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ABSTRACT

Economic analysts were not able to forecast the Great Contraction of the early 1930s, as previous work has shown (Goldfarb et al., 2005; Mathy and Stekler, 2016). In 1937, with full recovery from the Depression still incomplete, another severe recession struck which lasted about a year. We use a well-established method to convert qualitative forecasts into quantitative scores and use these scores to study forecaster performance in this period. For the peak of the business cycle, we find similar results for this recession as for the 1929-1933 recession in that forecasters largely failed to forecast this downturn. Forecasters also remained overoptimistic throughout the recession, seeing a recovery as imminent, and failed to forecast the recession's trough. We discuss similarities and differences with the performance of business analysts in the 1929-1933 and 1937-1938 recessions, as well as the methods and heuristics used to construct forecasts in this period.

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Introduction

The Great Depression looms large as the largest macroeconomic crisis in US history. Being able to forecast such a disaster would have been very valuable at the time and being able to forecast a crisis of that magnitude remains invaluable if "it" ever were to happen again. Dominguez et al. (1988) found that, even using modern time series techniques, the Great Depression could not be forecasted in advance. Klug et al. (2005) found that forecasts by railroad shippers were also persistently optimistic and did not anticipate the declines in output or prices in advance. Previous work, including Goldfarb, Stekler, and David (2005), and Mathy and Stekler (2017), have examined the performance of forecasters in the 1929-1933 Great Contraction, using a scoring system to convert the qualitative nowcasts and forecasts of the time into quantitative scores that can be analyzed more rigorously. These methods have also been applied fruitfully to the Great Recession period in Symington and Stekler (2014) and Catalfamo (2018), but this paper is the first in the literature, to our knowledge, to examine forecast performance for the famous double-dip recession of the late 1930s, which lasted from May 1937 to June 1938.

Like the first recession of the Great Depression, this period lacks existing quantitative forecasts or assessments about the current state of the economy – also known as 'nowcasts.' The purpose of this paper is to both examine how the public and private sectors perceived the economic conditions in real time as well as shed light on the business community's process of expectations formation during the 1937-1938 Recession. This is done through an analysis of the public and private sectors' qualitative statements about the current and future direction of the national economy. In addition,

this paper discusses whether the views of the public and private sectors coincided with the real economic situation and whether these economic agents were able to forecast the recession.

During the Depression, numerical forecasts were uncommon to nonexistent, but qualitative or verbal forecasts were not. Previous studies have used a scoring methodology to convert qualitative statements into quantitative scores based on the outlook of the nowcast or forecast. This type of examination is known as a "mixed-method" of analysis. Prior mixed-method examination of the 1929-1933 downturn phase of the Great Depression, conducted by Goldfarb, Stekler, and David (GSD) (2005) and Mathy and Stekler (2017), determined that forecasters were consistently over-optimistic and failed to predict the extent of the economic downturn. Moreover, their analyses maintained that this was due to forecasters' reliance on using "analogies and forecasting rules-of-thumb" (Mathy and Stekler, 2017). The use of analogies refers to comparing a recession to other previous contractionary periods that occurred under similar circumstances, and then making a prediction based on how that prior recession developed. Forecasting using rules-of-thumb entails identifying whether certain national economic conditions have been met and making a qualitative projection of the direction of the economy based on those conditions (Mathy and Stekler, 2017).

This study builds upon the findings of these papers by using their established methods to convert the qualitative assessments made during the second recession of the Great Depression into quantitative data. These converted data are then evaluated against a measure of the actual path of the U.S. economy to judge the accuracy and degree of bias

of both nowcasts and forecasts. The methodology will be explained in further detail in the following sections.

During the first recession of the Great Depression, the business community's forecasts persistently expected the decline in output would end soon, even as the decline worsened. To determine whether the private sector learned from these forecasting mistakes, this analysis examines the accuracy, level of optimism, and rationale of forecasts during the second recession of the Great Depression.

This paper finds that business and public sector nowcasts accurately understood the national economic conditions in real time. However, when comparing the private sector's forecasts to the state of the U.S. economy in the period to which they were forecasting, the results demonstrate that the business community's predictions were not accurate. Specifically, the forecasts were negatively correlated with the Index of Industrial Production, did not anticipate both the beginning and trough of the recession, and were generally over-optimistic throughout the economic contraction.

In addition, this paper undertakes an examination of the explicit rationales for the private sector forecasts. Each forecast was analyzed and the stipulated reasons for every prediction were recorded. This examination reveals that forecasters still utilized analogies in some cases, but predominantly looked at government action as the biggest indicator of the future direction of the economy. These results demonstrate that there is a continuity of inaccuracy, over-optimism, and forecasting procedures from the first to the second recession of the Great Depression. This signifies that forecasters did not learn from their mistakes made during the first recession of the Great Depression.

The rest of this paper is as follows. The next section discusses the relevant literature and background. The second section explains the methodology and its data sources. The third and fourth sections present the findings of the paper as well as a discussion of their implications.

1. Literature Review

Several existing studies examine the behavior of U.S. business analysts using a mixed-method form of analysis. These recently conducted studies include Goldfarb, Stekler, and David (2005), Symington and Stekler (2014), Mathy and Stekler (2017), and Catalfamo (2018). The studies that are most pertinent to this study are Goldfarb, Stekler, and David (2005) (GSD) and Mathy and Stekler (2017), who studied the 1929-1933 downturn of the Great Depression. This paper builds on their methodology to see how forecasters performed in the 1937-1938 recession.

GSD established the use of a mixed-method methodology in examining the expectations of U.S. economic agents. This entails analyzing the texts of real-time assessments of the national economy, also known as nowcasts, as well as forecasts about the direction of the national economy found in various publications. These publications include *The Commercial and Financial Chronicle* and *The New York Times* with coverage between October 1929 and December 1930. To evaluate the qualitative statements about the economy, GSD developed a scoring system that translates the outlooks of the newspaper nowcasts and forecasts into a quantitative form. These new quantitative data were then compared to the actual trends in the real economy. Mathy and Stekler (2017) utilized the same mixed-method of analysis to quantify the statements made by the business community found in *The New York Times* and the *Commercial and*

Financial Chronicle as well as surveys of economic activity published in the *Federal Reserve Bulletin* from 1929-1933. Together, GSD (2005) and Mathy and Stekler (2017) study the entirety of the first recession of the Great Depression.

The results of these analyses indicate that U.S. economic agents accurately described the national conditions as they occurred throughout the contraction. After March 1930, however, the forecasts were inaccurate and failed to predict the economy's continued decline. When compared to a benchmark that denotes the actual direction of the economy, the forecasts consistently exhibit positive scores while production maintained its decline. Moreover, the correlation coefficient was 0.17 between the two series (Mathy and Stekler, 2017). GSD and Mathy and Stekler attribute the errors in accuracy and over-optimism to a reliance on forecasting by analogy and the using of rule-of-thumb indicators. [3]

The results presented in this paper corroborate this finding to a certain extent. This paper applies the same mixed method methodology to the second recession of the Great Depression and examines the particular rationales behind each forecast found in the *New York Times* and the *Commercial and Financial Chronicle* during the 1937-1938 recession. Even though government policy and regulation were the most commonly cited bases for business outlook, this examination found that analogies were referenced in several forecasts.

