Written Exam for the M. Sc. in Economics Summer 2010

Financial Markets

Final Exam

June 11, 2010

(3 hour closed book exam)

Please note that the language used in your exam paper must correspond to the language of the title for which you registered during exam registration. I.e., if you registered for the English title of the course, you must write your exam paper in English. Likewise, if you registered for the Danish title of the course or if you registered for the English title which was followed by "eksamen på dansk" in brackets, you must write your exam paper in Danish.

If you are in doubt about which title you registered for, please see the print of your exam registration from the students' self-service system.

Please answer all 3 problems and all sub-questions below.

Problem 1:

Please answer the following 3 sub-questions.

(a) Define asset market resiliency, and discuss intuitively the market institutions that support resiliency.

(b) Explain intuitively the finding in Malinova and Park (2009) that, despite smaller spreads, small trades have larger price impact in dealer markets than in limit order book markets.

(c) Discuss intuitively the potential implications for traders when competing exchange starts to trade a stock that was initially traded at one exchange only.

Problem 2:

This problem considers one variation on Stein's (2009) crowded-trade models. Consider an asset in zero supply with initial fundamental value 0. At time 1, newswatchers observe a signal F about the expected fundamental value and form the aggregate demand curve $F(1-\delta) - P_1$ for the asset. Here, the parameter $\delta \in (0,1)$ is a measure of under-reaction to news, while P_1 denotes the asset price.

In the market there is n speculators. Different from Stein, we will assume that they can also observe F. We further assume that they know n and that they are risk-neutral. We will suppose that they simultaneously rush to the market where speculator i will submit a market order d_i. We will consider the determination of these non-cooperative market orders in Nash equilibrium.

(a) Argue that the asset will be traded at price $P_1 = F(1-\delta) + \sum_{i=1}^{n} d_i$.

(b) Given $\sum_{j\neq i} d_j$, argue that speculator i chooses d_i to maximize $(F - P_1)\, d_i$ and rewrite this expression as $\left(\delta F - \sum_{j\neq i} d_j - d_i\right) d_i$.

(c) Solve the speculator's maximization problem. Note that d_i can be seen as a function of $\sum_{j=1}^{n} d_j$ which does not depend on i. Conclude that $d_1 = \ldots = d_n$ and show that

$$d_i = \frac{\delta F}{n+1}.$$

(d) Show that the amount of mis-pricing $F - P_1$ is decreasing in n. Show also that there is a negative externality amoung speculators in the sense that aggregate speculator profit $(F - P_1) \sum_{i=1}^{n} d_i$ is a decreasing function of n

(e) Discuss how the results in (d) differ from the results sought by Stein (2009).

Problem 3:

Below is an excerpt of an article from the Financial Times on March 10, 2010. Please write a short essay discussing to which extent the course readings can relate to the issue of this text.

"Germany and France on Wednesday called on the European Union to consider banning speculative trading in credit default swaps and set up a compulsory register of derivatives trading. (...). The two leading economies in the eurozone are asking for an immediate investigation of the role and effect of speculative trading in CDSs in the sovereign bonds of European Union member states. (...) As an alternative to a ban on speculative trading in CDSs they suggest a bar on so-called naked transactions, in which investors buy swaps without holding a direct investment in the underlying debt, and tighter regulation of short-term swaps in the bond markets.

A growing European consensus on the need for tougher regulation of CDS trading was reflected by Lord Turner, chairman of the UK Financial Services Authority, who warned that naked trading in corporate CDSs could force companies into default. The Franco-German initiative, backed by Luxembourg and Greece, also calls for regulators to be given "unlimited access" to a register of derivatives trading in order to identify who is trading and what they are doing. It proposes that derivatives transactions should only be allowed on exchanges, electronic platforms and through centralised clearing houses.

CDSs are commonly used by banks and hedge funds to reduce their risk, but they are also popular with investors who buy and sell them with an eye to making a quick profit. Naked CDSs have been blamed for helping driving down Greek bonds this year and financial companies last year.

Lord Turner, who is also a member of the Financial Stability Board, which works on global regulatory proposals, said he wanted regulators to look at the question of naked CDSs on both corporate and sovereign debt. "We need to think about whether we are being radical enough on credit default swaps ... as to whether naked CDSs should be allowed," Lord Turner said, adding he was particularly concerned that corporate CDSs could be manipulated to force a company into default, a form of market abuse. But he warned against hasty action. "We need to look at these issues very carefully. There is a danger of an oversimplistic belief that everything going on is shorting in the CDS market," Lord Turner said.

In a clear indication of the gathering international support for action, Mario Draghi, chairman of the FSB, signalled this week that the group was focused on the issue. "This way of betting has systemic implications," he said. "The sense I have is that governments are increasingly uneasy with this. Whenever something has systemic implications, you can bet it is going to get systemic regulation.""