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Advanced warning for professionals

As is taught in introductory macroeconomics courses, it is possible to think of GDP in two different ways. One is as the dollar value of all final sales of goods and services produced by factors of production located within the United States (classic GDP) and the second is as the dollar value of all the income generated by that production (Gross Domestic Income or GDI.)

The two measures are equal to each other by definition. But in practice, one can try to calculate GDP either using production data or using income data. If we obtain the production and income numbers from different sources, we're certain to end up with different numbers for what is supposed to be the nation's GDP. The difference between "gross domestic product" (GDP) and "gross domestic income" (GDI) is simply reported by the BEA as a "statistical discrepancy."

The appeal of exploiting the information in GDI to date recessions is simple: it is as comprehensive as GDP, but it may capture information about the economy missed by measured GDP.

Whilst most economists and business cycle analysts utilise classic real-GDP to determine recessions, several research papers have shown real-GDI to be much more accurate at signalling recession starts in real-time. This is because GDI tends to weaken much faster in onset to recession than GDP. The 2008 recession (see below 2 charts) is a classic example of this.

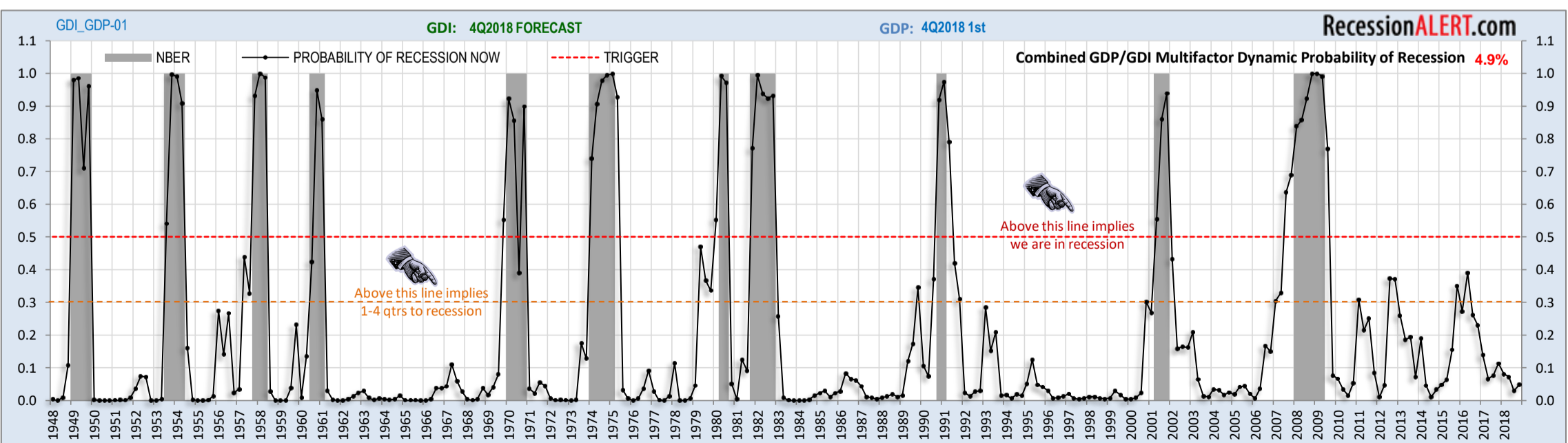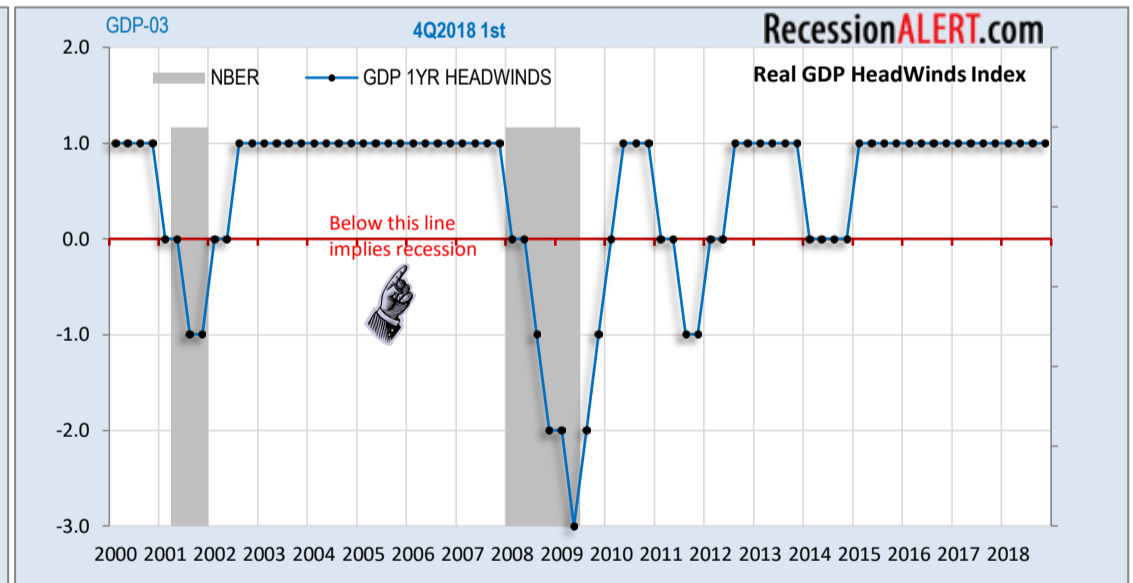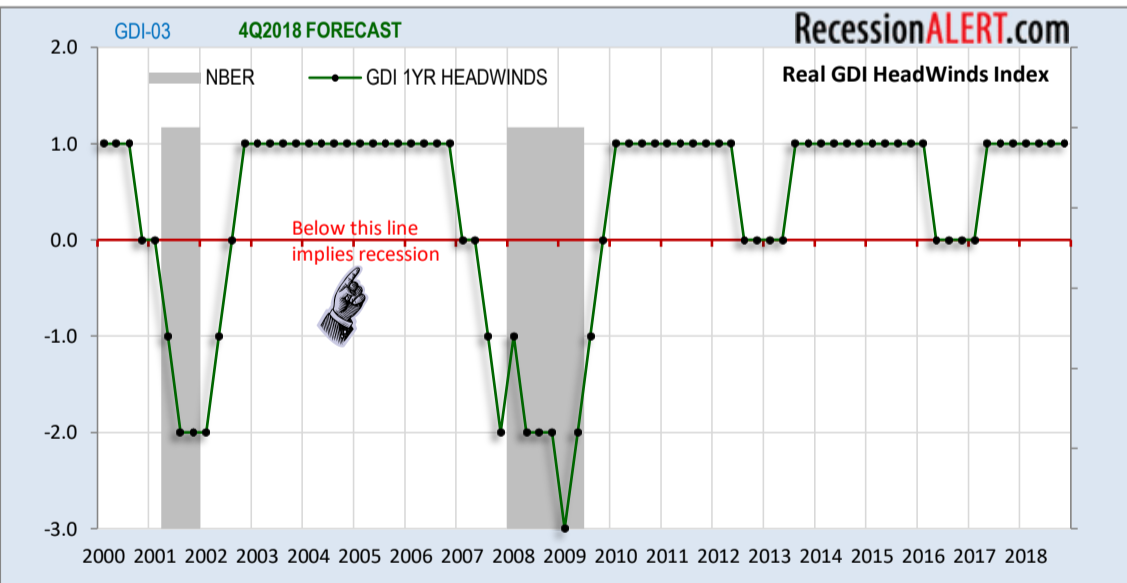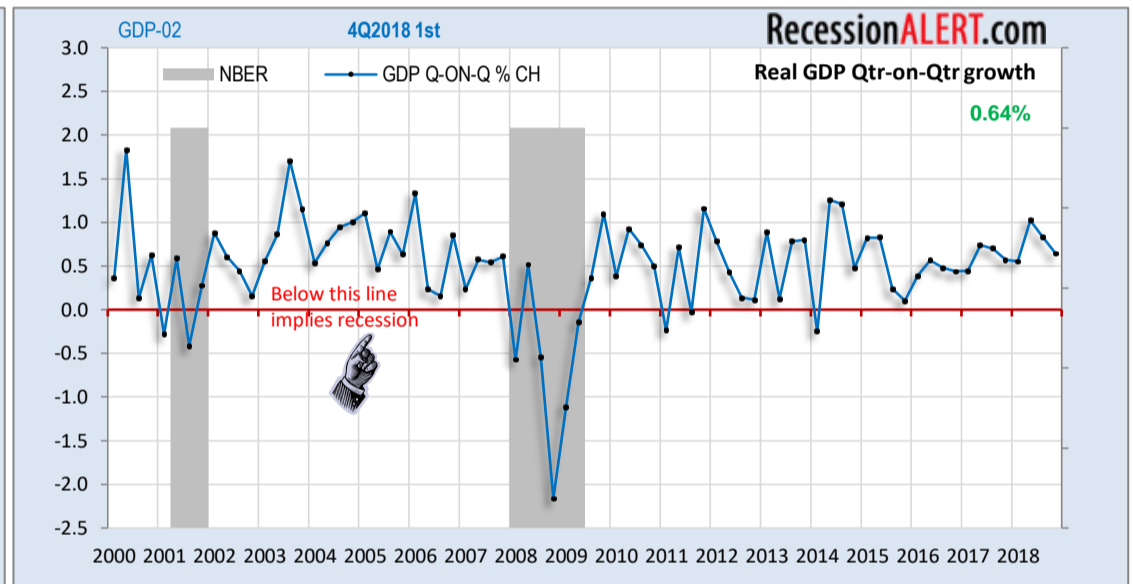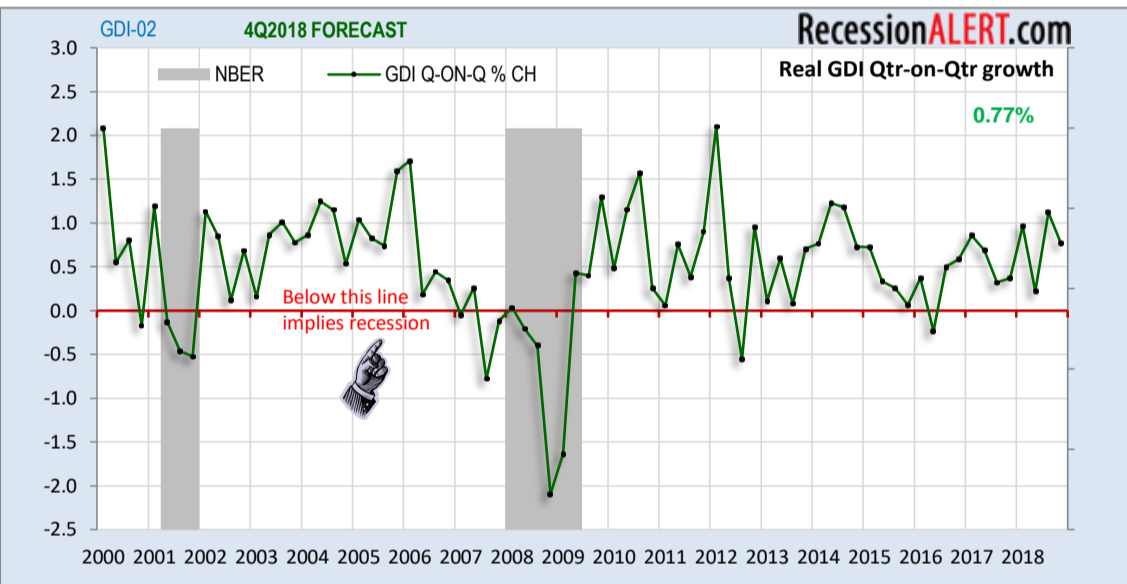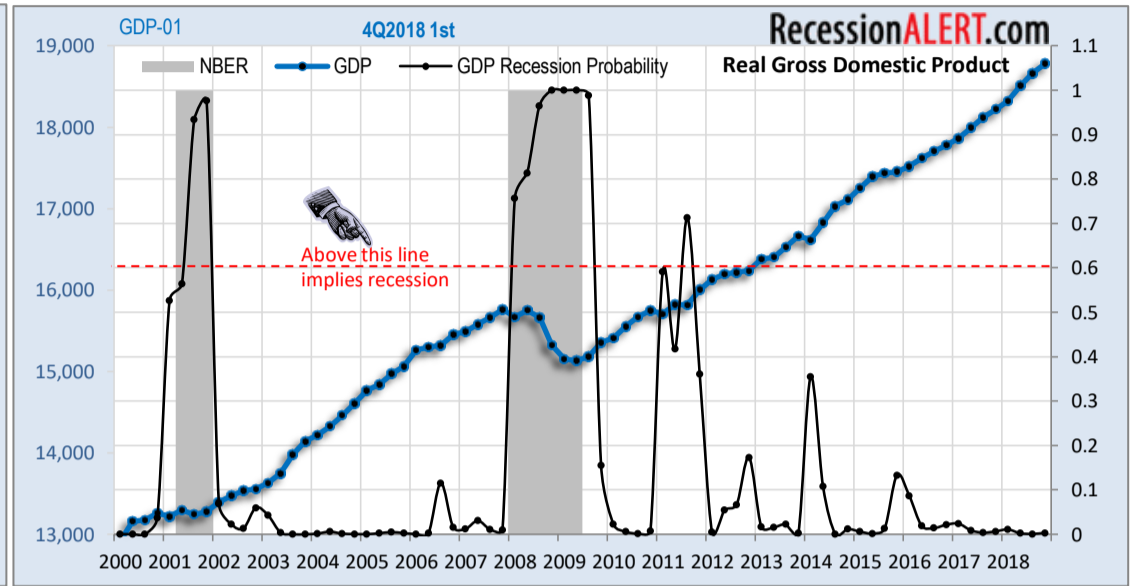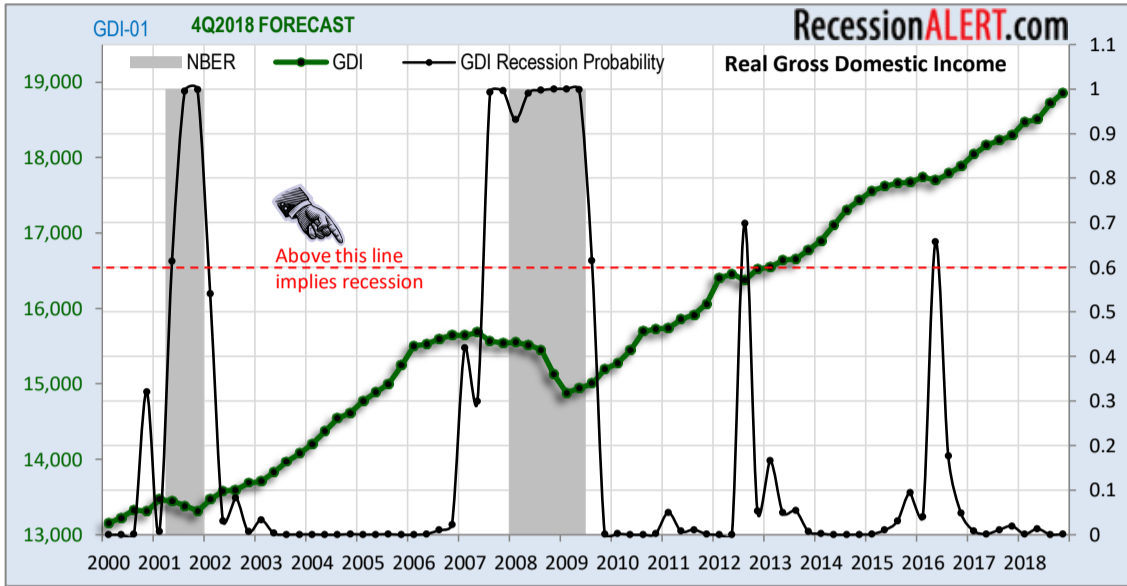💡 **HIT CTRL-3 ON YOUR KEYBOARD TO MAXIMISE VIEW IN YOUR PDF READER**