2. Methodology

It is difficult to study the expectations of U.S. economic agents because the 1937-1938 recession lacks quantitative forecasts. In order to overcome this obstacle, this paper

[3] In order to establish that forecasters used rule-of-thumb indicators, Mathy and Stekler (2017) conduct an investigation regarding Haney's (1931) twelve criteria for a business upturn. These criteria will be analyzed in more depth in a later section.

utilizes a relatively novel, but now well-established, mixed-method of analysis. This mixed-method analysis entails studying the qualitative assessments made by the private and public sectors in a quantitative fashion. Such a methodology can generate data about the state of the world from information that is commonly disregarded (Starr, 2014). Employing this method produces a more holistic understanding of the reality of the underlying economy.

This paper examines the qualitative assessments made by the private and public sectors by utilizing the same scoring method as Mathy and Stekler (2017). This methodology builds on work by GSD (2005) by incorporating a wider scoring scale that accounts for the severity of the recession through 1933 (Ericsson 2016). Specifically, the scoring method ranks assessments by the economic agents on a scale from -1 to +1 in gradations of ¼. The scoring method assigns even stronger negative assessments a score of either -3/2 or -2. For example, a neutral statement, such as "no change," receives a score of 0. A strongly negative statement, such as "disastrous collapse in output," receives a score of -3/2. Other negative statements such as "steady decline" and "rapid decline" receive scores of -1/2 and -3/4 respectively. A positive statement such as "strong recovery" is given a score of +1/2.

The qualitative assessments this paper analyzes are drawn from the *Federal Reserve Bulletin*, the *New York Times,* and the *Commercial and Financial Chronicle*. The *New York Times* and the *Commercial and Financial Chronicle* are used as they frequently consult the opinions of business analysts in the financial center of the United States, New York, and other businessmen of note. In 1937, the *New York Times* had reached 500,000 in daily paid circulation, and was quickly increasing its readership

(Dunlap, 2015). The *Commercial and Financial Chronicle* was founded in 1843 as the first major business publication in the United States and remained the most important publication of its kind in this period (Bulletin Editors, 1939). The nowcasts and forecasts of the business press were prominently featured in these publications. A full list of those in the business sector making forecasts and nowcasts in these publications can be found in Appendix A. The *Federal Reserve Bulletin* is used is used to reflect the views of the public sector because it provides a qualitative monthly survey of national economic conditions. All scoring of the qualitative assessments was performed manually without textual analysis software by both authors. When there was a discrepancy, the scores were reconciled by discussion or simply averaged.

The *Federal Reserve Bulletin* published primarily quantitative information and so is more straightforward to score, while the *New York Times* and the *Commercial and Financial Chronicle* require scoring of qualitative statements. Furthermore, whereas articles in the business publications are scored according to their overall outlook, the *Federal Reserve Bulletin* is scored according to its statements regarding six important economic indicators: industrial production, employment, construction, railroad loadings, department store sales, and the price level. A score was given to each indicator and an overall score was produced for each month by averaging these indicators' scores. The terminology for the *Federal Reserve Bulletin* can be found in Table 1 and those for the *New York Times* and the *Commercial and Financial Chronicle* can be found in Table 2.

After calculating an average nowcast and forecast score for every month in each publication, indices of these averages were produced, and their cumulative changes were plotted over time. In order to evaluate the validity of the indices, they were compared to

seasonally adjusted totals of the Federal Reserve Index of Industrial Production, which is a barometer for developments in the real economy. This comparison was conducted using a combination of graphical analysis and Pearson correlation statistics. Although there are not enough observations in the data to conduct a formal test of significance, graphical and correlative evidence are sufficient for this analysis to adequately compare the patterns of these indices.

3. Results

The graphical relationship presented in Figure 1 between the index of nowcasts from the *Federal Reserve Bulletin* reveals that the two are extremely well aligned. In fact, the two time-series have a relatively high correlation of 0.91. The combination of the indices' alignment graphically and high correlation gives us confidence that the nowcasts of the public sector correctly identified the state of national economic conditions as they unfolded. This finding also implicitly confirms the validity of the methodology used previously by GSD (2005) for the earlier period.

Figures 2 and 3 show the nowcast scores of the business sector for the *New York Times* and the *Commercial and Financial Chronicle* respectively, with Industrial Production plotted on each chart as well to show the path of economic activity corresponding to the nowcasts.[4] When compared to the index of nowcasts from the *Federal Reserve Bulletin*, the *New York Times* nowcasts index has a correlation of 0.64 and a correlation of 0.79 for the *Commercial and Financial Chronicle*. In general, the nowcasts decline in the recession period and recover once the economy recovers.

[4] When analyzing Figure 2, it must be noted that the range of scores is higher for the index of *New York Times* nowcasts than for the index of *Federal Reserve Bulletin* nowcasts. Although this is the case, the higher range does not detract from the outcome that the *New York Times* nowcasts accurately follow the trend of the national economy.

Interestingly, near the trough of the recession, the indices of nowcasts have a shallower slope than the Index of Industrial Production. This suggests that the business community was reluctant to recognize the economic upturn, a common phenomenon in forecasting, despite the business analysts generally being able to forecast accurately.

In order to judge the accuracy of the business sector's forecasts, we must first establish the time period to which these forecasts were referring. During the Great Depression, those who were willing to make predictions generally referred to developments one or two quarters in the future (Mathy and Stekler, 2017). Thus, when comparing the forecast scores to the Index of Industrial Production, the index of the business forecast scores is shifted from period t to $t+2$, "t" being the quarter when the forecasts were made. Comparing these indices in Figures 4 and 5 reveals that the business sector forecasts were not accurate at all. In fact, the correlation between the two series is -0.31 for the *New York Times* and -0.11 for the *Commercial and Financial Chronicle*. Both sets of forecasts are negatively correlated with actual future path of industrial production. The *New York Times* forecasts steadily get more optimistic as time goes on, and this trend is uninterrupted by the recession. The *Commercial and Financial Chronicle* forecasts are relatively constant and mildly optimistic until the summer of 1938 when they become more optimistic.

In evaluating whether the business sector adjusted their forecasting processes, this paper also examined the rationale for each forecast taken from the *New York Times*. After reading and summarizing the forecasts, a one- or two-word summary was assigned to each as well as a one-word "rationale." For example, if a forecaster claimed that the expected national crop output was going to lead to an economic boom, that forecast

received the classification “agriculture.” The full list of one-word rationales is presented in Table 3, as well as the frequency each rationale was mentioned. In many cases, an article would reference a rationale several times. Looking at the number of times an article cites a reason for its prediction provides information with regards to the importance of that rationale. Specifically, those rationales mentioned most in an article were deemed to be the most important to the author of that forecast. The more times an article mentioned a reason for its outlook, the more likely it was that the reason was designated as the article’s one-word rationale. A summary of the private sector forecasters’ rationales by type and outlook is presented in Table 4.

