THE GREAT DECOUPLING: MACROECONOMIC PERCEPTIONS AND COVID-19[*]

Darren Grant
Department of Economics and International Business
Sam Houston State University
Box 2118
Huntsville, TX 77341
dgrant@shsu.edu / (936) 294-4324

Abstract: Dramatic changes in the U.S. macroeconomy accompanied the Covid-19 pandemic, with large swings in economic growth, unemployment, and inflation. The American public's perception of macroeconomic conditions varied as well, in seemingly-perplexing ways. In order to document this phenomenon and better understand it, this paper extends Grant's (2014) analysis of these perceptions to the present, analyzing almost fifty years of public surveys on the state of the U.S. economy. In contrast to claims found in the media, there is little evidence that the impact of inflation on these perceptions has changed over time. On the other hand, the effect of unemployment fell significantly during the pandemic, perhaps because of the temporary provision of income stabilizers, which were timed to mitigate these effects. An unexplained, downward secular trend in sentiment is present from mid-2020 to mid-2022, which does not admit of a simple explanation.

Keywords: economic sentiment; consumer perceptions; economic surveys; macroeconomic conditions

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*** This paper has been updated with data through June 2022 and additional analysis. ***

** This paper has several figures that are best viewed in color. **

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Traditional macroeconomics downplays the role of public perceptions. The health of the macroeconomy is evaluated through objective fundamentals like unemployment, inflation, and output growth. Theoretical models and policy prescriptions, also expressed in these terms, are largely unshaped by public opinion on the state of the economy. To the extent that macroeconomists have concerned themselves with these perceptions, it has usually involved their ability to predict future values of macroeconomic fundamentals. Otherwise, public opinion is largely ignored.

Until recently, the cost of doing so has been modest, because these perceptions have evolved in line with macroeconomic fundamentals. In recessions, slowdowns in output and increases in unemployment raise consumers' pessimism about economic conditions; high inflation does the same thing. The reverse happens when these variables move in the opposite direction.

The last two years have stood this pattern on its head. During the height of the Covid-19 pandemic in 2020 and 2021, tremendous swings in Gross Domestic Product (GDP), unemployment, and inflation were associated with modest and somewhat surprising changes in the public's assessment of macroeconomic conditions. The impasse between objective and subjective measures began to register in the popular press in early 2022, with public pessimism increasing at a time that unemployment was declining:

> There's something very peculiar going on with how Americans perceive the economy...there's a huge disconnect between economic reality, which is mixed–inflation is a big concern, but job growth has been terrific–and public perceptions, which are weirdly dismal. (Paul Krugman, *New York Times*, Mar. 3, 2022)

Unsupported by macroeconomic fundamentals, these overly pessimistic perceptions were viewed as being, essentially, irrational:

> People are not responding rationally to objective data right now. We are living in polarized, partisan times. Questions about consumer confidence or the country being on the right or wrong track are meant to get at people's views of the world outside

> of politics. But nothing lies outside of politics anymore. (Fareed Zakaria, *Washington Post*, Feb. 10, 2022)

This premise accepted, the search for alternate explanations began:

> The *Times*'s Nate Cohn makes a persuasive case [for] two causes–the delta variant and the withdrawal from Afghanistan... Life was getting messy, and the president who had promised normalcy...was not delivering. (Fareed Zakaria, *Washington Post*, Feb. 10, 2022)

> Poor assessments of the economy, I'd now argue, mainly reflect two things... People react more negatively to inflation than textbook economics would have predicted. [And the] media have accentuated the negative. One liberal think tank analysis found that CNN and MSNBC devoted 50 percent more screen time in November to inflation than to all other economic developments combined....Fox News has devoted three times as much screen time to inflation as CNN. (Paul Krugman, *New York Times*, Feb. 3, 2022)

> I would be surprised if a media narrative were the full story. What else might explain the dissatisfaction? Even if you forget about inflation, the experience of living and working in the U.S. economy is often unpleasant right now... Public buses and subways are unreliable...after-school activities are unreliable, creating child-care gaps. Grocery stores are routinely out of items. Retail lines are long. Doctor's appointments can be hard to get... By many measures–mental health, suicide attempts, blood pressure, violent crime, vehicle crashes, student learning–society is not functioning very well. (David Leonhardt, *New York Times*, Feb. 1, 2022)

This grab-bag of potential explanations testifies to a vacuum in the literature. Most academic work, focused on public perceptions' forecasting ability, employs surveys from the University of Michigan and the Conference Board, which both produce indices of current and future conditions. Neither survey, however, explicitly asks about the overall macroeconomy, instead querying about "business conditions," personal finances, and "available jobs," and then applying prescribed weights to the responses to create the index. Given its emphasis and data, this work can't say much about the "rationality" of consumers' perceptions of current conditions or their macroeconomic correlates. As a result, when these perceptions behave in puzzling ways, it is easy to claim irrationality and

speculate on a host of alternate causes.

However, this vacuum is not complete. For decades, several reputable American news organizations have asked respondents to assess the national economy. Grant (2014) analyzed these surveys and concluded that they are statistically distinct from the Michigan and Conference Board indices, informative about current values of macroeconomic variables (which are reported with a lag and, often, subsequently revised), and related to these variables and to each other in consistent and sensible ways. This work is the natural starting point for better understanding what happened to consumer perceptions during the Covid-19 pandemic.

Accordingly, this paper updates Grant's (2014) analysis, incorporating recent data on consumers' assessments of the economy and re-examining how macroeconomic fundamentals influence these assessments before and during the Covid-19 pandemic. This analysis indicates that the relation between consumer perceptions and macroeconomic fundamentals has changed–in surprising ways. This change did not begin in the winter of 2021/2022, nor was it initially pessimistic. Furthermore, it does not involve inflation, but rather unemployment and, to some degree, output growth. Succinctly put, consumer perceptions have become *decoupled* from these macroeconomic fundamentals, for reasons that cannot be wholly discerned. One likely contributor is the unprecedented fiscal stabilization during the pandemic, which was well timed to mute the impact of Covid-era changes in employment and output on the public's view of the economy. However, facile explanations for further declines during 2022 do not receive consistent support.

Section I. Polling on the State of the Economy.

To understand these assessments, it is vital to analyze surveys that ask about economic conditions directly, providing necessary face validity and letting respondents determine for themselves how to (implicitly) weight unemployment, inflation, etc. Such surveys have existed for nearly half a century. Two classes of questions have been asked: "good economy" (GE) questions that ask about the current state of the macroeconomy, and "better/worse" (BW) questions that inquire about the change in economic conditions.

Grant (2014) identified three phases over which these surveys developed. The early phase, in the 1970s and early 1980s, featured sporadic, BW questions by CBS News and ABC News (generally in conjunction with the *New York Times* and *Washington Post*, respectively). In the middle phase, GE questions were added and survey regularity increased, while Gallup (with *USA Today*) began asking both types of questions as well. This phase, which marked the end of the data analyzed by Grant, ended around the time of the Great Recession in 2008. This paper incorporates data from the third, late phase, which runs from then to the present (March 2022 at this writing). This phase saw the discontinuation of the CBS News survey and the ABC News BW question, while ABC News' GE question and Gallup's polling became more sporadic. To compensate, we incorporate GE polling by Quinnipiac University, Pew, and CNN and a new BW tracking poll by YouGov (in conjunction with *The Economist*), appending some earlier CBS News polling from the mid-1990s as well.[1] Each survey typically contains at least one thousand respondents in each month that it is conducted, so very little variation comes from sampling error.

Tables 1 and 2 list the questions and time frames for each survey. While each survey's GE

[1] All three new GE surveys are needed to ensure detailed coverage over the past decade, during which the original three surveys were either discontinued or became more sporadic.

and BW questions are phrased similarly, the response options are often distinct. As a result, the fraction of respondents choosing the most positive option ("excellent," "very good," etc.) varies across surveys, though all surveys move similarly over time. While any given GE survey has significant temporal gaps, these are filled in by other surveys, leaving the "uncovered" months widely scattered. Of the 439 months from Dec. 1985 to June 2022, only nine are uncovered by any of these six surveys. Larger gaps occur for the "better/worse" surveys. Of the 553 months from June 1976 to June 2022, 146, or about one-quarter, are uncovered by any survey. However, these gaps are concentrated in the earlier years of the sample period–after 2000, only two months are left uncovered–and Covid-era coverage is excellent, with both Gallup and YouGov providing monthly results from 2018 forward. Even in the early years of the sample period, each year has at least three months of data, which is adequate to detect changes in sentiment over the business cycle.

Extensive analysis in Grant (2014) affirmed these questions' construct validity and unique behavior, compared to the Michigan and Conference Board indexes. In addition, that paper found that the BW questions were backward looking, with a time frame of six to eight months. Responses to these questions were closely correlated with differences in the responses to the GE questions, though not so highly that the two measures can be considered synonymous.

Section II. Creating Indices of Macroeconomic Perceptions.

We wish to amalgamate the information in each *class* of survey questions (good economy, better/worse), accounting for these differences in response options (and associated differences in response frequencies), and allowing for the temporal gaps in each survey. Since each survey within

a class is measuring the same construct, their responses should have a strong underlying commonality, which Grant (2014) confirms empirically. We express this commonality as a latent variable and estimate it nonparametrically.

Thus, following Grant (2014), we allow each survey's response frequencies to be governed by three terms: a time-varying latent variable, L, common to all respondents of all surveys (within a class); a random variate, α, that generates cross-section variation in individual responses at any given point in time; and a time-invariant, survey-specific set of thresholds, μ, that distinguish an "excellent" response from a "good" response, and so on. One can treat L as a scalar index of perceived macroeconomic conditions.

The latent variable and associated thresholds are estimated by relating all surveys' response frequencies nonparametrically to time. This is done by expressing time as a series of splines, which are used as independent variables in an ordered probit model that uses the response frequencies as the dependent variable.[2] Applying the estimated coefficients to the splines yields a smoothed, amalgamated, unrestricted estimate of the latent variable that extends for the full time span of that class of surveys, filling in any survey-less months.