The BEA release GDP one months after the quarter has ended whilst GDI for the quarter only gets published a month after that. A model that deploys both GDP and GDI for economy estimation is desirable from the point of timeliness. We therefore forecast GDI using the prior quarters GDP growth and the current quarters GDP growth which provides exceptionally low tracking error and forecast accuracy of 99%

We utilise the 1-quarter growth rate of each of GDP and GDI as input into our dynamic factor recession dating model, as we have found this to be the single most powerful factor for recognising recessions (R^2=0.68) However we have found that incorporation of the prior 2 quarters readings for these numbers into a multifactor model *substantially* improves accuracy of the model to R^2=0.89. We have also deployed stylized approaches to the observed behaviour of GDP and GDI using the methodology described on http://recessionalert.com/a-stylized-approach-to-recession-forecasting/ which further improves the model to R^2=0.92.
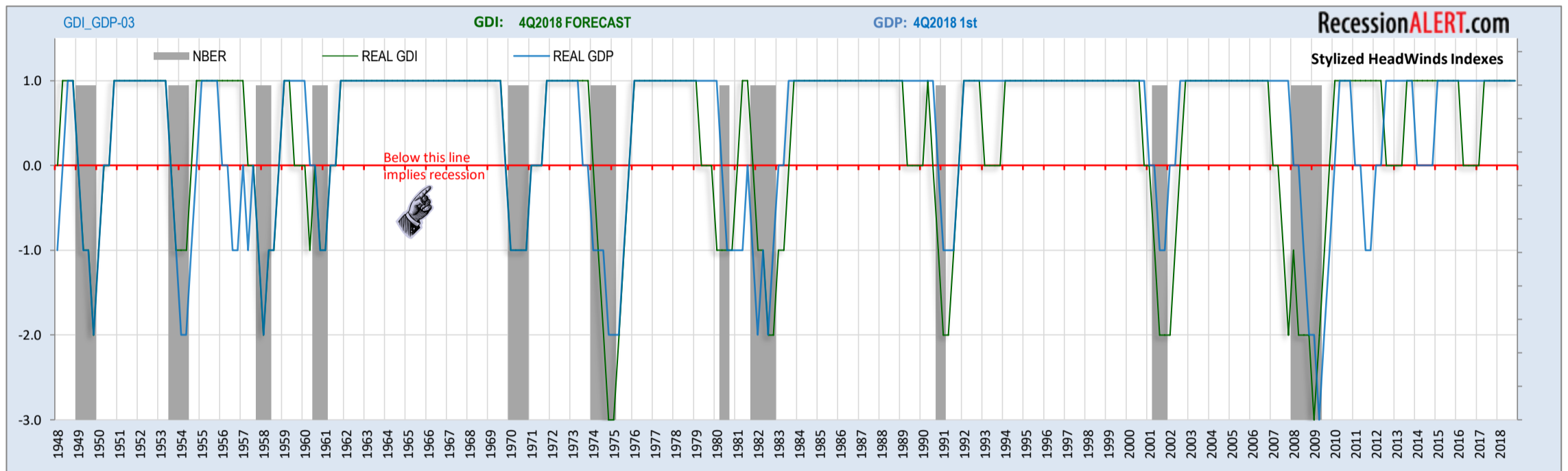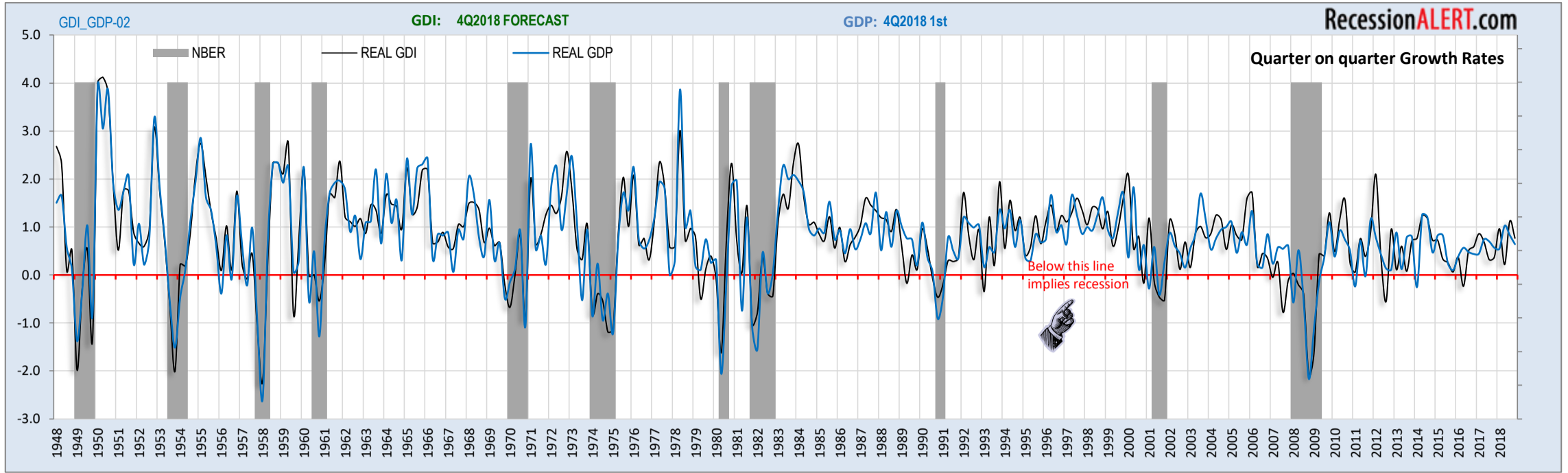
The recession probability model deploys 7-factors. Real GDP quarterly growth, and the prior quarters' readings, and a GDP Headwinds index form the 3 factors contributed by GDP to the model. Real GDI quarterly growth, and the prior two quarters' readings, and a GDI HeadWinds index form the 4 factors contributed by GDI to the model. Being quarterly, the model has the advantage of extending at least 4 recessions further back into history than most monthly models, giving it a more robust track record. 👉 **CLICK HERE TO READ THE DETAILED RESEARCH NOTE ON THIS MODEL**

