2. Previous Studies of Economic Announcement Impact and the Accuracy of IEA’s Reports

In this chapter, we review the literature on announcement effects in the financial markets. Besides, we have a discussion on the empirical literature regarding IEA.

2.1 The impact of economic announcements

A semi-strong form market efficiency tests examine whether prices reflect all public available information. If new information is either quickly made public or is anticipated, the market is considered efficient, the opportunity to use the new information to earn abnormal return is of limited value, and only unanticipated changes in economic data can surprise the market. There is considerable empirical literature concerning the effects of news on returns to confirm such theory. Most notably, Milonas (1987), Fortenbery and Sumner (1993), both address the effects of new information in U.S. Department of Agriculture (USDA) reports. The scheduled, monthly USDA reports can provide news to the market concerning changes in the supply and demand of grains.

Furthermore, Goodhart et al (1993) use an extremely high frequency data set on the dollar-sterling exchange rate to investigate the impact of news events on the very short-term movements in exchange rates. The evidence seems fairly strong that the news effects influence both the level and the uncertainty of the exchange rate. But these effects are not permanent for this sample period.

Mitchell and Mulherin (1994) study the relation between the number of news announcements reported daily by Dow Jones and Company and aggregate measures of securities market activity including trading volume and market returns. They find that the number of Dow Jones announcements and market activity are directly related. However, the observed relation between news and market activity is not particular strong.

Bollerslev, Cai and Song (2000) provide a detailed characterization of the return volatility in US Treasury bond futures contracts using a sample of 5-min returns from 1994 to 1997. They find that public information in the form of regularly scheduled macroeconomic announcements is an important source of volatility at the intraday level. Among the various announcements, they identify the Humphrey-Hawkins testimony, the
employment report, the producer price index (PPI), the employment cost, retail sales, and the NAPM survey as having the greatest impact.

Cai, Cheung and Wong (2001) provide a detailed characterization of the intraday return volatility on gold futures contracts traded on the COMEX division of NYME and look at the intraday reactions of gold prices to news. Among the 23 U.S. macroeconomic announcements, they identify employment reports, gross domestic product, consumer price index, and personal income as having the greatest impact on the returns of gold.

2.2 The empirical literature regarding the accuracy of IEA

Recent developments in the oil market have highlighted the need for more timely and accurate oil market data. However, the availability of consistent national and international energy statistics have been sparse, especially if one aim to focus on particular areas such as regional differences or changes over time in the industrial or household sector. Most countries have data on the industrial energy use, but few countries do surveys that link the energy use to processes, substitutions and energy saving schemes. And some countries are, or at least have been, reluctant to transparency into their energy policy and energy use by sector. Instead, the International Energy Agency (IEA) based in Paris, France provides the most frequently used source for energy data. In the following, there are some empirical literatures about International Energy Agency.

O’Dell (1994) examines the implications of long-term energy demand to 2010 for all regions of the world using projections of the International Energy Agency. The evidence shows natural gas is expected to be the fastest growing fossil fuel through the outlook period. Besides, energy demand in the Non-OECD countries is expected to much more responsive to changes in the economic growth than in the OECD bloc. Additionally, in the OECD, virtually all the increase in oil demand over the outlook period will come from the transportation sector, and oil will continue to be an important fuel for the buildings sector in Non-OECD countries.

Bentzen and Linderoth (2001), using data for energy forecasts from sixteen OECD countries collected from the official International Energy Agency reports, examined whether there have been improvements in the forecasting accuracy during the sample period. The empirical results favor the hypothesis of increased forecasting accuracy over
time. Also, in accordance with a priori expectations, the forecasting failure is increasing with the length of the forecasting horizon.

Linderoth (2002) examines errors in forecasts of energy consumption made by the International Energy Agency of OECD countries over the period 1978–1994. He concludes that the forecast errors are caused by wrong growth rate expectations, and that energy price changes have also played a significant role. Further, he finds relatively small consumption errors in forecasts for OECD countries are typically the result of large, offsetting errors for the transportation and industrial sectors.

Unander (2005) has demonstrated the importance of using disaggregated energy indicators by the IEA when assessing development of energy use and its environmental consequences. Disaggregated indicators provide a powerful set of analytical tools that reveal important trends in energy use that are obscured by more aggregate quantities, such as the ratio of energy use to GDP or sectoral energy use per capita.

Following Milonas (1987) and Fortenbery and Sumner (1993), we examine the effects of IEA reports on oil monthly supply and demand changes.