The formal statement of this model is as follows. Let j index individuals, t time in months, s splines, and z surveys (within a class). For each survey z, the *individual-level* latent variable, I, underlying any discrete choice model equals the sum of L and α, as follows:

[2] Following the original study, about 2.5 splines per year are employed, in order to preserve all but the highest frequency variation.

$$I^{z}_{j,t} = L_t + \alpha_{j,t} = \sum_s \beta_s S_{s,t} + \alpha_{j,t} \quad , \quad with \quad \sum_s S_{s,t} = 1 \ \forall t \quad and \quad \alpha_j \sim N(0,1) \ \forall t$$

$$\begin{aligned} &Least\ Favorable\ Response\ iff\ I_{j,t} < \mu_0 \\ &Next\ More\ Favorable\ Response\ iff\ \mu^z_1 > I_{j,t} \geq \mu^z_0 \\ &..... \\ &Most\ Favorable\ Response\ iff\ I_{j,t} \geq \mu^z_{MAX} \\ &\mu^1_0 = 0 \end{aligned} \qquad \textbf{(1)}$$

where S is a set of "B-splines," determined according to the method of deBoor (1978), which sum to one at each point in time, and the μ's are the thresholds that $I_{j,t}$ must exceed in order for that respondent to report that economic conditions are "excellent" instead of "good," and so on. The predicted value of L at any time T is $\Sigma\hat{\beta}_s S_{s,T}$. For simplicity, we assume there are 1,000 respondents to any given survey in any given month (to which the percentages responding "excellent," etc., are applied). This is often close to the truth (and is an understatement otherwise).

This ordered probit model is applied separately to each class of surveys, with an associated latent variable estimated for each. Each latent variable amalgamates the information contained in that class of surveys into a single time series. This series serves as the single, summary measure of perceptions for that class of surveys and as the dependent variable in regressions that relate these perceptions to basic macroeconomic variables.

Figures 1 and 2 present both latent variables, along with the eight month difference of the GE latent variable, over the full sample period, June 1976 - June 2022. Neither latent variable has natural units, which are defined by the standard probit identification condition that the errors have unit variance. Nonetheless, there is a simple basis for interpretation. Each survey's thresholds lie about one unit apart, so (roughly speaking) a one unit increase in either latent variable is akin to each

respondent choosing the next best response option.[3] The differenced GE measure is quite similar to the BW measure, with some indication that the latter better anticipates significant changes in the economy. Across the full, forty-six year sample period, the least favorable macroeconomic perceptions are all associated with acknowledged recessions. The Covid-era trough is the fourth smallest of the lot, with the recessions in 1980, 1991-1992, and 2008 all outpacing it in misery.

Section III. Macroeconomic Factors Influencing Assessments of the National Economy.

Methods. To determine the macroeconomic underpinnings of these survey responses, we regress the associated latent variables on a set of economic fundamentals. For consistency, we maintain the set used in Grant (2014): inflation, the unemployment rate, output growth, a medium-term interest rate (the seven-year Treasury bill), an index of the strength of the dollar, and (in the levels specification) a time trend.[4] These are graphed in Figure 3.

The first three variables in this list are not instantaneously reported with perfect accuracy. Preliminary values for unemployment and output growth are reported by the appropriate federal agency with a lag of one month, then subsequently revised. Also, the consumer price index, used in calculating inflation, is reported with a one month delay. Grant (2014) shows that the revised

[3] This holds for the BW question only when all three response options are explicit.

[4] Inflation is calculated using the all-urban Consumer Price Index, and the unemployment rate is seasonally adjusted. Each quarterly observation of the real, chain-weighted, seasonally-adjusted Gross Domestic Product is assumed to pertain to the middle month of each quarter; the other months are calculated by linear interpolation. The trade-weighted index of exchange rates of the U.S.'s most important trading partners, from the Federal Reserve Bank of St. Louis, has been divided by ten here so that its variation is comparable to that of the other variables. See Grant (2014) for more on the selection of these variables and the alternatives that were considered.

values better explain these survey responses, implying that economic assessments are based on the public's genuine perceptions of macroeconomic conditions, not reported statistics. We use the revised values available as of early August 2022, and scale the dollar strength index by a factor of ten, so that its standard deviation is comparable to those of the other variables (see Table 3).

These five variables are often characterized by different integration orders. Accordingly, following Grant (2014), we estimate both level and difference specifications for the GE question; the BW latent variable is regressed on differences of the independent variables. The levels specification can be viewed as estimating an a priori known cointegration relationship, with autocorrelation in the residuals representing slow adjustment of survey responses to their long-run fundamental level. The remaining specifications estimate short run relationships, which is our primary focus. Using three specifications also indicates the robustness of the estimates, which is important in this context.

These specifications require a total of three differences: 1) in output and price levels, to determine output growth and inflation, 2) of all dependent and independent variables in the differenced GE specifications, and 3) of the independent variables in the BW regressions. Following Grant (2014), the last difference is taken over eight months (which maximized explanatory power in that paper) and the other two are taken over twelve months (which nearly maximized explanatory power and controls for seasonality without sacrificing degrees of freedom). All differences are backward.

Estimation is conducted using ordinary least squares (OLS), which yields consistent coefficient estimates in all specifications. As OLS standard errors are biased in cointegrating regressions and when (as here) the error term is serially correlated, these are adjusted using the

Newey-West correction. The full sample period begins in 1976 for the BW question and a decade later for the GE question. As of this writing, both end in June 2022, to allow some revision to the unemployment and GDP growth numbers used as regressors.

We acknowledge that factors other than macroeconomic fundamentals could affect assessments of the economy. The most obvious suspect is media coverage. Disentangling causation from correlation here is tricky, and even recent, methodologically sophisticated studies disagree (Hopkins et al., 2017; Boydston et al., 2018). However, even when media coverage is found to matter, "the lion's share of consumer sentiment is explained by economic fundamentals...economic performance accounts for...much of the variance in economic media tone" (Boydston et al., 2018, p. 997). Our operative assumption, in line with these findings, is that it is possible to form meaningful inferences about Covid-era changes in consumer perceptions without accounting for secondary factors such as media coverage.

Results. Descriptive statistics and estimates are presented in Table 3. As each independent variable's standard deviation is broadly comparable, relative coefficient magnitudes are meaningful. We begin with the pre-Great Recession time frame estimated in Grant (2014), found in the leftmost column of each panel of the table. Here, as before, economic assessments are most strongly influenced by unemployment. Increasing this by three percentage points would cause most respondents to choose the next worse response option. Significant but smaller effects, in the expected direction, are also observed with inflation and GDP growth, with positive effects for the exchange rate and mixed, often small effects for the interest rate. Except for the latter variable, these estimates are all reasonably consistent across specifications, in part because assessments of the

macroeconomy adjust rapidly (see Grant, 2014).

Overall, that paper concluded that one percentage point of unemployment was "worth" two to five percentage points of inflation, in terms of perceptions. This ratio is duplicated in studies that relate measures of happiness or life satisfaction to unemployment and inflation (DiTella, MacCulloch, and Oswald, 2001, 2003; Wolfers, 2003; Malasevic-Perovic, 2008; Blanchflower et al., 2013); with other such studies duplicating our generally small effects of long-term interest rates and economic growth (Oswald, 1997; Welsch, 2007, 2011). This ratio also appears when relating post-1970 presidential approval to economic conditions (Berlemann and Enkelmann, 2014).

These widespread findings undercut recent claims that the public intrinsically values low inflation more than low unemployment:

> One theory...goes like this: When voters secure a raise or new job, they tend to interpret that as a product of their own efforts and abilities; when they go to the store and see that prices are up, they blame "the economy" and the politicians who manage it (Eric Levitz, "Five Reasons Voters Underrate the Biden Economy, *New York Magazine*, Feb. 2022).
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> People are bothered by inflation, even when their own incomes are more than keeping up. Maybe that's because inflation conveys a sense that things are out of control...inflation aversion is simply a fact of life (Paul Krugman, *New York Times*, Feb. 3, 2022).

So does a first-order assessment of the costs of each. The cost of inflation is straightforward: a loss of purchasing power. An unanticipated, general price increase of one percent lowers purchasing power by one percent in the short run (less in the long run, as the labor market adjusts). In contrast, the costs of unemployment are multifaceted and large (Helliwell and Huang, 2014). The unemployed lose earnings and the opportunity to gain valuable work experience, and suffer from reduced mental health. Workers are less able to switch jobs and have smaller hourly wages and

weekly earnings. Evidence on U.S. wage cyclicality, though now somewhat dated, indicates that a one percentage point change in unemployment changes wages by somewhat more than 1% in the opposite direction (Solon, Barsky, and Parker, 1994; Grant, 2001; Shin and Solon, 2007; Bellou and Kaymak, 2021). By this logic, the 2:1-5:1 ratio observed in the literature is sound.

We now extend the sample period through June 2022, placing the results in the rightmost columns of each panel of Table 3. There is a dramatic reduction in the unemployment coefficient estimate, in all specifications, with small and unsystematic changes in the other estimates. Consumer perceptions have indeed changed. We probe this finding further in the next section.

Section IV. The Great Decoupling.

A. Changes in the Macroeconomic Underpinning of Economic Assessments

Modifying the sample period used in estimation illuminates the timing and nature of these changes. Accordingly, we re-estimate the differenced GE and BW specifications over a successive sequence of shorter time periods, ending in June 2022, Dec. 2021, Dec. 2020, Dec. 2019, and so on, back to 2000 for the first regression and 1990 for the second. The sequence of coefficient estimates for the three most fundamental macroeconomic variables–unemployment, output growth, and inflation–are reported in graphical form in Figures 4 and 5.[5]

Some variables' estimates are stable over time and some are not. In both specifications, the

[5] The Covid era has relatively small effects on the coefficient estimates for the remaining variables, the exchange rate and interest rate.

unemployment coefficients moderate as the sample period lengthens, once during 2008-2009, with the inclusion of the Great Recession, and again in 2020 forward, with the inclusion of the Covid-19 pandemic. For GDP growth, the results are mixed. In the former specification, in Figure 4, coefficient estimates remain largely stable until the Covid era arrives, when they fall precipitously. In the latter specification, in Figure 5, they grow over time but remain stable when Covid-era data are included. In contrast, the coefficient estimates on inflation remain stable throughout. The macroeconomic underpinnings of consumer perceptions have indeed changed. But they involve unemployment and (perhaps) GDP growth, not inflation.