Examination of these rationales reveals several striking characteristics of forecasts during the 1937-1938 recession. First, of the sample of forecasts taken, there were only seven articles with negative forecasts over the 24-month period. This indicates high levels of optimism. Second, government regulation and policies were the most cited reasons for a given prediction in both positive and negative forecasts. Third, although there were only seven instances where forecasting by analogy was used in a similar fashion as during the first recession of the 1930s, this indicates some continuity in forecasting style during the 1930s. These implications of these findings will be explored in more depth in the following section.

4.1 Discussion: 1937-1938 Recession

The 1937-1938 recession exhibits numerous key traits that differentiate it from the 1929-1933 contraction. François Velde (2009) shows that between July 1937 and the recession’s trough in May 1938 industrial production fell by 32 percent. Whereas this decline in industrial production occurred over a ten-month period, it took over two full

years for industrial production to fall an equivalent amount during the 1929-1933 recession. Furthermore, stock prices fell by over 40 percent and employment declined by 22 percent. Unemployment reached as high as 20 percent and real GDP declined by 10 percent (Bordo and Haubrich, 2012). There are three broad explanations commonly given for the 1937-1938 recession.

The first explanation is fiscal. In 1936, many indicators like industrial production had nearly reached their 1929 levels. This was a period long before the concept of secular productivity growth or potential GDP, so many in the FDR administration thought the economy had nearly recovered from the Great Depression. As a result, these policymakers started to worry about inflationary pressures, and so ran an austere fiscal policy that balanced the federal budget in 1937, the same year as the recession. This first explanation is that an austere fiscal policy was the cause of the 1937-1938 recession (Currie, 1980[1938]).

The second explanation concerns restrictive monetary policy. Since 1934, The US Treasury committed to purchase gold at a new higher rate of $35 an ounce (2/3rds higher than the old rate of $20.67 per ounce of gold). This policy swelled the quantity of reserves in the banking system, resulting in huge excess reserve balances. These could be lent out at any time, and so there was a fear that a burst of high inflation could result from a surge in lending backed by these excess reserve balances. (Jaremski and Mathy 2017) In response, the Federal Reserve raised the required reserve ratio in 1936, which, according to proponents of this theory, caused a contraction in lending as banks tried to regain their previous target level of reserve balances by contracting lending (Friedman and Schwartz 1980[1963]). Gold inflows, rather than being monetized as had previously

been the policy, were instead sterilized from November 1936 to August 1937, which also tightened monetary policy (Irwin 2012).

The other explanation relates to supply-shocks of various sorts. Wages did increase rapidly in the wake of the Wagner Act which was the high-tide of legislation favorable to labor unions in the United States and saw waves of union recognition and union victories amid a surge in sit-down strikes (Cole and Ohanian 2007, Velde 2009). There were also rapid price increases in final products, especially automobiles, stemming from a surge in demand for commodities related to the Spanish Civil War. The expectations of price increases brought purchases forward, reducing demand right as the recession was starting (Hausman 2016). The 1937-1938 recession also saw a surge in uncertainty related to the brewing world war (Mathy, 2016). Other explanations include involuntary inventory accumulation (among many others) (Roose, 1954).

Roose's dissertation was on the causes of the recession of 1937-1938 and why it ended. Thus, in his writing he compiled a comprehensive list of these potential causes and reasons for the end of the recession. Potential causes for the recession include the end of the WW1 soldiers' bonus paid in 1936, the enactment of social security and undistributed profits taxes, the sterilization of gold, increases in reserve ratios, rises in wages and labor costs from the recent NLRA law, price increases outstripping wage increases, politicians criticizing high prices as resulting from monopolistic concentration, increased spread between agricultural and industrial prices, increased antitrust actions, consumer resistance to higher prices, period of underconsumption, plateauing of consumer income, pullback in consumer debt, pessimism from stock price declines, speculation in inventory purchases ahead of price increases, capital shortages, investment

based on short-term expectations, waves of optimism and pessimism in investment behavior, low profits or expectations of profits, higher taxes discouraging investment, budget deficits, the possible revaluation of the dollar, new SEC regulations, capital strike, uncertainties in public utility regulation, weakness in the construction sector, secular stagnation, a negative balance of payments, war scares, and massive drought.

In terms of the recovery from the 1937-1938, Roose highlights to the return to deficit spending, stimulative monetary policies, a reduction in consumer debt, natural expectations of recovery in a market economy, improved relations between businessmen and government, reduced inventories, increased residential construction, and an export surplus. We do not take a strong stance on which factors were most important for this recession, but we will examine how often forecasters cite these factors in their forecasts.

Acknowledging this debate is an important part of analyzing the formation of business sentiment during the second recession of the Great Depression. After discussing the timing and fluctuation of economic series during this recession, Roose's study (1954) asserts that the President's announcement in 1938 to start a new deficit spending program was the key instrumental factor in bringing about the recession's end. Of the economic series analyzed, nearly all improve immediately following the President's announcement (Roose, 1954). This finding echoes Eggertsson's (2008) conclusion that the announcement of a stimulative policy in 1933 was the turning point from an economic collapse to an economic expansion. In line with Roose's conclusions, this paper's analysis provides documentation that perception about government intervention was a major factor in shaping business outlook during the recession and its recovery.

4.2 Haney forecasting criteria

Haney was a major forecaster in the 1920s and 1930s. He outlined 12 criteria that could be used to forecast the trough of recession in his 1931 book *Business Forecasting (*p. 157-8). These criteria, which were quantified in Mathy and Stekler (2017), predicted a trough based on factors like low interest rates, production at below normal levels, stabilized payrolls, and unfilled orders which have been declining but are beginning to stabilize. A full description of Haney's methodology can be found in that article for the interested reader. These criteria, which are often relatively qualitative, were also quantified as a part of this research program.

We replicate the results for Haney's forecasting criteria, previously applied to the 1929-1933 recession in Mathy and Stekler (2017), to the 1937-1938 recession.[5] While these authors found that neither the onset, trough, nor the severity of the 1929-1933 recession could be forecasted using Haney's criteria, it could be the case that the 1937-1938 recession was more similar to previous downturns than the 1929-1933 downturn was. Namely, the first recession was extreme in its duration of almost 4 years, whereas the 1937-1938 recession was roughly a year in duration and so was more similar to the pre-1939 recessions that tended to be brief even if they were sharp.

Figure 6 displays the count of the number of Haney's criteria that were satisfied during this time period. 5 or 4 criteria are satisfied from January 1937 through September 1937, when the recession begins in June of that year. Then the number of criteria satisfied rises to about 7 by November of 1937, which continues through the actual trough of the recession in June of 1938 before rising to between 8 and 9 satisfied through the end of 1938. While the number of criteria satisfied does rise during the recession, it does not

[5] Unfilled orders data taken from National Industrial Conference Board, *Conference Board Economic Record*, New York, May 24, 1941, pp. 223—24, other data from BLS, BEA, Department of Commerce, Federal Reserve, or NBER Macrohistory database.

reliably predict the trough of this recession just as these criteria did not predict the trough in 1933.

