Credit Shock Propagation Along Supply Chains: Evidence from the CDS Market

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> 摘要：Using a panel of Credit Default Swap (CDS) spreads and supply chain links, we observe **that both favorable and unfavorable credit shocks propagate through supply chains in the CDS market**. Particularly, **the three-day cumulative abnormal CDS spread change (CASC) is 63 basis points** for firms whose **customers** experienced a CDS up-jump event (**an adverse credit shock**). The value is **74 basis points** if their **suppliers experienced a CDS up-jump event**. The corresponding three-day CASC values are **−36 and −38 basis points**, respectively, for firms whose **customers and suppliers**, respectively, experienced an extreme CDS down-jump event (**a favorable credit shock**). **These effects are approximately twice as large for adverse credit shocks originating from natural disasters.** Credit shock propagation is absent in inactive supply chains, and is amplified if supply-chain partners are followed by the same analysts. Industry competition and financial linkages between supply chain partners, such as trade credit and large sales exposure, amplify the shock propagation along supply chains. Strong shock propagation persists through second and third supply-chain tiers for adverse shocks but attenuates for favorable shocks.
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> > 文献主要研究**有利和不利的信贷冲击对供应链造成的影响**，这些影响大约是**自然灾害造成的不利信贷冲击的两倍**（还对自然灾害造成的影响进行了研究。

> We use the entire Markit dataset, rather than just our sample, so as to avoid tying the definition of events to the source of supply chain data.
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> > 该文献的研究使用整个Markit数据集，而不仅是样本，因此研究结论**具有普遍性的参考。**

部分

> For the initial analysis, we begin with a model-free, event-study setup. For each extreme CDS jump event (defined in §3), we compute the one-day cumulative abnormal CDS spread changes (as discussed in §3) of the equally-weighted portfolios of the customers and suppliers of the event firm.11 Figure 2 illustrates the CDS market reaction to extreme CDS jumps in supply chains, with panel A displaying reactions to up-jump events, and panel B to down-jump events. This figure shows a strong response from customers and suppliers of the event firm in the same direction as the jump events on the event day (Table A3 in the Appendix presents additional event study results, for up to 20 days after the event).
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> > 对于初始分析，我们从一个无模型的事件研究设置开始。对于每个极端CDS跳跃事件（定义见§3,在上面一段引用），我们计算事件公司的客户和供应商的平均加权投资组合的一天累计异常CDS价差变化（如§3所述）。图2显示了CDS市场在供应链中对CDS极端跳跃的反应，面板A显示了对上升跳跃事件的反应，而面板B显示了对下降跳跃事件的响应。该图显示了活动公司的客户和供应商对活动当天的跳跃事件的强烈反应（附录中的表A3显示了活动后20天内的其他事件研究结果）。

We retrieve county-level, natural disaster data from the Federal Emergency Management Agency (FEMA) and firms' establishment locations data from the Environmental Protection Agency (EPA). We identify CDS jumps originating from natural disasters using two levels of spatial dimension: at the county and at the state level. To define shocks at the county level, for each disaster event, we determine which establishments are in the disaster-affected counties, identify firms with these establishments, and use as credit events CDS up-jumps of these firms that occurred up to 15 days following the natural disaster event. The definition at the state level is similar, except that we determine which establishments are in the disaster-affected states instead of counties. There are 166 CDS jumps defined at the county-level. When we determine these jumps at the state-level,
there are 344 CDS jumps. These CDS jumps are a subset of the jumps considered in our baseline estimations. We then perform the analysis using these CDS jumps.

> 我们从联邦应急管理局（FEMA）检索县级自然灾害数据，并从环境保护局（EPA）检索企业设立地点数据。我们使用两个层次的空间维度来识别源自自然灾害的CDS跳跃: 县和州一级。为了定义县一级的冲击，对于每个灾害事件，我们确定受灾县的哪些机构，确定这些机构所在的公司，并将自然灾害事件发生后15天内这些公司的CDS上升作为信贷事件。州一级的定义类似，只是我们确定哪些机构位于受灾州而不是县。14县级有166个CDS跳跃。当我们在州一级确定这些跳跃时，有344个CDS跳跃。这些CDS跳跃是我们基线估计中考虑的跳跃的子集。然后，我们使用这些CDS跳跃进行分析。