To better understand what has happened, we take pre-Covid estimates on all independent variables in all three specifications, from the beginning of the sample period through Dec. 2019, and use them to predict the values of the dependent variables for the full sample period, including the 2.5 Covid-infused years. Figure 6 contains the actual and predicted values of each variable, from which the residuals are easily imputed.

Prior to the Covid era, the implied residuals in Figure 6 have been sizeable on occasion, generally associated with the onset of and emergence from recession, with a magnitude of about one half unit. (In fact, as Figure 6 suggests, these swings often served as harbingers of change–see Grant, 2014.) Covid-era swings, far larger and more rapid, put these to shame. These large residuals offset equally large variation in predicted perceptions, yielding modest changes in the latent variables themselves. Beneath Figure 1's placid surface lies great turbulence.

This fact may account for the dissonance between these residuals and the narrative unfolding in the popular press. No matter which specification is considered, the Covid-era residuals in Figure 6 take the same shape: a huge positive swing followed by an enormous negative swing some months

later. "Puzzling" economic perceptions begin in 2020, not 2021–and (initially) are far "too high," not "too low." None of the theories offered by the commentariat explain these findings.

B. The Great Decoupling.

A better understanding of Covid-era changes in consumer perceptions can be generated using a decomposition that attributes these changes to changes in the independent variables and in the residual. Using this decomposition, we can "walk through" the two years from early 2020 to mid-2022, three months at a time, tracing out how perceptions change and why.

As with Figure 6 above, this decomposition is based on regression estimates through Dec. 2019. All three specifications' estimates are similar (as shown at the bottom of Table 4), so we use those from the simplest of the three, the levels GE specification. Each component of the decomposition is calculated using the following identity:

$$\hat{L}_t - \hat{L}_{t-3} = \hat{\delta}_1(X_{1,t} - X_{1,t-3}) + \ldots\ldots + (e_t - e_{t-3}) \qquad \textbf{(2)}$$

where t is time in months, L is the GE latent variable from equation **(1)**, the δ's are regression coefficients, the X's are the independent variables, and *e* represents the residual.

The decomposition is presented in Table 4, beginning in Feb. 2020, just before Covid lockdowns take effect, and ending two years later. In it, we see that perceptions became increasingly decoupled from macroeconomic fundamentals. Large increases in unemployment and declines in GDP during Q2 2020 imply large declines in the latent variable, but the actual decline is far more modest. The reverse happens in Q3, as unemployment and GDP start to recover while perceptions

hardly budge. A year later, in the second and third quarter of 2021, a similar story happens in reverse, following that spring's boom in economic growth. Furthermore, after Q2 2020, the residuals are generally (though not exclusively) negative, suggesting a secular increase in pessimism throughout this period. The *predicted* values of the latent variable in Feb. 2020 and May 2022 are almost identical, but the *actual* value declines by more than one unit over this period. Ironically, this increase in "unexplained" pessimism had substantially played out by the time consumer sentiment became a topic of popular discussion in early 2022.[6]

Explanations. What caused this decoupling of perceptions from macroeconomic fundamentals? One explanation is suggested in Table 4's final column, which documents major policy actions during this period that affected households directly, through monetary transfers, rather than indirectly, through changes in growth or unemployment. Two major sets of actions were initiated with the CARES Act, passed on March 27, 2020. It temporarily enhanced unemployment insurance (UI), increasing the amount and duration of payments while granting eligibility to self-employed workers. It also generated the first round of Economic Impact Payments (EIP), or stimulus payments, which were distributed shortly thereafter. These each could be worth thousands of dollars to a household. In Q2 2020, UI payments increased by $600 per week, while a family of four could receive nearly

[6] Table 4 may overstate what happened in mid-2021, when a temporary surge in economic growth is paired with with slight declines in the latent variable. The period used to calculate GDP growth is especially favorable, coming twelve months after Q2 2020's deep contraction in output. So is this variable's coefficient estimate, which is twice as high in the levels GE specification as in its confederates. Qualitatively, however, our point still stands. Using more conservative quarter-on-quarter (annualized) growth numbers and the more conservative coefficient estimates of the other specifications, the latent variable is predicted to increase modestly in the first and second quarters of 2021, while its actual change is negative.

$4,000 in stimulus payments.

As 2020 proceeded, enhanced UI benefits continued, albeit at a lower rate; the year concluded with a second, smaller round of EIP. A third round of payments followed in early 2021; this was the largest of all, netting a family of four more than $5,500. The American Rescue Plan, which granted the third EIP, also established an enhanced Child Tax Credit that was paid out on an accelerated schedule in the second half of 2021. During that period, a family with two children would receive $6,000 or more. Altogether, these actions transferred roughly $2 trillion to households, far outweighing the aggregate loss of labor and capital income. Household finances were in great shape, but the economy had little to do with it.

On a monthly basis, the timing of these actions broadly corresponds to changes in the residual in Table 4. The UI expansions and EIP associated with the CARES Act could account for Q2 2020's large positive residual, and its reversal in the following quarter as well. (Not having plummeted in Q2 2020, the latent variable had little room to rise in the following quarter, as the economy began to recover.) A similar pattern obtains for the initiation of the expanded Child Tax Credits, in the third and fourth quarters of 2021. On the other hand, the second and third EIPs are associated with falls in the residual, which then rose in early 2022, just after the expanded Child Tax Credit program came to a halt.

This loose timing does not support a tight link between these policies and economic sentiment. Nonetheless, given the magnitude of these actions and the rough correspondence observed, it seems equally unwise to ignore them wholly, merely because the timing is not exact. As household balance sheets came to depend more on transfers, and less on the state of the economy, one should expect that economic sentiment would become somewhat decoupled from

macroeconomic conditions.[7] The greater surprise, in our view, is the ferocity of the decoupling, which is very large in historical terms.

These financial stabilization programs had ended as 2022 dawned; a few months later, the deadly Omicron wave of Covid-19 had passed. The Covid era was receding. But consumer perceptions continued their perplexing run.

The two survey classes indicate different degrees of perplexity. For each, the magnitude of the residuals implicit in Figure 6 quantifies the extent to which current perceptions of the economy are unexpectedly low. In the levels GE specification, the latent variable began 2022 one-half unit below its predicted value and fell to one unit below by June. Such a deviation had never been experienced until the Covid era. Actual and predicted values of this latent variable rarely differ by even one-half unit. In the BW specification (and its differenced GE counterpart), however, the story is somewhat different. Throughout 2022, these residuals have been roughly -½, a magnitude repeatedly matched or exceeded in earlier years. The pessimism reflected in this class of surveys is, in this sense, less perplexing, even if its cause is not known.

Its cause is, indeed, not known, though this hasn't prevented speculation:

> Even though gas prices have retreated significantly over the past couple of months, behavioral economists say much of the nation's collective angst can be chalked up to prices at the pump. (Martha White, "Consumers Still Don't Feel Great about the Economy, Despite Lower Gas Prices," *CNN Business*, Aug. 12, 2022).

Soon after President Biden took office–and as the pandemic seemed to be winding

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[7] This decoupling is also observed in the Federal Reserve's more recent Survey of Household Economics and Decisionmaking. This survey invites respondents to assess not only the overall economy, but also their own financial condition. In this data, assessments of the latter have improved slightly during the pandemic, consistent with observed increases in household wealth, while assessments of the former have plummeted (Thompson, 2022). Financially, people are doing well, but they do not credit the economy for it.

> down–[economic] optimism returned. Until it didn't. An inextricable part of this is partisanship... Partisanship is part of what's driving pessimism. (Philip Bump, *Washington Post*, June 7, 2022).
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> In the long run we are all dead, Keynes famously said. What he didn't say, but I will, is that in the medium run our wages have not yet caught up with inflation... Right now, it is the medium run that is more vivid in the eyes of most Americans. (Tyler Cowen, "Economic Pessimism Makes Sense Right Now," Bloomberg, Nov. 10, 2021).

Such speculation also reflects a vacuum in the literature. It can be informed by examining whether the postulated factor consistently explains large, persistent residuals in either latent variable in the past. For the GE question, these occurred in the early 1990s (negative), the late 1990s (positive), and 2015-2016 (negative). For the BW question, these occurred in 1978-1980, 1984-1985, 1990, 1997-2000, 2007-2008, and 2017-2019 (some positive, some negative). None of the four possibilities we examine–gas prices, real wages, political factors, and "unmeasured" labor market conditions–can do so.

Gas Prices. This is the only possibility of the four to have been considered in the literature, though inadequately for our purposes.[8] As Figure 7 shows, low gas prices did not prevent GE assessments from being unexpectedly low in 2015-2016; nor did higher prices prevent BW assessments from being unexpectedly high in 2017-2019. Over the full sample period, the correlation between the twelve-month change in gasoline prices and the residual is, perversely,

[8] Edelstein and Kilian (2009) and Johnson and Lamdin (2012) examine how gas prices affect the Index of Consumer Sentiment, controlling for purchasing power and real consumption in the former paper and for income in the latter paper. This index is a combination of current and future conditions–the former paper is especially expectations-focused–and subject to the limitations pointed out in the introduction. Furthermore, neither study accounts for unemployment, the most important control of all. Under these circumstances their findings have limited applicability here.

positive in all three specifications (though generally small).[9]

Real Wages. The rapid onset of unexpectedly high inflation at the tail end of the Covid era has lowered real wages for many workers, despite low unemployment. The Federal Reserve Bank of Atlanta publishes a wage growth series, the "Wage Growth Tracker," that accounts for compositional effects in the workforce using matched panels from the Current Population Survey (much as in Grant's 2001 analysis of wage cyclicality). This series, adjusted for inflation, affirms substantial real wage losses for many groups of workers, and the correlation between real wage growth and the BW residuals is a sizeable 0.31.