4.3 Discussion – Results

In studying the practices of the private sector during the second recession of the Great Depression, this paper analyzes whether the business community learned from the forecasting mistakes made during the first recession of the Great Depression. During the first recession, forecasters' use of analogies lead them to be consistently over-optimistic and inaccurate in their predictions that the economy would recover as economic conditions continued to deteriorate. If the business community recognized their errors and adjusted, forecasts would tend to be more accurate, less optimistic, cease to use analogies as a forecasting method, or all of the above. The results of this paper demonstrate that none of these adjustments occurred. Graphical and correlative analysis shows that the private sector neither correctly predicted the real economic output nor anticipated both the beginning and trough of the recession. Furthermore, examination of the rationales for each forecast in the sample reveals that forecasters still utilized analogies in some cases and were over-optimistic throughout the recession. These results suggest that there was no appreciable adjustment in forecasting methods between the first and second recessions of the Great Depression and that the business community forecasters did not learn from their mistakes.

As formal statistical tests cannot be performed here, we used graphical evidence and correlation statistics to evaluate the data. After examining Figures 4 and 5, it is clear that both the *New York Times* and *Commercial and Financial Chronicle* forecast series are relatively stable and maintain an overall upward trend. However, as the contraction

reached its trough, some forecast scores were noticeably more negative between January 1938 and June 1938. In the *New York Times* index, a few forecasts analyzed for these months cite a "rapid decline" in business confidence and refer to the recession as a depression in comparable terms to the contraction of 1929-1933 (*New York Times*, February 16, 1938). This demonstrates that the forecasters, for a brief period of time, became pessimistic about the future of the economy. Even though this is the case, both indices of forecast scores never drop below zero. In addition, there were only seven forecasts with a negative outlook from the *New York Times*. While some of these forecasts where extremely negative, the samples of forecasts were continuously over-optimistic across the period.

Further examination of Figures 4 and 5 reveals that both indices of forecasts increase immediately prior to the onset of the recession. This signifies that the business community did not forecast the recession in advance. Furthermore, both indices' values decrease or remain stagnant prior to the recession's trough in June 1938, demonstrating that the business community also did not recognize the recession's end. These data suggest that the forecasts were erroneous in their recognition of both the beginning and end of the second recession of the Great Depression.

Examining the forecasters' reasons for their predictions contributes to the finding that they did not learn from their mistakes of the first recession. Primarily, the continued use of analogies demonstrates their lack of adjustment. However, the investigation of the rationales also reveals what influenced the business community's process of expectations formation throughout this period. According to this analysis, as demonstrated in Tables 3 and 4, there are three principal factors that determined the outlook of the private sector:

1- government regulation and policy, 2- previous levels of production and consumption, and tied at 3- expected agricultural output, and use of analogies. When consumption was high, forecasters expected that momentum to push the economy upwards (*New York Times*, January 4, 1937). In addition, expectations of a large crop output in the fall lead many to believe that all business would improve, in spite of the onset of the recession. For example, Roger Babson, a statistician and economist for the Boston Chamber of Commerce, wrote, "With our tremendous crops, nothing can stop it [general business]," (*New York Times*, September 15, 1937). Overall, forecasters did not cite most of the explanations given by Roose for the recession and recovery, with a few important exceptions. Government regulation and policy was both the recession's most-cited rationale and the primary focus of forecasters throughout the recession's nadir and recovery. This signifies that perceptions of the future and direction of government policy played a key role in shaping business outlook.

This result also provides some documentation that may support Roose's (1954) argument that the President's announcement of a new deficit spending helped bring about the economy's recovery. Colonel Ayres was able to see that the fiscal stimulus program ("pump-priming") would spark a recovery (Commercial and Financial Chronicle, July 2nd,1938 p. 51-52; Jul 16th, 1938, p. 330-331). However, others cited the deficit in the context of the recession but argued that the federal government's spending program of pump-priming would hold back recovery and that a balanced budget was preferred (in the same month the recession ended). (CFC, June 11th, 1938, National City Bank of New York, p. 373; National Association of Credit Men, June 11th, 1938). It seems that the political views of some forecasters impeded their ability to forecast, though Colonel

Ayres was able to view the situation clearly nevertheless. This misreading of the situation by business analysts for political reasons can help explain some of their failure to see the incipient recovery in 1938.

5. Conclusion

One might have thought that after being burned so badly during the 1929-1933 recession, that the next recession in the Great Depression would see improved forecaster performance. However, private sector forecasters remained consistently over-optimistic and their predictions did not correctly anticipate the fluctuations in U.S. economic output. Furthermore, examination of the rationales of the forecasts reveals that the business community continued to employ the same forecasting methods from the first recession of the Great Depression to similar effect. Unlike in the first recession of the Great Depression, however, perception about government intervention was the most-cited rationale when shaping business outlook during the 1937-1938 recession and its recovery. However, this did not necessarily imply that understanding of the importance of government action lead to correct forecasts, as often opinions about the effects of government action were not always borne out in the data. Using Haney's (1931) criteria for forecasting a trough applied to the 1937-1938 recession also showed a failure of business analysts to forecast using commonly used rules-of-thumb.

In addition, this analysis also yields the results that the nowcasts of both the private and public sectors of the U.S. economy had a fairly good understanding of the economic conditions of the 1937-1938 recession as they occurred, even if they were not able to forecast either the start or the end of the recession. Even after the shock of the Great Contraction of 1929-1933, business analysts could not forecast the next recession

of the 1930s. After being very wrong twice in the decade of the 30s, most analysts would then forecast a major relapse into Depression after the end of the economic stimulus of World War II (Woytinsky, 1947). While some analysts like Lawrence Klein were able to forecast the mild recession after the end of the war using quantitative methods and state-of-the-art econometrics (for the time), we could compare the accuracy of forecast for the 1945 recession using the qualitative methods outlined in this paper, as well as other postwar recessions. We leave this episode for future work.

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Tables and Figures:

Table 1: *Federal Reserve Bulletin* Scoring Table

General Outlook	**Type of Statement**	**Score Assigned**
Positive	Robust Recovery	1
Positive	Considerable Advances	0.75
Positive	Significant Advances	0.5
Positive	Above Seasonal Variation	0.25
Neutral	Seasonal Variation	0
Negative	Significant Declines	-0.25
Negative	Considerable Declines	-0.5
Negative	Rapid Decline	-0.75
Negative	Severe Decline	-1
Strongly Negative	Disastrous Collapse in Output	-1.5
Strongly Negative	Worst downturn in U.S. History	-2

Table 2: *New York Times and Commercial and Financial Chronicle* Scoring Table

General Outlook	**Type of Statement**	**Score Assigned**
Positive	Vigorous Recovery	1
Positive	Rapid Recovery	0.75
Positive	Strong Recovery / Steady Growth	0.5
Positive	Mild Recovery	0.25
Neutral	Seasonal Changes, Offsetting Changes	0
Negative	Mild Decline	-0.25
Negative	Steady Decline	-0.5
Negative	Rapid Decline	-0.75
Negative	Vigorous Decline	-1
Strongly Negative	Disastrous Collapse in Output	-1.5
Strongly Negative	Worst downturn in U.S. History	-2

