

Capital Markets & Investments

Session 12: Portfolio Choice (3) – Portfolio Optimization

Spring 2026
Professor Simon Oh

How to Build a Portfolio

- Step 1: Estimate the relevant properties of asset returns
 - Expected returns—e.g., from valuations
 - Volatility and correlations—e.g., by extrapolating relevant history
- Step 2: Find the efficient risky portfolio for all investors
 - All investors want to maximize reward per unit of risk
 - Find the portfolio with the highest Sharpe ratio
- **[Today]** Step 3: Find the right amount of risk for a specific investor
 - Different investors have different risk aversion

Stock Market Crash

KOSPI Plunges 12.64%, Surpasses 9/11 Record

News > World > Asia

Circuit Breaker Activated; KOSDAQ Drops 14.1% Amid Historic Market Plunge

Panic as South Korea's stock index plunges by 12% – the steepest drop in history

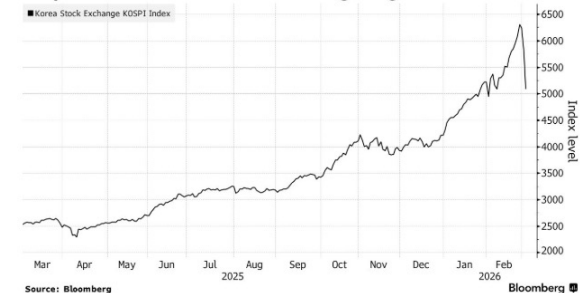
The Korean Silicon Valley fell silent in alarm as stocks plunged on Wednesday

Cynthia Kim

Wednesday 04 March 2026 09:27 GMT

   Comments

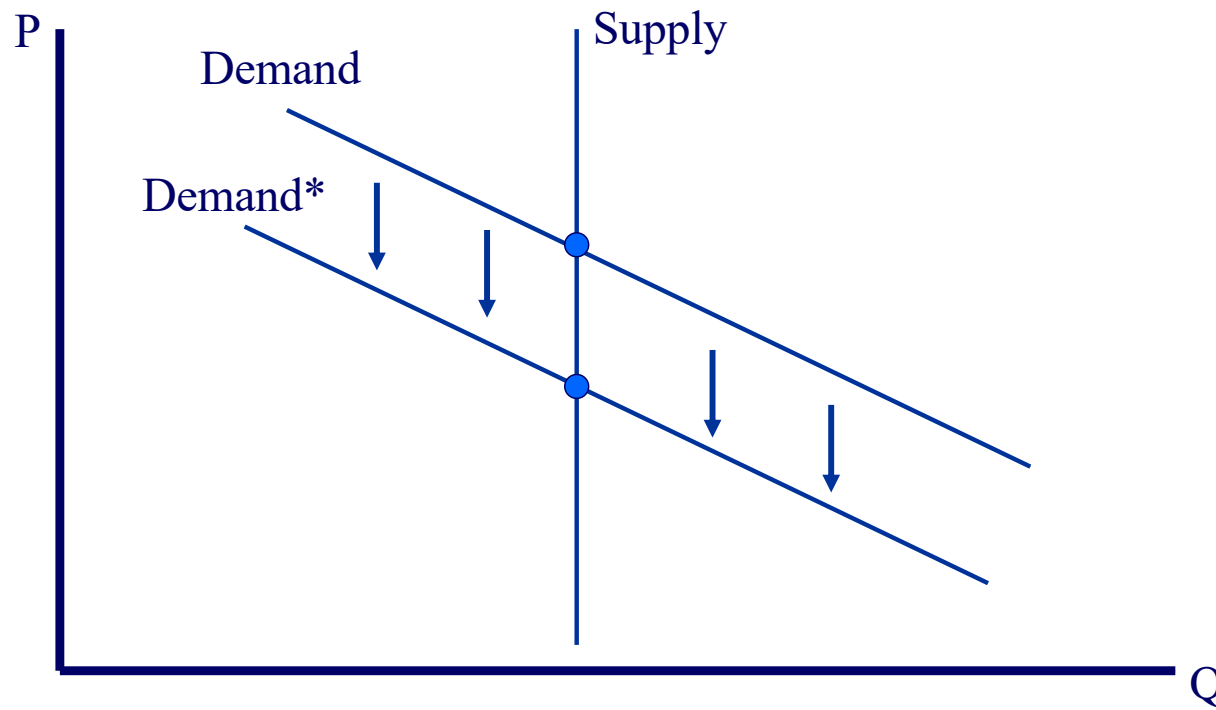
Kospi in Freefall After World-Beating Surge