Theoretically, however, this variable would seem to be more closely related to the GE question. In fact, it has no empirical relation to these residuals, in levels or differences, with correlations below 0.10; the unexpectedly low GE assessments of 2015-2016 occurred despite high real wage growth. In addition, the Wage Growth Tracker shows that recent changes in real wages have been vastly higher for younger workers than for older workers; meanwhile, the cross-tabulations in the YouGov BW question run in the opposite direction. They are much more positive for older respondents than they are for the young. Overall, the evidence is decidedly mixed.

"Unmeasured" Labor Market Conditions. The headline unemployment rate could "mis-measure" the state of the labor market for various reasons. If it was somehow "overly optimistic," this would make predicted values of the latent variable unexpectedly high and the residuals unexpectedly low.

However, we can find no evidence of this. Except for the spring of 2020, the six

[9] This correlation is taken from 1991 through the end of 2019, the period for which the data are available from the Federal Reserve Bank of St. Louis. The remaining correlations are taken from 1983 (when the relevant wage series begins) through the end of 2019.

unemployment measures created by the Bureau of Labor Statistics, U1-U6, move in concert during the Covid era. Establishment-level data has indicated slightly more job creation than has the household survey on which the unemployment rate is calculated. (In a similar vein, Gross National Income has risen more than GDP.) Furthermore, changes in the labor force participation rate, shown in Figure 7, have weak relationships with the BW and GE residuals, with correlations below 0.10 in magnitude. Increasing prime-age labor force participation did not prevent unusually low GE assessments in 2015-2016.

Political Factors. A final possibility is that economic assessments are imbued with political sentiment, such that waning fortunes for the governing (Democratic) party drag down perceptions of the economy as well. This conclusion is indirectly supported by the jump in the BW latent variable observed after Donald Trump took office in 2017, which (cross-tabulations show) stems from a large increase in sentiment among Republicans, offset by a smaller decline among Democrats.

However, this jump is "identified" by the only BW survey with any material coverage over the period 2015-2017, that taken by YouGov. Unlike the other surveys utilized in this paper, it only surveys registered voters. This can affect the sample composition, while the question screening out nonvoters could have priming effects that cause respondents to view subsequent questions in a political light. A similar change is not observed in GE assessments (in the latent variable itself or in either survey with regular coverage over that period), nor has it been observed with either latent variable in prior presidential transitions.

To investigate further, we use Fair's (2018) analysis of economic factors on electoral outcomes. We treated the pre-election (October) residuals from all three of his specifications (President, Congress in presidential election years, Congress in off-years) as dependent variables,

and related them (independently) to both latent variables and to their residuals. In this large set of regressions, the resulting correlations were small and dispersed around zero. The evidence for a causal link from political sentiment to consumer sentiment is tenuous at best; the *direct* evidence that such a link has recently diminished economic optimism is non-existent.

In summary, there is no consistent evidence supporting the relevance of any of these factors. The current, unexpectedly low value of the GE latent variable is no more explicable now than it was in 2015-2016, when it attracted no attention at all.

Section V. Conclusion.

Until the Covid era, the public's assessment of the macroeconomy was fundamentally "rational." Different surveys of economic conditions related to each other in reasonable ways; public perceptions were "appropriately" undergirded by macroeconomic fundamentals; the relationship between these fundamentals and public perceptions was reasonably stable over time. The Covid era has upended that rationality in ways we can only partly understand.

This being said, research can still shed light on the plausibility of various claims. The Covid era decoupling of consumer perceptions from economic fundamentals has far more to do with unemployment than inflation, a likely consequence of significant government transfers that substantially cushioned the effect of job loss on income. Explanations for continued decoupling during 2022 have at best limited, mixed evidence in their favor, and should be viewed as no more than speculative.

What does the future hold for assessments of the macroeconomy? Having become decoupled

from economic fundamentals, will they eventually "re-couple" at some future date? If not, what will these assessments be based on in the future? It is still too early to tell. In years past, perceptions have regularly deviated from fundamentals for months or years at a time, but never to this degree (at least for the "good economy" question emphasized by the popular press). We may be observing a temporary, pandemic-induced perturbation in economic sentiment, or a fundamental realignment of economic perceptions, in which they become relatively untethered from output growth and unemployment. The pandemic and its policy response are both unprecedented in modern times. As this paper has shown, this decoupling is equally unprecedented.

Table 1. Survey Details: "Good Economy" Questions.

Survey Organization / Sponsor	Question Asked of Respondents	Temporal Span	Observations / Months in Survey Period
ABC News / *Washington Post*	"Would you describe the state of the nation's economy these days as excellent, good, not so good, or poor?"	Monthly, Dec. 1985 - Feb. 2010, and irregularly thereafter up to the present.	319 obs. in the 439 months from Dec. 1985 - June 2022
CBS News / *New York Times*	"How would you rate the condition of the national economy these days? Is it very good, fairly good, fairly bad, or very bad?"	Oct. 1986 - Jan. 2015, at irregular intervals.	208 obs. in the 340 months from Oct. 1986 to Jan. 2015
Gallup / *USA Today*	"How would you rate economic conditions in this country today–as excellent, good, only fair, or poor?"	Feb. 1997 - present, at irregular intervals, with monthly coverage since Dec. 2017.	203 obs. in the 366 months from Jan. 1997 to June 2022
Quinnipiac University	"Would you describe the state of the nation's economy these days as excellent, good, not so good, or poor?"	Dec. 2001 - present, at irregular intervals.	84 obs. in the 247 months from Dec. 2001 to June 2022
Pew Research	"How would you rate economic conditions in this country today–as excellent, good, only fair, or poor?"	Feb. 2004 - present, at irregular intervals.	98 obs. in the 221 months from Feb. 2004 to June 2022
CNN	"How would you rate the economic conditions in the country today–as very good, somewhat good, somewhat poor, or very poor?	Aug. 1997 - present, at irregular intervals.	122 obs. in the 359 months from Aug. 1997 to June 2022

Table 2. Survey Details, Better/Worse Questions.

Survey Organization / Sponsor	Question Asked of Respondents	Temporal Span	Observations / Months in Survey Period
ABC News / *Washington Post*	"Do you think the national economy is getting better, getting worse, or staying about the same?"	Reported in 49 of the 110 months between Sept. 1981 and Oct. 1990, and sporadically afterward through Oct. 2010.	62 of the 350 months from Sept. 1981 - Oct. 2010
New York Times / CBS News	"Do you think the economy is getting better, getting worse, or staying about the same?"	June 1976 - Jan. 2015, at irregular intervals.	207 of the 464 months from Aug. 1990 to Jan. 2015
USA Today / Gallup	"Right now, do you think that economic conditions in the country as a whole are getting better or getting worse?" (the percent *volunteering* the response "same" also reported)	July 1991 - present, at irregular intervals, with monthly coverage since Dec. 2017.	184 obs. in the 372 months from July 1991 to June 2022
YouGov / *The Economist*	"Overall, do you think the economy is getting better or worse?" ("same" also offered as a response option)	Monthly from Dec. 2009 to the present.	151 obs. in the 151 months from Dec. 2009 to June 2022

Table 3. Regression Results (coefficient estimates, with robust standard errors in parentheses).

		"GOOD ECONOMY" LATENT VARIABLE				"BETTER/WORSE" LATENT VARIABLE		
		Levels		Differences		(on differences of)		
Independent Variable	Mean, Standard Deviation, June '76-June '22	Dec. '85-Aug. '08 (N=273)	Dec. '85-June '22 (N=439)	Dec. '86-Aug. '08 (N=261)	Dec. '86-June '22 (N=427)	June '76-Aug. '08 (N=387)	Dec. '85-Aug. '08 (N=273)	June '76-June '22 (N=553)
Unemployment (percentage points)	6.22 (1.72)	-0.39* (0.03)	-0.14* (0.04)	-0.35* (0.05)	-0.08* (0.03)	-0.39* (0.06)	-0.31* (0.08)	-0.07 (0.04)
One Year Output Growth (percent)	2.65 (2.21)	0.06* (0.02)	0.04 (0.02)	0.03 (0.02)	0.02 (0.02)	0.03 (0.02)	0.06 (0.03)	0.04* (0.02)
Twelve Month Inflation (percent)	3.54 (2.63)	-0.08* (0.02)	-0.11* (0.03)	-0.06* (0.02)	-0.07* (0.02)	-0.09* (0.04)	-0.09 (0.05)	-0.06 (0.03)
Exchange Rate (Fed series, scaled by 0.1)	9.34 (1.39)	0.13* (0.02)	0.17* (0.05)	0.08* (0.03)	0.04 (0.04)	0.10* (0.05)	0.10 (0.07)	0.07 (0.06)
Seven Year T-Bill Rate (percentage pts)	5.77 (3.45)	-0.00 (0.02)	0.14* (0.04)	0.02 (0.02)	0.10* (0.03)	-0.12* (0.04)	-0.02 (0.05)	-0.06 (0.05)
Time in Years / Constant Term	----	-0.02* (0.01)	0.03* (0.01)	-0.03 (0.03)	0.01 (0.03)	----	----	----
R^2	----	0.91	0.74	0.69	0.36	0.43	0.30	0.17
standard deviation of dependent variable	----	0.42	0.48	0.31	0.32	0.43	0.35	0.39

Note: Final revised values of each independent variable are used in the regressions reported in the table. The R^2 values for regressions using real-time data, instead, are reported in the last row. Each regression also includes a constant. As discussed in the text, differences are taken over twelve months for the "good economy" regressions and over eight months for the "better/worse" regressions. * = $p < .05$.