GDI-01 — 4Q2018 FORECAST — Real Gross Domestic Income

GDP-01 — 4Q2018 1st — Real Gross Domestic Product

GDI-02 — 4Q2018 FORECAST — Real GDI Qtr-on-Qtr growth — 0.77%

GDP-02 — 4Q2018 1st — Real GDP Qtr-on-Qtr growth — 0.64%

GDI-03 — 4Q2018 FORECAST — Real GDI HeadWinds Index

GDP-03 — 4Q2018 1st — Real GDP HeadWinds Index

GDI_GDP-01 — GDI: 4Q2018 FORECAST — GDP: 4Q2018 1st — Combined GDP/GDI Multifactor Dynamic Probability of Recession 4.9%

LONG-TERM HISTORICAL CHARTS

Using the 7-factor dynamic factor recession probability model that incorporates 3 factors from GDP and 4 from GDI, we can extract a new modified *combined* representation of the U.S production of goods and services that incorporates the output and the income side of the equation. Note that this is far more sophisticated than merely aggregating GDP and GDI together to achieve a dual-sided representation of output. We extract a month-by-month growth index (1st chart below) from the dynamic factor recession probability model and a *cumulative output index* (2nd chart below) from the growth index. These are more reflective representations of GDP or GDI for the U.S economy and include the benefits of both GDP and GDI into one economic growth and cumulative output index.