



The FTS Real Time Trader

The FTS Real Time Trader is organized around what we call an “FTS Real Time Case.”

An FTS Real Time Case is a collection of:

- Securities that are traded
- A set of trading exercises: assignments and projects that are linked to your course content
- Analytical tools to support the trading exercises that provide the link between theory and practice. The learning takes place by understanding the concepts behind the analytics. Every student can customize the inputs into the analytics, allowing you to explore any topic in great depth.
- Real time data for trade settlement¹
- Extensive reporting capabilities allow students and instructors to monitor and assess performance, across students as well as relative to the benchmark.

While trading is exciting, especially with real time execution, the system is actually designed to teach concepts in finance. The FTS Real Time Trader brings to life and provides an immediate practical implementation of tools and techniques that are taught in many finance and accounting courses, and some economics courses.

Cases we typically run include the following:

- The DOW Case
 - Our most popular case, it is easy to implement because most students are already familiar with the DOW stocks.
 - Besides introducing students to secondary markets, the built-in analytics are designed to reinforce understanding of risk and return, performance measures, diversification and CAPM, market efficiency, and various approaches to equity valuation.
- Index Futures and Options
 - This case can be run with futures only, options only, or both. One variation is to start with futures and then add the options when the course coverage of options begins (or the other way around).
 - The analytics include the cost of carry model and American and European option pricing models, with real-time calculation of the implied basis and the option “Greeks” (for

¹ We do not broadcast real time prices to students due to licensing restrictions, but provide instead an indicative quote that is near the current market. However, **all trades are settled at real time prices** received by our servers. All limit orders are also monitored continuously. Note that your students can obtain real time quotes from a variety of sources, including web sites like Yahoo finance and can also subscribe to a real time feed themselves.



every option as well as of the portfolio) . This support includes volatility exposure calculations and value-at-risk calculations.

- Fixed Income Securities
 - These include Treasury bonds, Fed Fund futures, and Euro-Deposit futures. These can be run in combination or separately.
 - Analytical support includes duration and convexity calculations for the bond portfolio, implied LIBOR curves, and the system also calculates probabilities of monetary policy changes from the Fed fund futures.
- Spot currencies, with or without currency futures and with or without currency options
 - These cases are designed to provide an introduction to currency risk. The spot currencies include the major traded currencies and some smaller ones.
 - The options and futures support allows hedging of currency risk.
- We also run the ASX50 case for universities in Australia, and a Dow Euro Stoxx case for universities in Europe; however, both these cases can require additional fees to cover the cost of exchange fees.
- If you want a modified set of securities, and we are able to obtain the data for them, we can add that case (with the caveat that we may ask you to cover any exchange fees data to which we don't already subscribe).

You can use multiple cases in a course. We provide two examples of this.

- Introduction to Financial Markets
 - The goal of this course is usually to provide a wide exposure to financial markets and instruments.
 - Start with the DOW case and the “how securities are traded” assignment; this requires the least preparation of the students.
 - After this, add cases with other asset classes, say bonds, then futures, perhaps options, and finally currencies. The assignments can vary; you can continue with the “how securities are traded” theme, or ask them to reflect on news and information and the impact on financial markets.
 - In a semester long course, this allows your students to experience each case for two to three weeks, thus gaining familiarity with a variety of markets and instruments. Along the way, they will also learn the mechanics of trading, start gaining an understanding of risk and return, and start to appreciate news as it relates to different financial markets.
- Investments
 - There are several distinct ways in which the real time trader can be integrated into an investments course. What you choose will depend on what you want to emphasize in the course.



- Start with the DOW case and the “how securities are traded” exercise. This will introduce your students to the mechanics of trading and understanding order types.
- Move on to the discussion of risk and return in your lectures, and continue to the portfolio diversification and discussion of the CAPM. You will want to teach performance measures, such as the Sharpe ratio, at this point as well. Assign exercises on creating diversified portfolios, tracking performance, rebalancing, and so on.
- You then have several choices. One is to let the DOW case continue, and start exploring security valuation, including one stage and two stage models and their application. A second to move to bonds, with an immunization project, and maybe come back to security valuation. In the second part of the course, you can either continue with valuation or introduce options and/or futures.
- One thing to keep in mind is that to evaluate performance, you will need to run some exercises for at least four weeks. So doing too many exercises across too many asset classes may not be a good idea. Similarly, there is a tradeoff between breadth and depth. If you explore something in detail (e.g. relate valuation models to financial statements, or discuss alternate bond immunization strategies), then it is better to concentrate on those topics rather than go for breadth of coverage.

Operational Details

Once you select the cases you want, you need to:

- Tell us the cases you want to run
- When you want run which case (for example, you may start with a stock case and then move to a bond case)
- How many students are in each section (performance measures are section specific).
- As the course progresses, whenever you want to reset all positions to the initial position

There are some technical requirements: all your students must have access to a Windows-based computer with Excel. There are also some requirements relating to networks and firewalls that allow their computer to access our servers, specifically that on a specific port, the computer can initiate a connection to our server and send and receive data; we will let you know the port number and work with your tech group to convey the system requirements when we set up your accounts.