Table 4. Decomposition of Covid-era Changes in Consumer Perceptions.

Month	Gallup Percent Positive	Latent Variable	3 Month Change in Latent Variable	Three Month Change in Latent Variable Attributable to Three Month Change In:					Major Covid Policy Responses during that Quarter
				Unemploy-ment	Inflation	GDP Growth	Other Factors	Residual	
Feb. 2020	63	1.19	---	---	---	---	---	---	Covid lockdowns begin in March
May 2020	22	0.77	-0.42	-1.67	0.13	-0.95	-0.01	2.09	UI expansions; 1st set of Economic Impact Payments (EIP)
Aug. 2020	28	0.48	-0.29	0.83	-0.07	0.62	-0.06	-1.60	enhanced UI benefit of $600 / wk. reduced to $300 / wk.
Nov. 2020	36	0.60	0.11	0.29	0.01	0.06	-0.01	-0.24	2nd set of EIP begin in late Dec.
Feb. 2021†	20	0.77	0.17	0.09	-0.03	0.27	0.01	-0.16	3rd set of EIP
May 2021	27	0.64	-0.13	0.07	-0.19	1.03	0.03	-1.07	
Aug. 2021	25	0.47	-0.17	0.10	-0.02	-0.63	0.01	0.36	UI expansions end; expanded Child Tax Credits begin in July
Nov. 2021	22	0.43	-0.04	0.17	-0.09	0.05	0.06	-0.23	Child Tax Credit payments end in Dec.
Feb. 2022	21	0.35	-0.08	0.07	-0.06	-0.18	0.05	0.04	
May 2022	14	0.09	-0.26	0.03	-0.04	-0.18	0.15	-0.23	

Feb. 2020 - May 2022	-42	-1.10	----	-0.02	-0.36	0.09	0.22	-1.04	
Good Economy Coefficient Estimates	----	----	----	-0.17* (0.02)	-0.06* (0.03)	0.09* (0.02)	----	----	
in differences	----	----	----	-0.16* (0.05)	-0.06* (0.02)	0.05* (0.02)	----	----	
Better/Worse Estimates	----	----	----	-0.26* (0.07)	-0.07* (0.03)	0.05* (0.02)	----	----	

Note: the decomposition is executed using the Levels Good Economy Specification Estimated through Dec. 2019, whose estimates are listed first in the table. Standard errors are in parentheses and * implies $p < .05$.

† Gallup's percent positive for this month is about six percentage points below the adjoining months; this is smoothed out in the latent variable.

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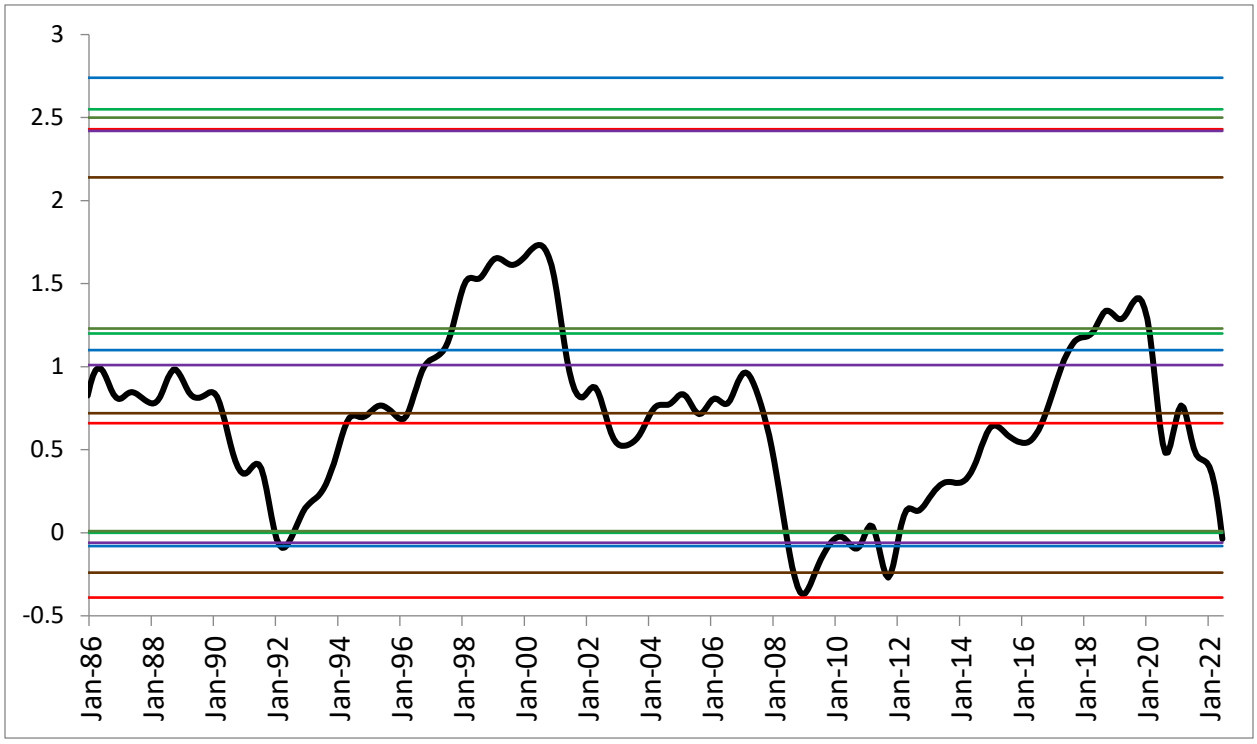
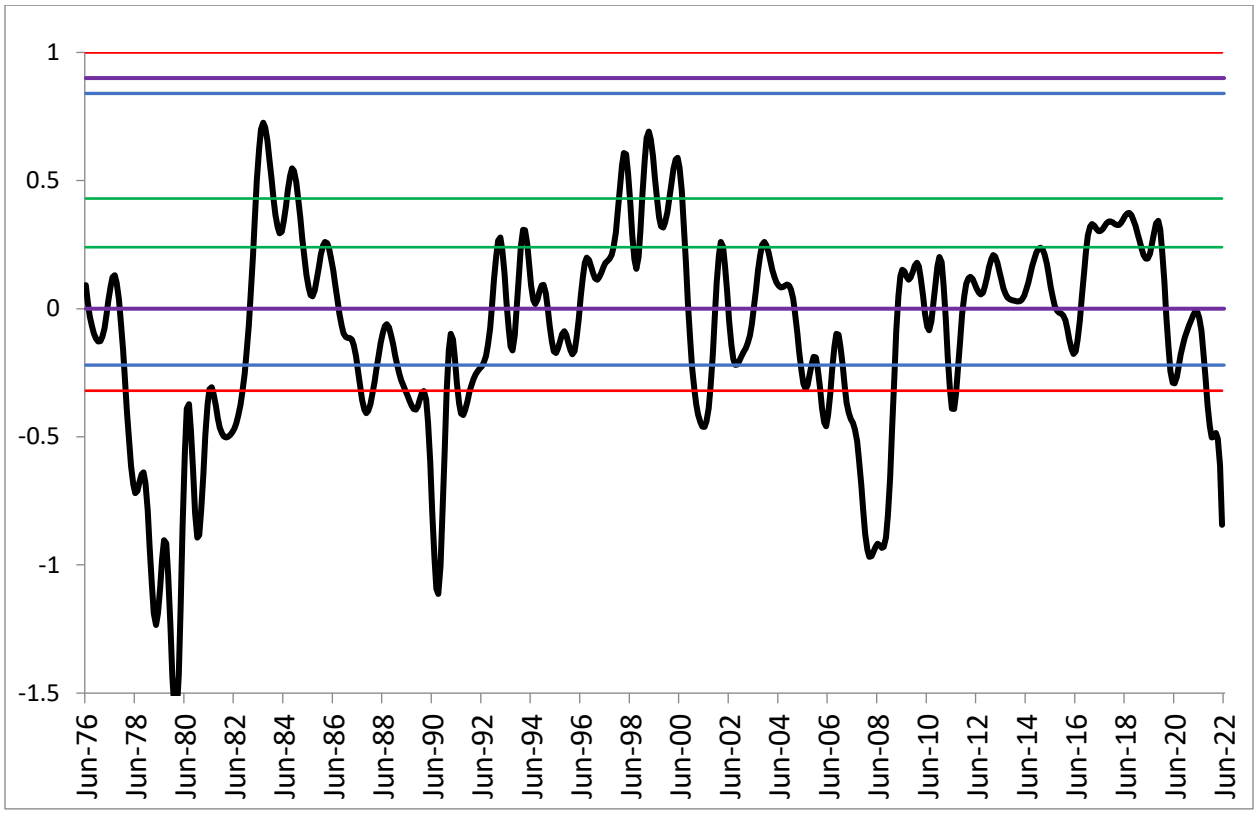
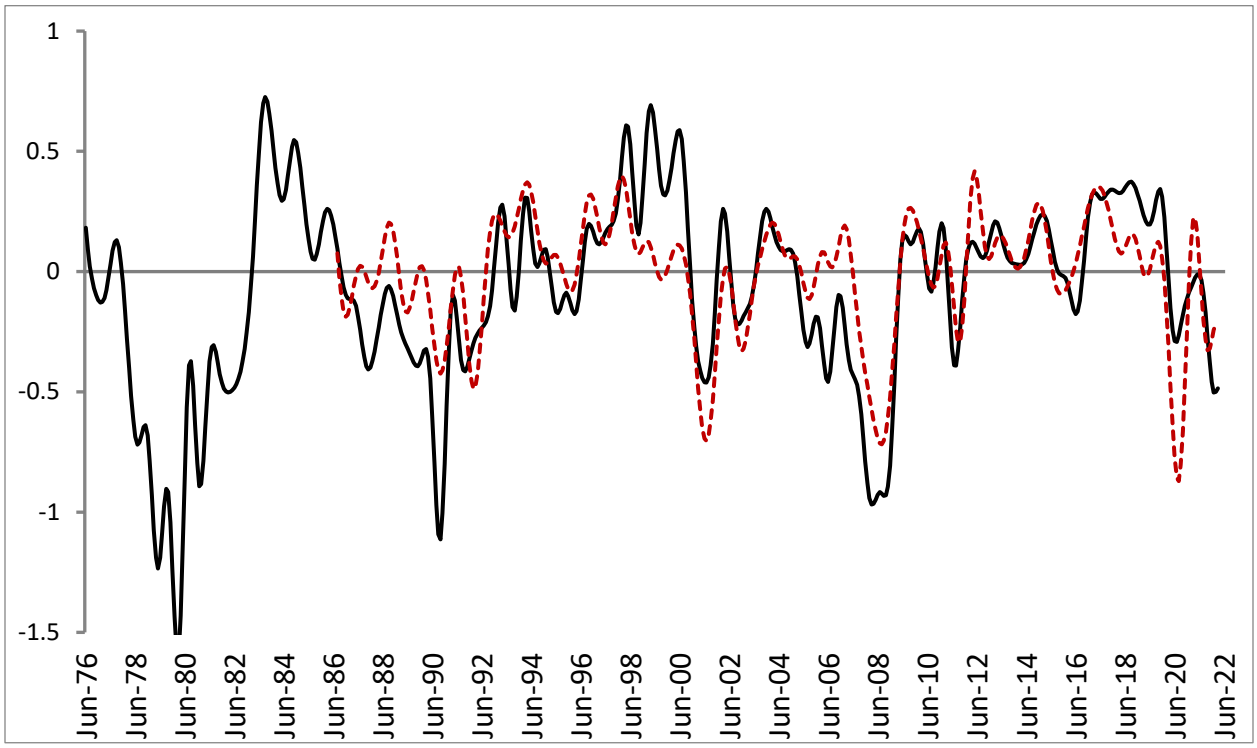
Figure 1. Latent Variables (and associated thresholds), Good Economy (top) and Better/Worse Questions