Table 3: Forecasts with Assigned One-Word Rationales

Date	**Assigned score**	**One or Two-Word Rationale:**
4-Jan-37	0.5	Production/Consumption (6)*; Government (10)
14-Mar-37	-0.25	Production/Consumption (7)
8-Apr-37	0.25	Production/Consumption (4)
15-May-37	0.5	Production/Consumption (5)
15-May-37	0.5	Production/Consumption (4); Government (2)
15-May-37	0.5	Production/Consumption (2)
15-May-37	0.25	Production/Consumption (4); Securities (2)
16-Jun-37	0.25	Production/Consumption (3); Securities (1)
26-Jun-37	0	Analogies (5)
26-Jun-37	0.25	Production/Consumption (3)
16-Jul-37	1	War(5); Agriculture (5)
26-Jul-37	0	Government (4); Production/Consumption(3)
2-Aug-37	0.75	Agriculture(7)
2-Aug-37	0	Government (3); Production/Consumption (1)
17-Aug-37	0.25	Production/Consumption (4); Government (1)
17-Aug-37	0.25	Government (4); Production/Consumption(4)
15-Sep-37	0.5	Agriculture(6)
2-Sep-37	0.25	Agriculture (4); Government (7)
5-Oct-37	0.25	Government (6)
16-Oct-37	0	Analogies (3)
16-Oct-37	0	Analogies (4)
15-Dec-37	-0.5	Government (4)
15-Dec-37	0.25	Government (6); Production/Consumption(3)
19-Dec-37	0.25	Production/Consumption (4)
30-Dec-37	0.25	Government(5); War (3)
30-Dec-37	0.25	Foreign Business (2); Government (1)
31-Dec-37	-0.25	Government (3); Agriculture (1)
2-Jan-38	0	Automobile Industry (5)
3-Jan-38	0.25	Government (3)

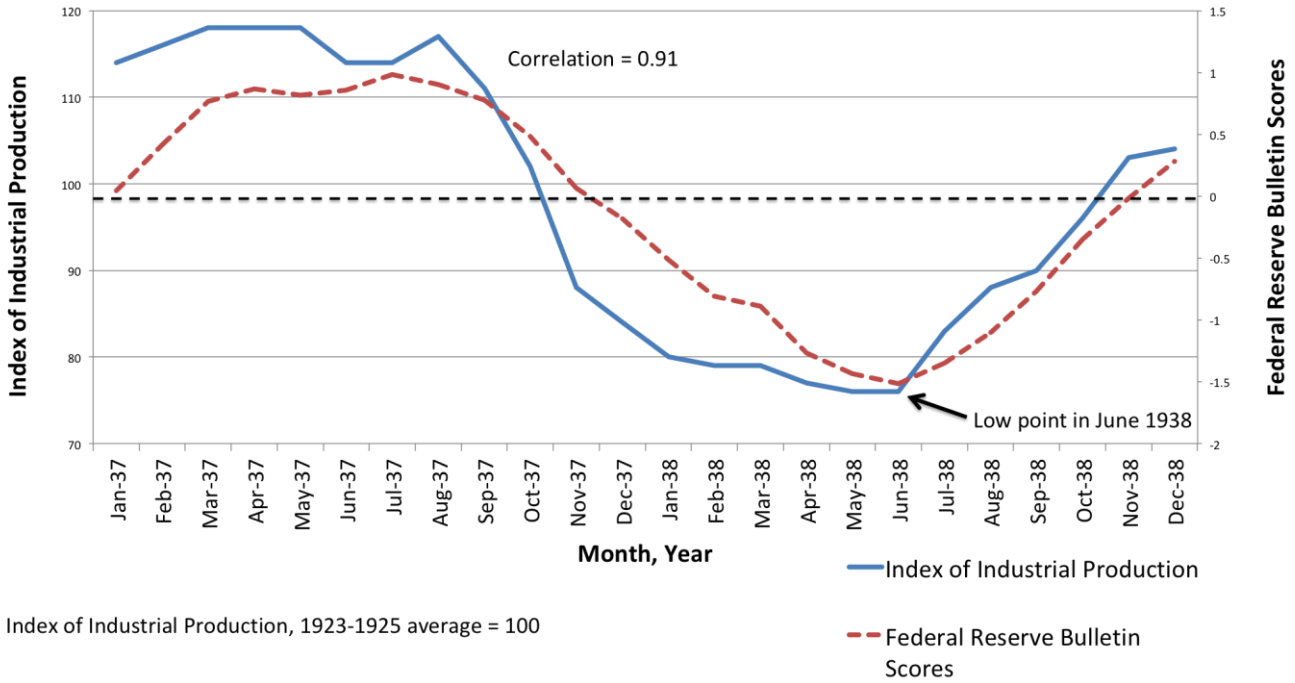
3-Jan-38	0.25	Government(4); Foreign Business (2)
3-Jan-38	0.5	Production/Consumption (3)
3-Jan-38	0.5	Production/Consumption (4)
3-Jan-38	0.25	Production/Consumption (4); Government (2)
12-Jan-38	-0.5	Government (4); Agriculture (3)
30-Jan-38	0.25	Government (13)
16-Feb-38	0.25	Analogies (4); Production/Consumption (1)
16-Feb-38	-1.5	Analogies (5)
3-Apr-38	0.25	Production/Consumption (8); Government (3)
16-Apr-38	-0.75	Production/Consumption (3); Securities (2)
22-Apr-38	0.25	Postal Receipts (4); Government (3)
24-May-38	0.5	Government (4); Production/Consumption(2)
26-May-38	0.25	Production/Consumption (3); War (1)
13-Jun-38	-2	Government (5); Automobile Industry (2)
25-Jun-38	0.25	Government (8)
25-Jun-38	0.25	Government (1); Foreign Business (2)
29-Jun-38	0.5	Government (2); Foreign Business (1)
15-Jul-38	0.25	Government (5)
17-Jul-38	0.5	Production/Consumption (4); Government (2)
16-Aug-38	0.25	War(1); Agriculture (1)
25-Aug-38	0.25	Poll (3)
1-Aug-38	0.5	Government (5)
14-Sep-38	0.5	Analogies(3)
4-Oct-38	0.5	Production/Consumption (4)
9-Oct-38	0.5	War (5)
11-Nov-38	0.25	Government (2)
30-Nov-38	0.5	Government (2); Automobile (1)
14-Dec-38	0.5	Government (3); Production/Consumption (1)
14-Dec-38	0.5	Government (3)
21-Dec-38	0	Analogies (2)
31-Dec-38	0.5	Government(4); Automobile Industry (4)

*Number in parentheses denotes the number of times the rationale was mentioned in that article.

