This thesis contains three essays in the field of real-time econometrics, and more particularly now-and-forecasting.

The first Chapter, The *impact of macroeconomic news on bond yields: (in) stabilities over time and relative importance*, studies the reaction of U.S. Treasury bond yields to real-time market-based news in the daily flow of macroeconomic releases which provide most of the relevant information on their fundamentals, i.e. the state of the economy and inflation. We find that yields react systematically to a set of news consisting of the soft data, which have very short publication lags, and the timeliest hard data, with the employment report being the most important release. However, sub-samples evidence reveals that parameter instability in terms of absolute and relative size of yields response to news, as well as significance, is present. The often cited dominance to markets of the employment report has been evolving over time, as the size of the yields’ reaction to it was steadily increasing. Moreover, over the recent crisis period markets have become more reactive to news and there has been an overall switch in the relative importance of soft and hard data compared to the pre-crisis period, with the latter becoming more important even if less timely, and the scope of hard data to which markets react has increased and is less concentrated on the employment report. This is a consequence of the fact that in periods of high uncertainty (bad state), markets starve for information and attach a higher value to the marginal information content of these news releases.

The second and third Chapters focus on the real-time ability of models to now-and-forecast in a data-rich environment. It uses an econometric framework, that can deal with large panels that have a *ragged-edge* structure, and to evaluate the models in real-time, we constructed a database of vintages for US variables reproducing the exact information that was available to a real-time forecaster.

The second Chapter, *Real-time nowcasting of GDP: a factor model versus professional forecasters*, performs a fully real-time nowcasting (forecasting) exercise of US real gross domestic product (GDP) growth using Giannone, Reichlin and Small's (2008) (GRS) factor model framework which enables to handle large unbalanced datasets as available in real-time. We track the daily evolution throughout the current and next quarter of the model nowcasting performance. The results confirm GRS pseudo real-time findings that the precision of the nowcasts increases with information releases and that the model which is an automatic, judgement free, procedure fares well relative to the Survey of Professional Forecasters (SPF) which is a known tough benchmark. Its advantage mainly derives from the fact that it enables one to incorporate macroeconomic information as soon as it gets released, which is important for a policy-maker since it allows him to have the most up-to-date assessment of the current state of the economy. These results are robust to the recent recession period.

The last Chapter, *Real-time forecasting in a data-rich environment*, evaluates the ability of different models, to forecast key real and nominal U.S. monthly macroeconomic variables in a data-rich environment and from the perspective of a real-time forecaster. Among the approaches used to forecast in a data-rich environment, we use pooling of bi-variate forecasts which is an indirect way to exploit large cross-section and the directly pooling of information using a high-dimensional model (DFM and BVAR). Furthermore forecasts combination schemes are used, to overcome the choice of model specification faced by the practitioner, as we seek for evidence regarding the performance of a model that is robust across specifications/combination schemes. Our findings show that predictability of the real variables is confined over the recent recession period. This in line with the findings of D'Agostino and Giannone (2012) over an earlier period, that gains in relative performance of models using large datasets over univariate models are driven by downturn periods which are characterized by higher comovements. These results are robust to the combination schemes or models used. Regarding inflation, results are stable across time, but predictability is mainly found at nowcasting and
forecasting one-month ahead, with the BVAR standing out at nowcasting. The results show that the forecasting gains at these short horizons stem mainly from exploiting timely information. The results also show that direct pooling of information using a high dimensional model (DFM or BVAR) which takes into account the cross-correlation between the variables and efficiently deals with the ragged-edge structure of the dataset, yields more accurate forecasts than the indirect pooling of bi-variate forecasts/models.