Panic sweeps South Korean stocks in biggest one-day crash on record

Of more than 800 stocks on the benchmark, only 10 finished in the green

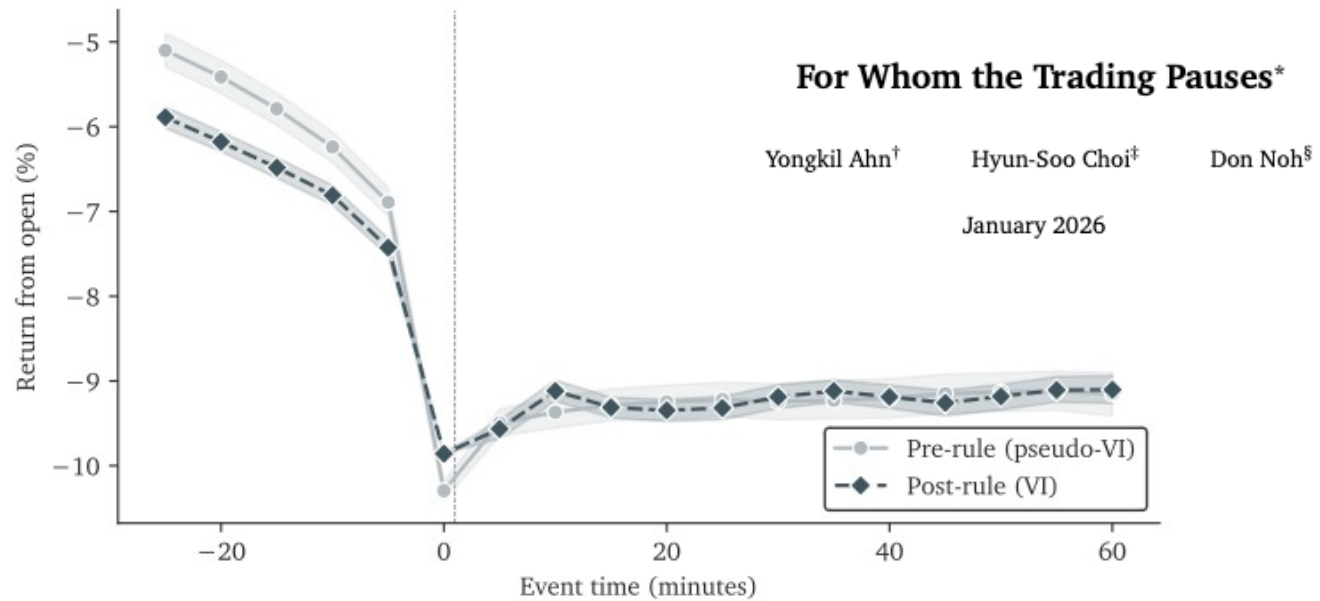
Demand and Supply for Stocks



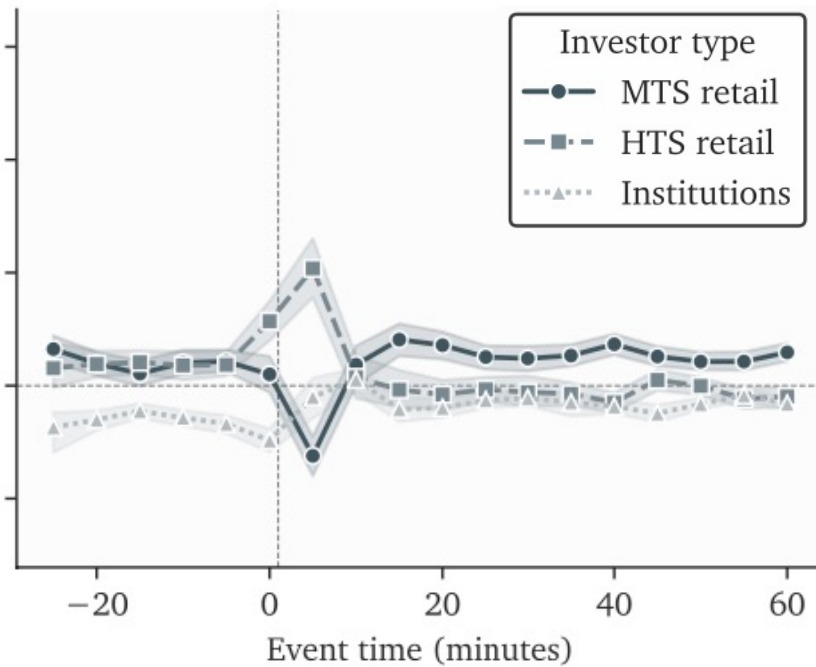
Circuit Breakers

- Halt trading temporarily when prices fall (or rise) past a threshold
- Level 1 triggers at 8% for at least one minute, halting trading for 20 minutes; Level 2 at 15%, for 20 minutes; Level 3 at 20%, closed trading for the day
- There is also a dynamic version when bid/ask prices deviate more than 16% from the last execution price (only for individual stocks)

Circuit Breakers



Who wins and loses?



(d) Net buy: Post-rule



Moving into spring break...

Geopolitical Risk

Inflation Risk

AI Risk

Financial Stability Risk

⋮

Cash Flow Growth

Risk Premium

Demand Shocks

Public Equity

Private Equity

Public Corporate Debt

Private Corporate Debt

Government Debt

Real Estate

Commodities