Table 4: Breakdown of Rationales by Type and Outlook

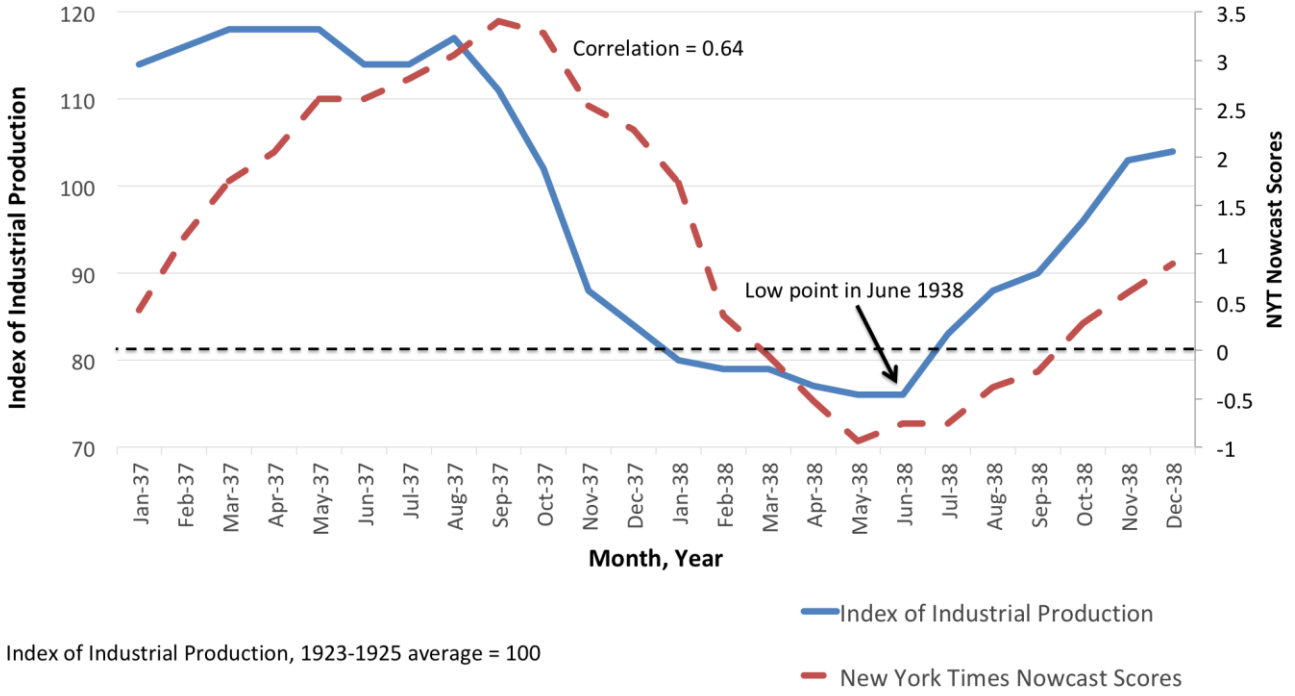
One-Word Rationale	Positive	Negative	Total
Production/Consumption	24	2	26
Government	28	4	32
Agriculture	5	2	7
War in Europe	5	0	5
Analogies	6	1	7
Poll	1	0	1
Automobile Industry	3	1	4
Financial Securities	2	1	3
Foreign Business	4	0	4
Postal Receipts	1	0	1
Total	79	11	90

Figure 1: Index of Industrial Production and *Federal Reserve Bulletin* Nowcast Series



Index of Industrial Production, 1923-1925 average = 100

Figure 2: Index of Industrial Production and NYT Nowcast Series



Index of Industrial Production, 1923-1925 average = 100

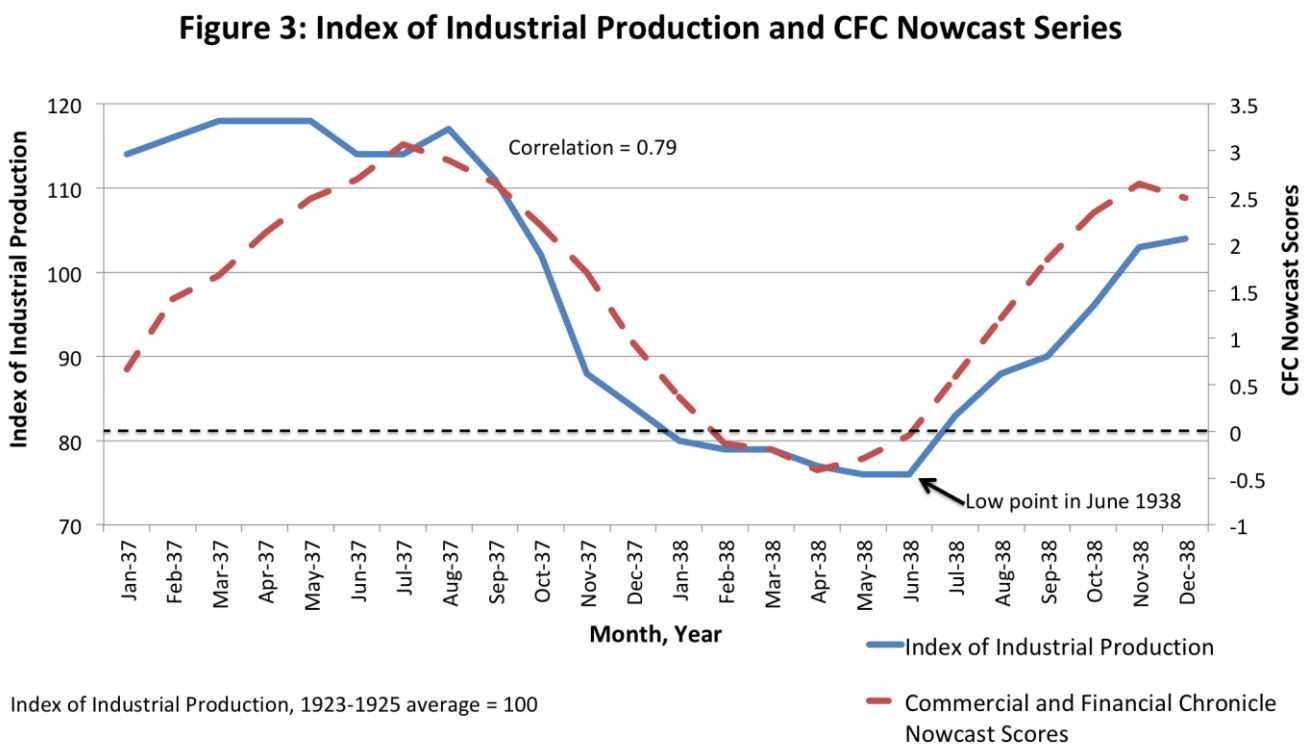


Figure 3: Index of Industrial Production and CFC Nowcast Series
Index of Industrial Production
CFC Nowcast Scores
Correlation = 0.79
Low point in June 1938
Month, Year
Index of Industrial Production
Commercial and Financial Chronicle Nowcast Scores
Index of Industrial Production, 1923-1925 average = 100

