Explaining Credit Default Swap Spreads with Equity Volatility and Jump Risks of Individual Firms by B. Zhang, H. Zhou and H. Zhu

Insider Trading in Credit Derivatives by V. Acharya and T. Johnson

The Determinants of Market Frictions in the Corporate Market by A. Levin, R. Perli and E. Zakrajsek

Discussion by Reint Gropp

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The views expressed in this discussion are those of the author and not necessarily those of the ECB or the Eurosystem.

Summary

- All three papers attempt to explain the functioning of CDS markets:
  - Zhang/Zhou/Zhu emphasise the role of equity volatility and, especially jump processes in the pricing of CDS
  - Acharya/Johnson emphasise insider trading and whether CDS markets provide information to equity markets
  - Levin/Perli/Zakrajsek emphasise “market frictions”, which they measure by the difference between CDS spreads and bond spreads
- Interestingly, neither considers the idea of the others (even though LPZ cite ZZZ)

This discussion

- Very briefly discuss each paper in turn
  - stress main highlights and findings
  - make one or two substantial points
- Draw some parallels among the three papers
- Policy implications

Zhang/Zhou/Zhu paper: Realised volatility and jump processes

- Objective: explain time series and cross sectional variation in CDS spreads
- Main idea: Use realised volatility and decompose it into a permanent part and “jumps”
- Find a significant improvement in the fit of the model; combining jump risks, volatility, macro variables and balance sheet information can explain 75 percent of CDS spreads
  - This is a substantial improvement in explanatory power over previous papers

Zhang/Zhou/Zhu paper: issues

- Find that equity volatility matters for CDS pricing
  - Not really news: risk should matter
  - Largely a technical contribution: they improve the measurement of risk by using realised volatility and jump processes
  - Interesting that accounting variables matter at all
    - Shouldn't market prices incorporate all the relevant accounting information?

Zhang/Zhou/Zhu paper: issues

- Overall I was missing a little the economic interpretation of the findings in the paper
- Is there more here than just improving the way volatility is modelled?
- ZZZ do a careful job to model the interaction between firm specific variables and jumps
  - But: Couldn’t jumps also be due to macro variables?
  - I would have like to see how many of the jumps can be attributed to firm specific shocks and how many to common shocks
  - Correlation across firms in jumps?
  - Can we learn anything from the paper about the interrelation between credit risk and market risk?

Acharya/Johnson paper: Insider trading

- Objective: Is there insider trading in CDS markets?
  - **Very** topical; anecdotal evidence; FT front page quoting this paper!
- Test: Does CDS trading provide information to equity markets?
- Evidence in favour of this idea; information only flows to equity markets if banks have a relationship with the firm, i.e. are more likely to have access to relevant insider information and there is a large adverse shock!
- However, no evidence that prices (for credit insurance) or liquidity are adversely affected; liquidity may even be positively affected

Acharya/Johnson paper: issues

- Authors test for information flow to equity markets; wouldn't information flow to bond markets be the stronger test?
- In general there are some arguments why AJ systematically underestimate insider trading (acknowledged in the paper)
  - Bad news for CDS may be good news for equity holders (e.g. increase in leverage)
  - Timing: CDS markets close before equity markets
  - Pricing data
- Academically sound, but does qualify the mild policy conclusions the authors draw…

Levin/Perli/Zakrajsek: “Market frictions”

- Objective: Explain the difference between CDS spreads and the corresponding bond spreads
- Findings:
  - Overall deviations from a zero base are small (a few basis points)
  - But: can be large and don’t immediately adjust
  - Deviations: mainly due to firm specific factors; macro factors smaller

Levin/Perli/Zakrajsek: issues

- What is a “market friction”?
- LPZ definition: Anything that prevents arbitrage to take place between related securities (in this case bonds and CDS)
- Definition (ECB, October 2005, MB)
  - agency problems (“corporate control”) =>relevant?
  - information asymmetries =>insider trading: AJ
  - liquidity => measured (but data limitations)
  - incomplete vs. standardised contracts =>CDS market
  - transaction costs =>not discussed; relevant?

Levin/Perli/Zakrajsek: issues

- Liquidity
- Hancock and Kwast (2001) found that “young” bonds are significantly more liquid, irrespective of their term to maturity
  - Implication: There are differences in liquidity for different bonds of the same firm not explained by issue size!
  - While their evidence is for bank bonds, lack of liquidity for bonds could explain part of the observed negative basis
  - One of the objectives of the CDS market is to define standardised instruments, which would aide liquidity relative to the bonds, which differ in many dimensions and, hence, are inherently much more illiquid

Issues: All three papers

- Data source and pricing
  - All three papers admit to having “matrix” prices in the dataset
  - “Matrix prices” are calculated prices in case no actual transaction took place for an instrument
  - This is a problem especially for LPZ and ZZZ, as they may use information to explain spreads (or the basis) that the data provider used to calculate spreads.
  - A problem for AJ, because it results in an understatement of insider trading in their methodology (I think)

Issues: all three papers

- Is insider trading a relevant “market friction”, as measured by LPZ?
  - This might be worth exploring
  - Evidence: GM downgrade
    - LPZ report that the basis increases to 400 basis points after the downgrade
    - CDS spreads reacted much more and much more quickly compared to bond spreads
    - Is this due to insider trading?

Issues: all three papers

- ZZZ and LPZ: definition of default?
  - CDS contracts can be written according to four different restructuring clauses:
    - “cum restructuring”
    - “ex restructuring”
    - “modified restructuring (used in both ZZZ and LPZ)”
    - “modified modified restructuring”
  - Different implication of when a “default” event occurs and what type of security the counterparty has to deliver
  - LPZ: but bond holders are subject to a completely different definition of default, i.e. they would take LGD etc. into account
  - Can this explain deviations of the “basis” from zero?
  - ZZZ: Introduce further non-linearities between equity volatility, jumps and CDS spreads

Policy implications

- AJ: insider trading or revealing information?
  - Insider trading is a nasty word!
  - CDS markets bring information to the public (i.e. to equity markets)
  - This may be desirable!
  - However: In times of crisis (e.g. GM downgrade), liquidity may quickly dry up due to fears of market participants to obtain a lemon!

Policy implications

- AJ do not suggest a regulatory response beyond enforcing already existing insider trading rules
- Should banks be prevented from trading in CDS of firms they have a relationship with?
  - Currently: voluntary arrangements and firewalls
- Big question: What happens in a crisis? GM evidence raises concerns…

Policy implications

- LPZ suggest that there are market frictions
  - Are they in the CDS market, the bond market or both?
  - Aren't the standardised CDS market intended to overcome some of these "frictions"?
  - What then are the policy implications?
- Do this exercise for the EU:
  - Use all control variables and then test whether country dummies still matter =>access to the market

Policy implications

- ZZZ suggest that jumps are important
- But: are these jumps due to idiosyncratic shocks or macro shocks
- If macro shocks, this is relevant for policy makers
  - For example: predictability of monetary policy; communication strategy
  - Monitoring of financial stability: What type of shocks result in jumps?
  - Market functioning: Are jumps related to a drying up of liquidity?

Summary

- Very interesting and relevant papers!
- They are indeed more closely related to each other than the authors may think!
  - Praise for the organisers for putting together such a coherent session!
- Raise many interesting policy issues with much food for thought to policy makers!