May-89	5.2	103.0	80.1	35
Jun-89	5.3	105.1	82.0	29
Jul-89	5.2	106.6	85.5	31
Aug-89	5.2	103.7	80.3	35
Sep-89	5.3	106.1	88.6	26
Oct-89	5.3	106.4	87.2	30
Nov-89	5.4	103.7	84.3	35
Dec-89	5.4	104.4	85.5	37
Jan-90	5.4	97.0	83.4	36
Feb-90	5.3	93.7	81.3	44
Mar-90	5.2	101.9	81.3	34
Apr-90	5.4	99.2	83.9	36
May-90	5.4	100.3	79.3	37

(Continued)

Table A.3. *Continued*

c) July 1990 recession				
Jun-90	5.2	96.6	76.6	39
Jul-90	5.5	91.8	77.3	37
Aug-90	5.7	74.2	62.9	46
Sep-90	5.9	77.7	58.8	44
Oct-90	5.9	55.6	56.1	62
Nov-90	6.2	56.1	59.8	64
d) March 2001 recession				
Jan-00	4.0	119.1	108.6	21
Feb-00	4.1	114.6	107.8	21
Mar-00	4.0	106.8	101.7	22
Apr-00	3.8	109.7	103.7	22
May-00	4.0	118.7	104.8	20
Jun-00	4.0	111.9	100.8	25
Jul-00	4.0	113.7	104.5	24
Aug-00	4.1	113.9	104.0	23
Sep-00	3.9	115.9	103.4	23
Oct-00	3.9	108.4	100.7	29
Nov-00	3.9	101.2	101.6	27
Dec-00	3.9	96.9	90.7	39
Jan-01	4.2	79.3	86.4	47
Feb-01	4.2	70.7	80.8	53
Mar-01	4.3	83.1	83.9	50
e) December 2007 recession				
Dec-06	4.4	96.3	81.2	34
Jan-07	4.6	94.4	87.6	27
Feb-07	4.5	93.8	81.5	33
Mar-07	4.4	87.9	78.7	33
Apr-07	4.5	88.2	75.9	38
May-07	4.4	90.1	77.6	30
Jun-07	4.6	88.8	74.7	37
Jul-07	4.7	94.4	81.5	33
Aug-07	4.6	89.2	73.7	39
Sep-07	4.7	85.0	74.1	36

(Continued)

Table A.3. Continued

e) December 2007 recession				
Oct-07	4.7	80.0	70.1	38
Nov-07	4.7	69.1	66.2	39
Dec-07	5.0	75.8	65.6	47
f) February 2020 recession				
Feb-20	3.5	108.1	92.1	23
Mar-20	4.4	86.8	79.7	39
Apr-20	14.8	94.3	70.1	52
g) 2021 slowing?				
Jan-21	6.3	88.1	74.0	30
Feb-21	6.2	95.4	70.7	32
Mar-21	6.0	111.9	79.7	26
Apr-21	6.1	107.9	82.7	21
May-21	5.8	100.9	78.8	17
Jun-21	5.9	108.5	83.5	15
Jul-21	5.4	103.8	79.0	14
Aug-21	5.2	92.8	65.1	24
Sep-21	4.8	86.6	68.1	21
Oct-21	4.6	89.0	67.9	26
Nov-21	4.2	90.2	63.5	26
Dec-21		95.4	68.3	22
Jan-22		88.8	64.1	26
Feb-22		80.8	59.4	25
Mar-22		76.6		

Table A.4. Expectations for 6 months hence: Percent

<i>a) The Conference Board</i>																	
2021											2022						
	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar				
<i>Business conditions</i>																	
Better	39.1	33.1	31.0	33.7	30.9	23.4	21.7	22.7	25.6	25.4	23.6	21.3	18.7				
Worse	11.1	12.1	14.4	10.8	11.9	17.4	17.6	21.9	19.6	18.6	19.7	19.9	23.8				
Same	49.8	54.8	54.6	55.5	57.2	59.2	60.7	55.4	54.8	56.0	56.7	58.8	57.5				
<i>Employment</i>																	
More jobs	35.4	31.7	27.7	26.6	25.5	23.1	21.3	24.4	22.8	24.2	22.1	19.4	17.4				
Fewer jobs	14.8	14.4	17.5	15.7	17.8	18.0	19.9	18.7	19.0	14.7	16.6	19.6	17.7				
Same	49.8	53.9	54.8	57.7	56.7	58.9	58.8	56.9	58.2	61.1	61.3	61.0	64.9				
<i>Income</i>																	
Increase	18.0	17.4	16.2	20.0	20.0	18.2	16.9	18.4	18.9	17.5	16.2	14.7	14.9				
Decrease	10.1	10.5	9.3	8.4	8.8	9.9	11.4	11.2	11.7	11.2	12.1	13.0	13.7				
Same	71.9	72.1	74.5	71.6	71.2	71.9	71.7	70.4	69.4	71.3	71.7	72.3	71.4				
<i>b) University of Michigan</i>																	
	Financial situation in a year				Business conditions in a year				Business conditions next 5 years				Overall				
	Better off	Same	Worse	Relative	Good	Uncertain	Bad	Relative	Good	Uncertain	Bad	Relative	Expectation				
														Times			
														Index			
Jan-21	35	45	14	121	38	3	51	87	38	9	50	88	74.0				
Feb-21	36	45	18	118	36	3	53	83	36	7	54	82	70.7				
Mar-21	33	49	15	118	49	3	41	108	41	9	47	94	79.7				
Apr-21	39	44	15	124	52	4	37	115	41	9	48	93	82.7				

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Table A.4. *Continued*

<i>b) University of Michigan</i>													
	Financial situation in a year				Business conditions in a year				Business conditions next 5 years				Overall
	Better off	Same	Worse	Relative	Good	Uncertain	Bad	Relative	Good	Uncertain	Bad	Relative	Expectation Index
					Times	Times	Times	Times					
May-21	31	49	18	113	51	3	41	110	42	6	49	93	78.8
Jun-21	35	45	16	119	55	3	36	119	43	9	46	97	83.5
July-21	36	46	16	120	50	2	41	109	38	9	50	88	79.0
Aug-21	31	45	20	111	32	3	58	74	33	7	58	75	65.1
Sept-21	30	49	18	112	37	2	53	64	33	9	57	76	68.1
Oct-21	32	46	20	112	37	3	56	81	35	6	57	78	67.9
Nov-21	29	46	23	106	32	2	59	73	31	8	58	73	63.5
Dec-21	30	47	30	110	36	2	56	80	36	7	53	83	68.3
Jan-22	35	40	21	114	29	3	62	67	33	7	58	75	64.1
Feb-22	28	43	26	102	29	3	63	66	29	7	61	68	59.4
<i>c) University of Michigan—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?</i>													
					Less				Same				More
Jan-21					35				33				30
Feb-21					36				31				32
Mar-21					45				28				26
Apr-21					52				26				21
May-21					54				28				17
Jun-21					56				27				15

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Table A.4. *Continued*

<i>c) University of Michigan—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?</i>			
	Less	Same	More
July-21	52	33	14
Aug-21	38	37	24
Sept-21	43	35	21
Oct-21	37	36	26
Nov-21	36	37	26
Dec-21	34	43	32
Jan-22	29	44	26
Feb-22	28	45	25