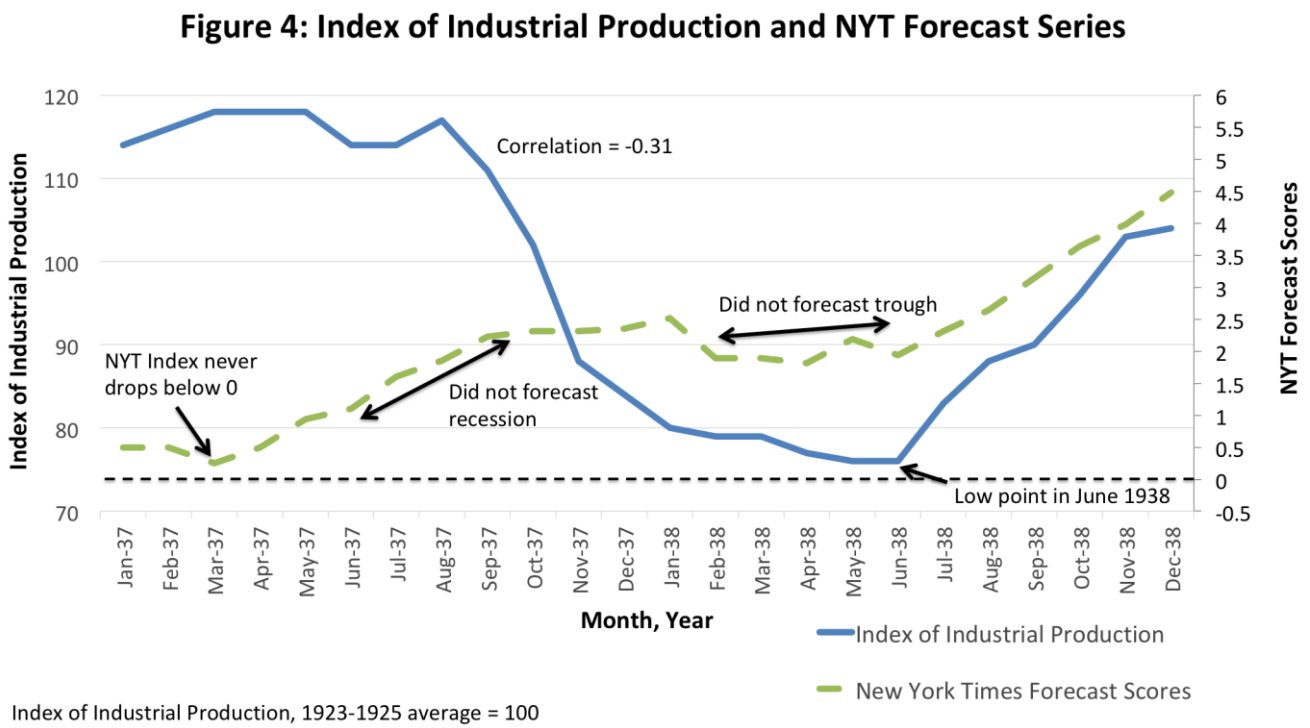


Figure 4: Index of Industrial Production and NYT Forecast Series
Index of Industrial Production
NYT Forecast Scores
Correlation = -0.31
Did not forecast trough
NYT Index never drops below 0
Did not forecast recession
Low point in June 1938
Month, Year
Index of Industrial Production
New York Times Forecast Scores
Index of Industrial Production, 1923-1925 average = 100
*New York Times forecast scores plotted in the time period in which the forecast was made

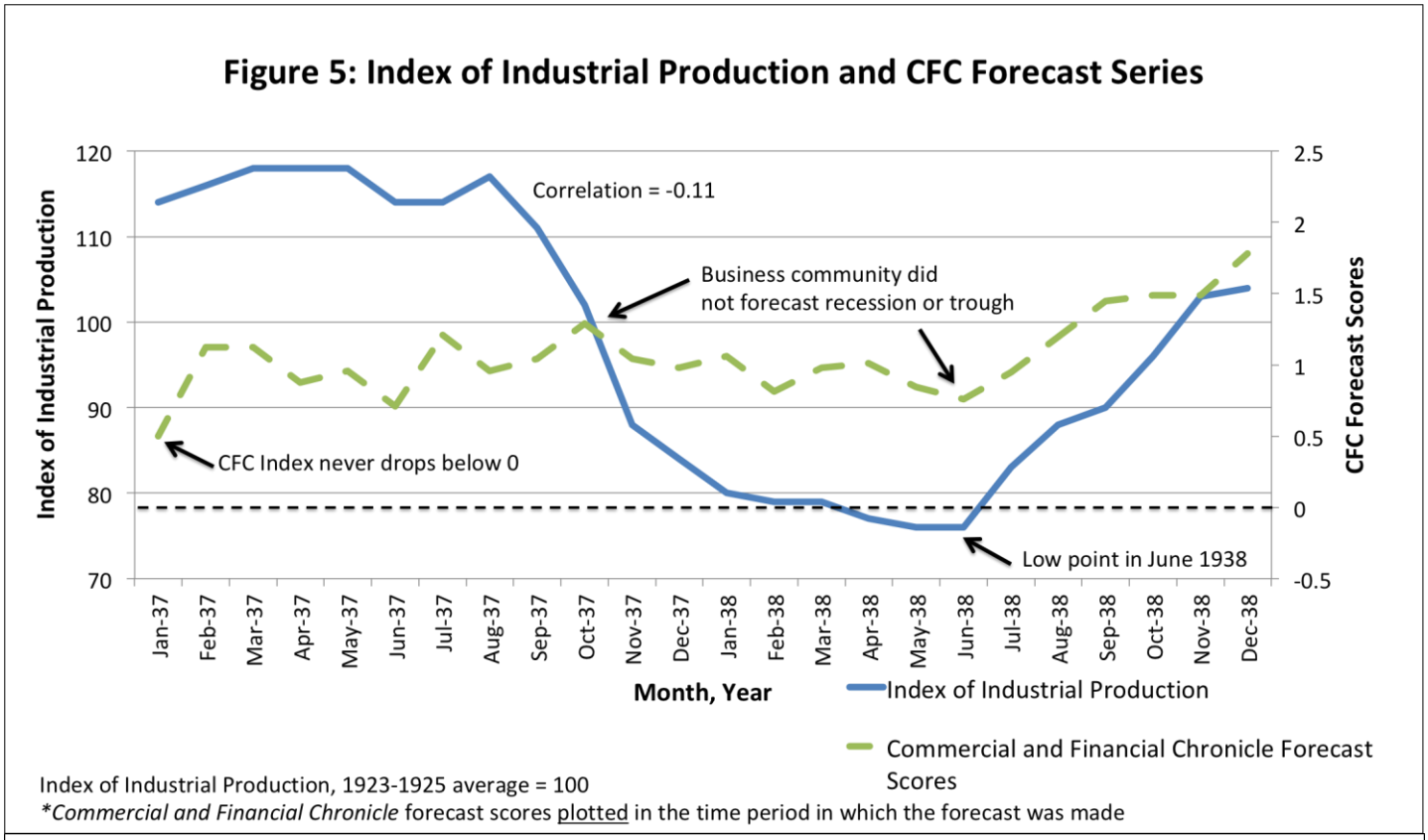


Figure 5: Index of Industrial Production and CFC Forecast Series
Index of Industrial Production
CFC Forecast Scores
Correlation = -0.11
Business community did not forecast recession or trough
CFC Index never drops below 0
Low point in June 1938
Month, Year
Index of Industrial Production
Commercial and Financial Chronicle Forecast Scores
Index of Industrial Production, 1923-1925 average = 100
*Commercial and Financial Chronicle forecast scores plotted in the time period in which the forecast was made

