Contagion from market price impact a price-at-risk perspective

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AbstractOverlapping portfolios constitute a well-recognised source of risk, providing a channel for financial contagion induced by the market price impact of asset deleveraging. We introduce a novel method to assess the market price impact on a security-by-security basis from historical daily traded volumes and price returns. Systemic risk within the euro area financial system of banks and investment funds is then assessed by considering contagion between individual institutions’ portfolio holdings under a severe stress scenario. As a result, we show how the bias of more homogeneous estimation techniques, commonly employed for market impact, might lead to loss estimates that are more than twice as large as losses estimated with heterogeneous price impact parameters. Another new feature in this work is the application of a price-at-risk measure instead of the average market price impact to evaluate the tail risk of possible market price movements in scenarios of different severity. Our results also show that system-level losses at the tail can be three times higher than average losses using the same scenario.JEL CodeG01 : Financial Economics→General→Financial CrisesG12 : Financial Economics→General Financial Markets→Asset Pricing, Trading Volume, Bond Interest RatesG17 : Financial Economics→General Financial Markets→Financial Forecasting and SimulationG23 : Financial Economics→Financial Institutions and Services→Non-bank Financial Institutions, Financial Instruments, Institutional InvestorsG32 : Financial Economics→Corporate Finance and Governance→Financing Policy, Financial Risk and Risk Management, Capital and Ownership Structure, Value of Firms, Goodwill