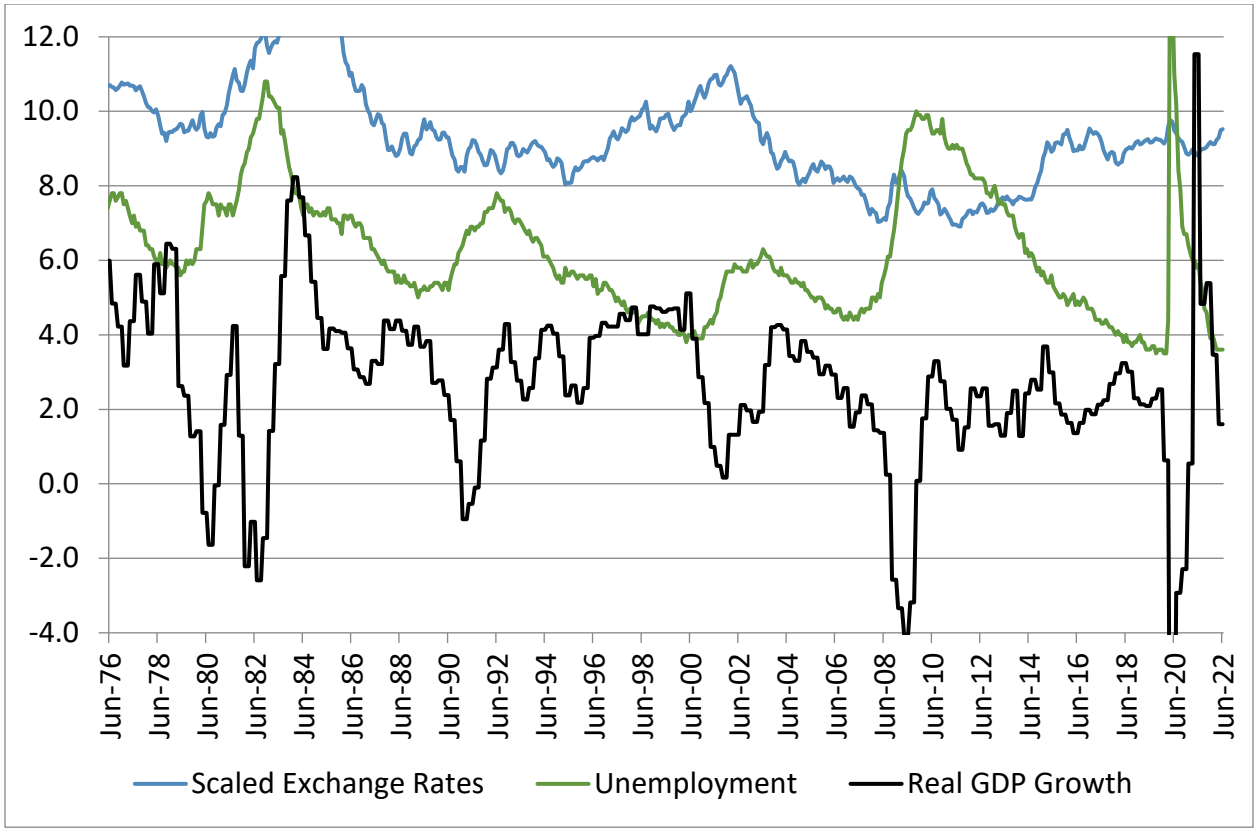
Note: ABC Thresholds are in Blue, CBS in Red, Gallup in Green, QU and YouGov in Purple, Pew in Orange, CNN in Brown.

Figure 2. Better/Worse Latent Variable (in black) and Differenced Good Economy (dashed, in red) Latent Variables



Note: for the Good Economy variable, eight-month backward differences are used.