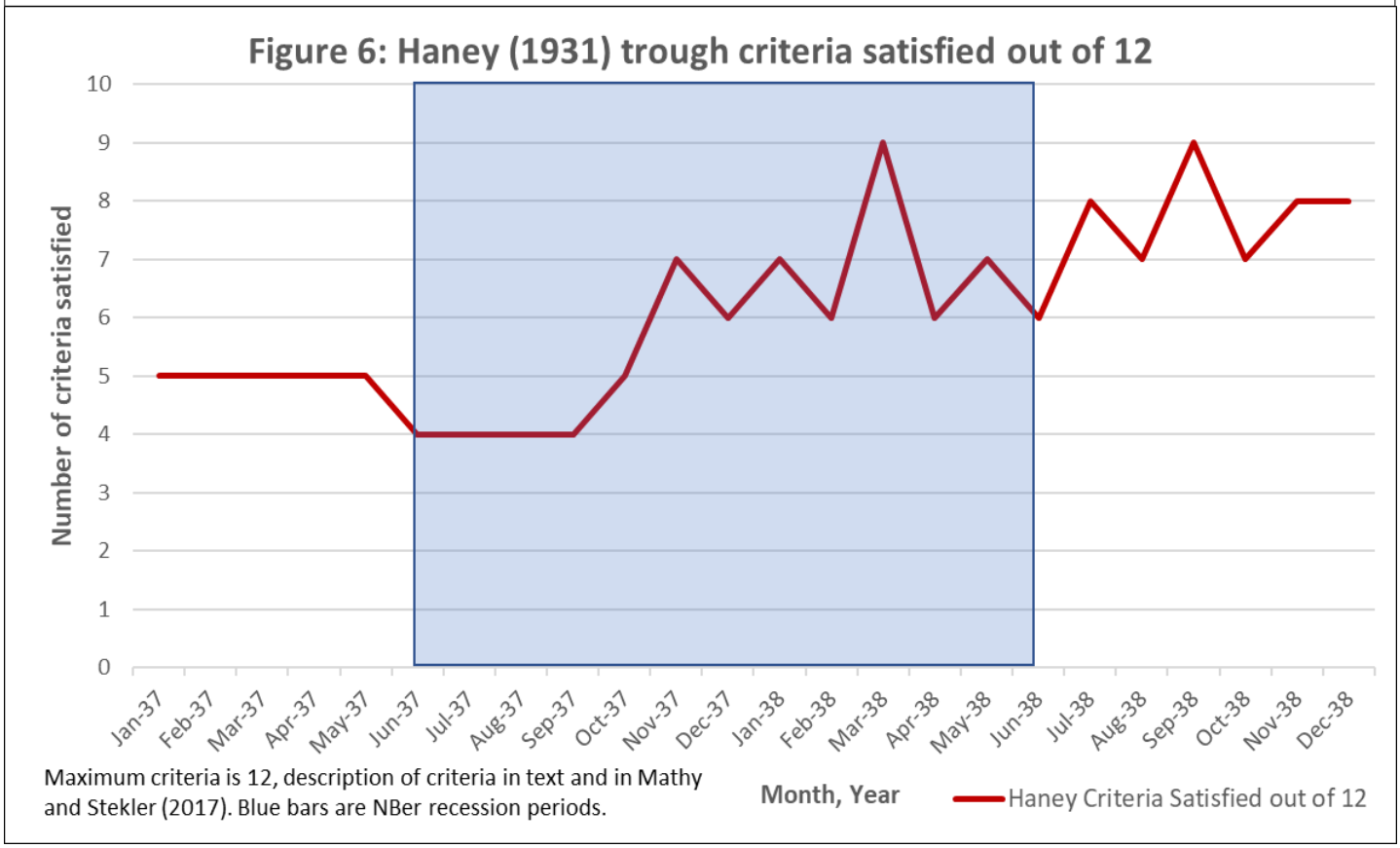


Figure 6: Haney (1931) trough criteria satisfied out of 12
Number of criteria satisfied
Month, Year
Haney Criteria Satisfied out of 12
Maximum criteria is 12, description of criteria in text and in Mathy and Stekler (2017). Blue bars are NBer recession periods.

Appendix A: List of Private Sector Analysts Cited

Johnfritz Achelis, president of Commercial Factors Corporation
Orval Adams, American Bankers Association
Winthrop W. Aldrich, Chase National Bank of New York
American Bankers Association
American Federation of Labor
American Statistical Association, American Marketing Association
Automotive Daily News
Benjamin M Anderson of Chase National Bank
Automotive Daily News
Roger W. Babson
Bank for International Settlements, J.W. Beyen
George Brockway (purchase manager for American Optical Company)
Brookings Institution
Alex. Brown & Sons
Bureau of Agricultural economics
Wintrop C. Case
Chairman Giannini of Bank of America
Chamber of Commerce
Col. Leonard Ayres, Cleveland Trust Company
Commercial Epitome, Commercial and Financial Chronicle
George H Davis, Chamber of Commerce of the US
Charles Dawes, City National Bank and Trust Co. of Chicago
Dr. Cumberland, Wellington & Co.
Dr. Marcus Nadler
E. G. Draper, Assistant Secretary of Commerce
Estabrook & Co.
Fairchild Publications Retail Price Index
Postmaster General Farley
F.E. Frothingham, Investment Bankers Association of America
Federal Reserve summary (DC)
Federal Reserve Bank of New York
Fenner & Beane
First National Bank of Boston
Fisher of Barclay's Bank
Ford Motor Company
General Motors Corp.
Bernard Gimbel, Gimbel Brother Inc.
Tom Girdler, American Iron and Steel Institute
A. S. Goss, Land Bank Commissioner of FCA
Guaranty Trust Co.
Leon Henderson
Henry Bruere, Bowery Savings Bank
Creighton J Hill
C. F. Hughes

Illinois Department of Labor, Division of Statistics and Research
Iron Age
Johnston of Chemical Bank and Trust Co.
Knudsen, General Motors
Leon Henderson, Temporary National Economic Committee
Lewis Douglas, former Director of the Budget
Merchant's Association of New York
Frederick Messner, Brookmire Bulletins
National Association of Credit Men, H. H. Heimann
National Association of Purchasing Agents
National Association of Manufacturers
National City Bank of New York
National Industrial Conference Board
New York Times, Business Section
The *New York Times* Annalist
New York Stock Exchange, President Gay
New York Chamber of Commerce, President Aldrich
Alexander Noyes, New York Times
Fred Presley, National Investors Corporation
George A. Renard, Purchasing Agents Organization
Roosevelt, Franklin Delano
Roper, Treasury Department
C.A. Sholtz
Securities and Exchange Commission, Saperstein
Dr. Sprague, Prof at Harvard
Gerard Swope, General Electric
Oliver Troster
Thomas Gibson Investment Service
United States Patent Office
Wall Street Journal
Merrill Watson (Tanner's Council of America)
E. T. Weir, National Steel Corporation
Wells Fargo
H. Parker Willis
C. W. Young, C.W. Young Management Corp.