Figure 3. Graphs of All Macro Variables



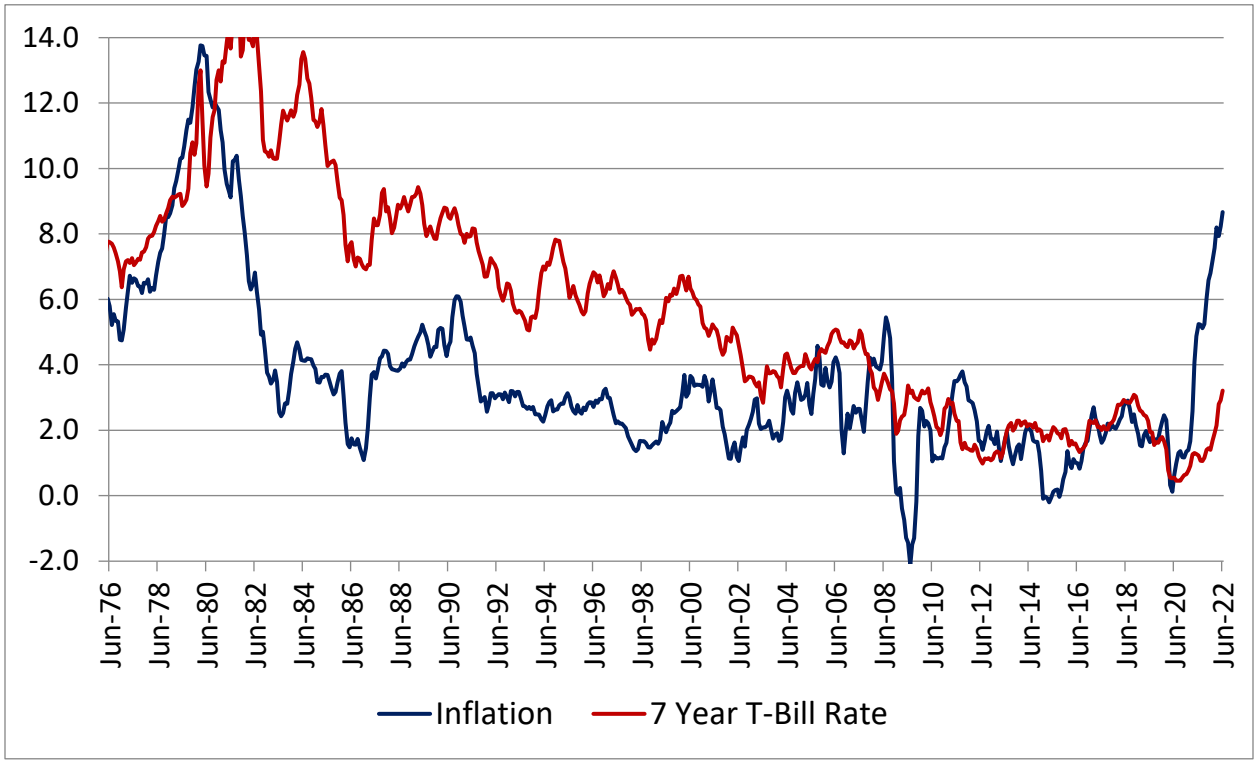


Figure 4. Differenced "Good Economy" Estimates, Rolling Estimation Windows

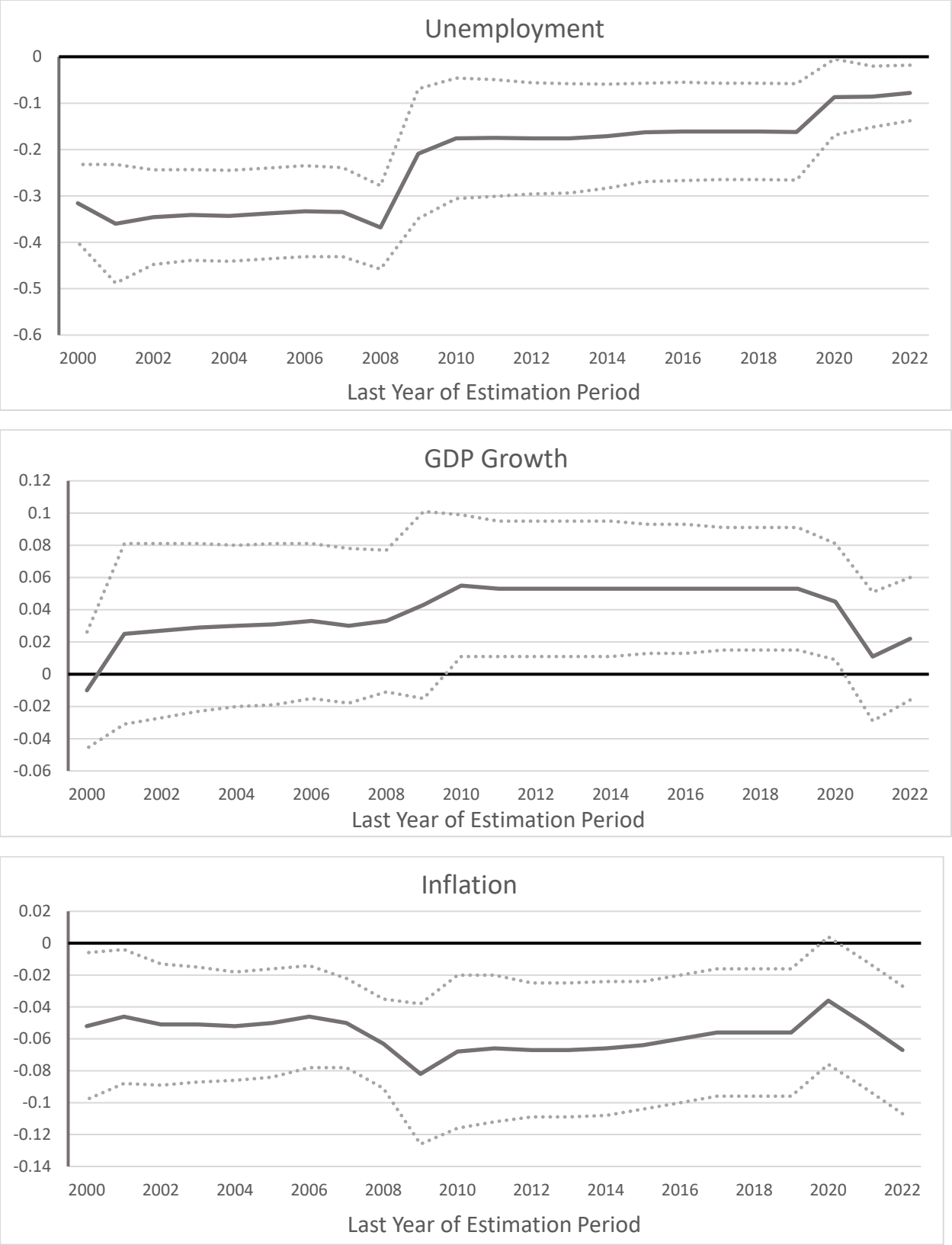
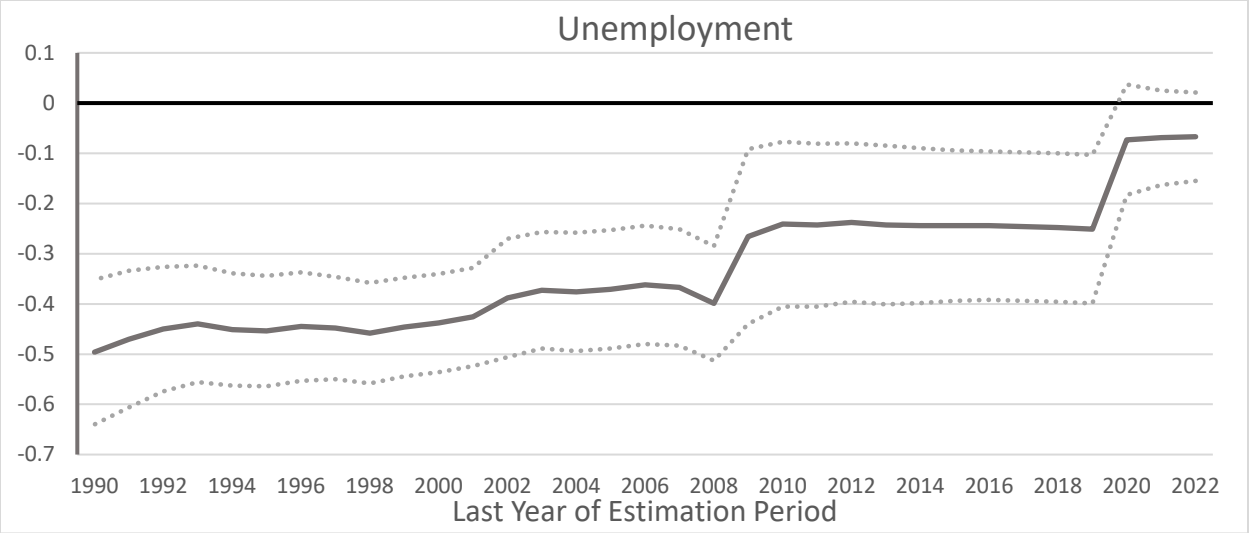
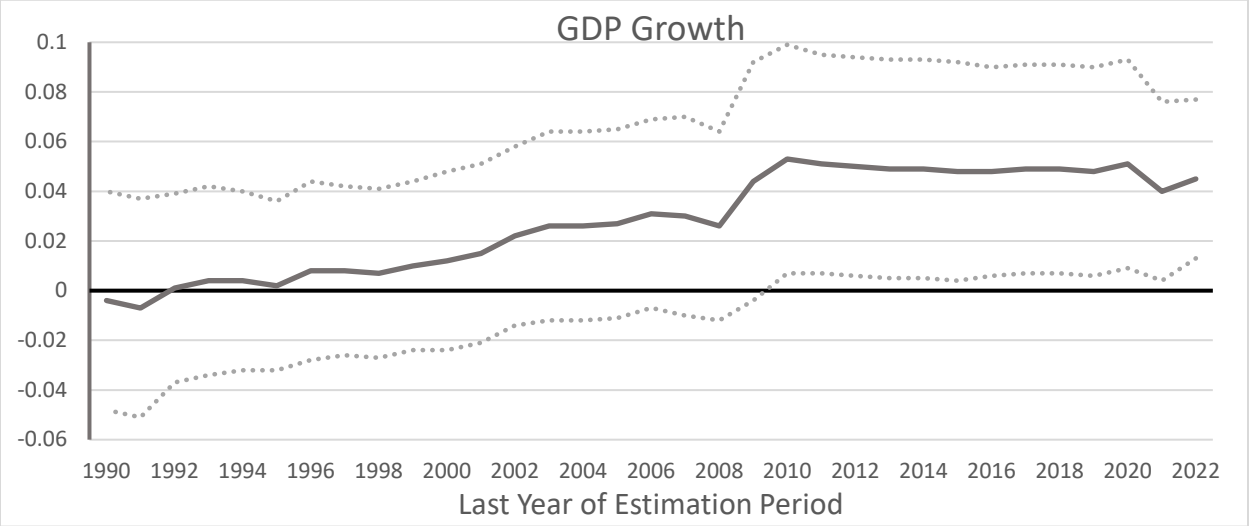


Figure 5. “Better/Worse” Estimates, Rolling Estimation Windows





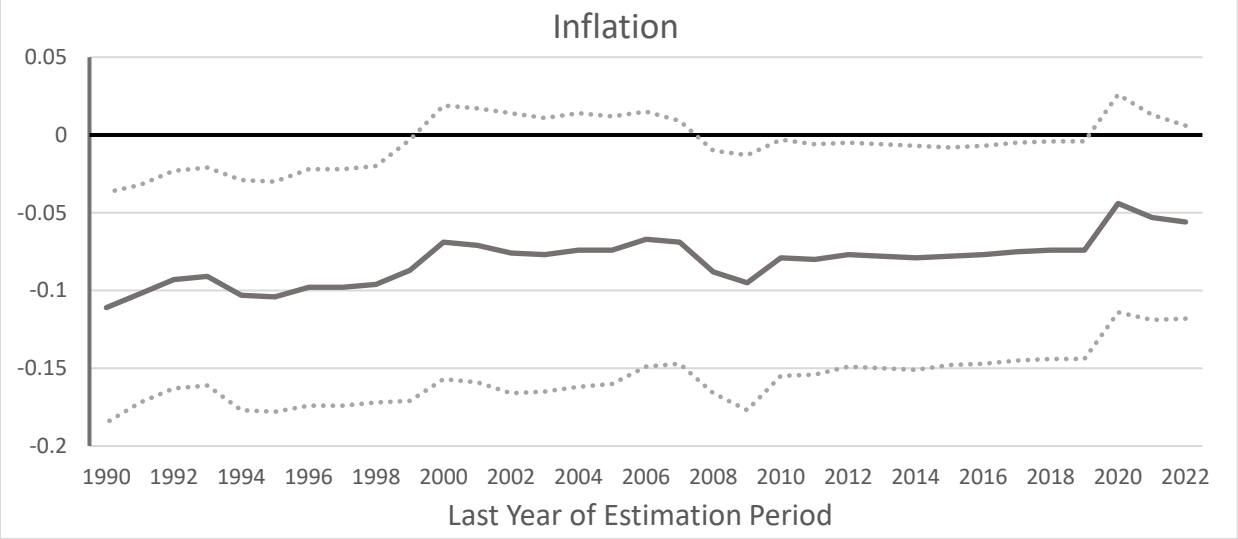
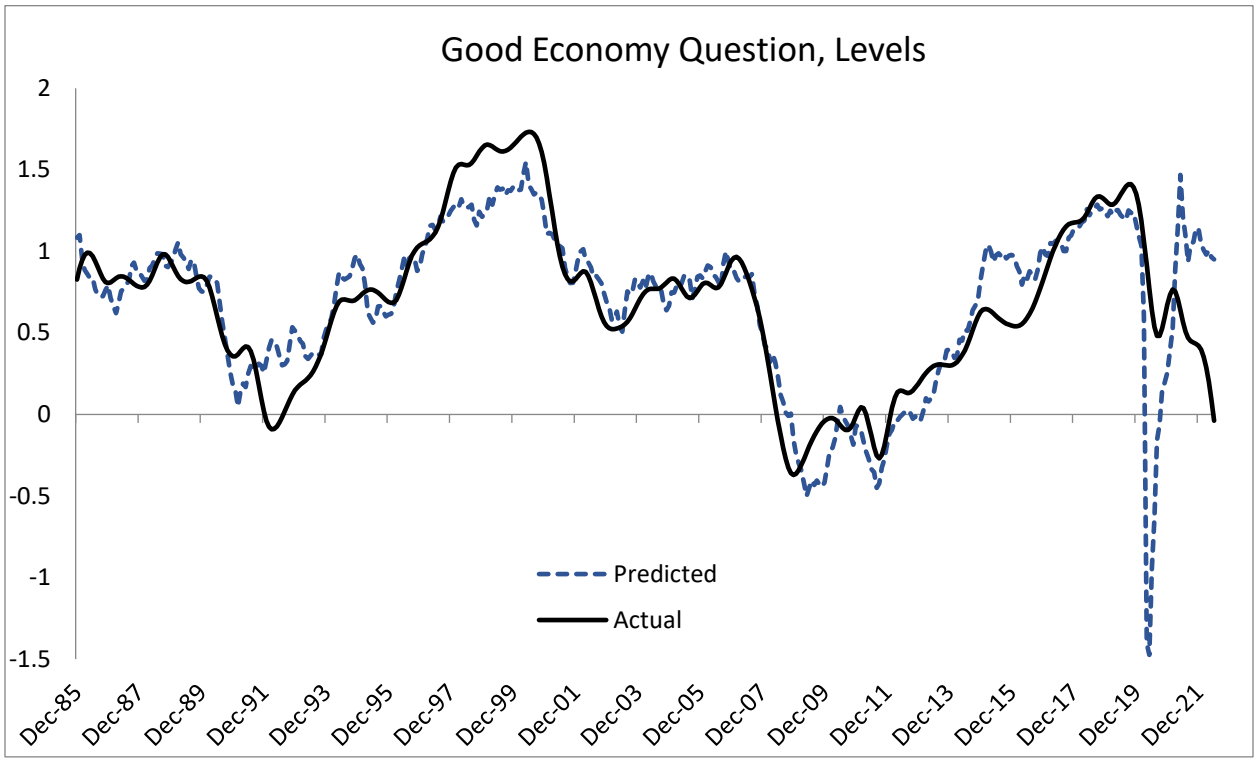
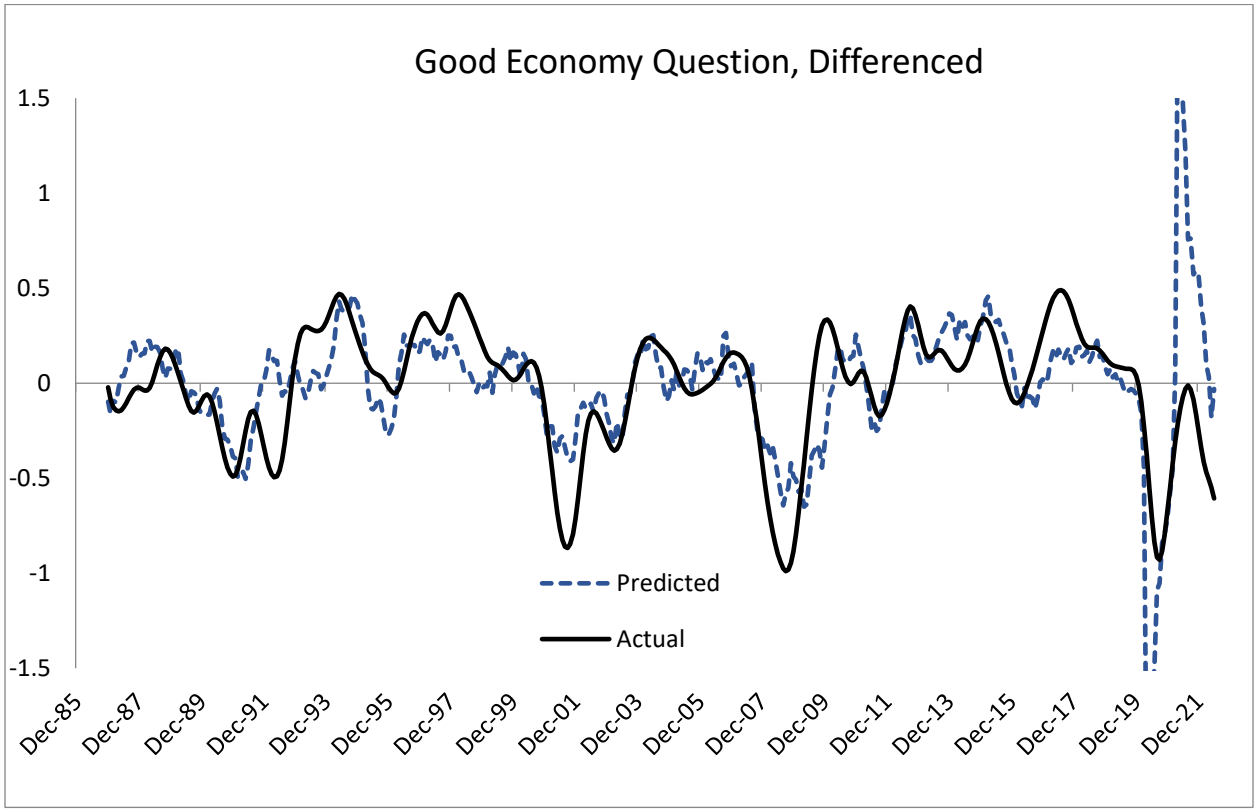


Figure 6. Predicted and Actual Values of the Dependent Variable, All Three Specifications, using Pre-Covid Coefficient Estimates (obtained using data through Dec. 2019)





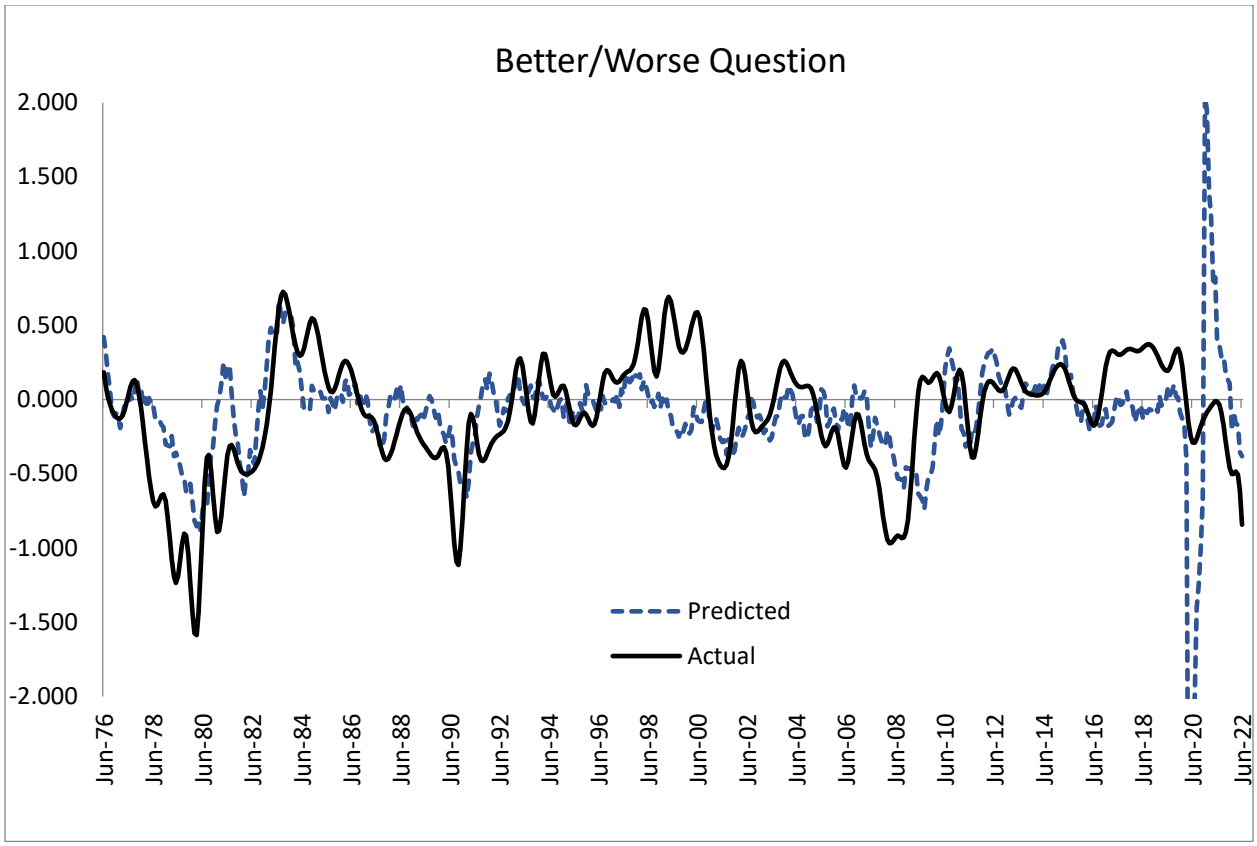

Better/Worse Question
2.000
1.500
1.000
0.500
0.000
-0.500
-1.000
-1.500
-2.000
Predicted
Actual
Jun-76
Jun-78
Jun-80
Jun-82
Jun-84
Jun-86
Jun-88
Jun-90
Jun-92
Jun-94
Jun-96
Jun-98
Jun-00
Jun-02
Jun-04
Jun-06
Jun-08
Jun-10
Jun-12
Jun-14
Jun-16
Jun-18
Jun-20
Jun-22

Figure 7. Residuals from Both Latent Variables and Potential Explanatory Factors, 1983-2022.