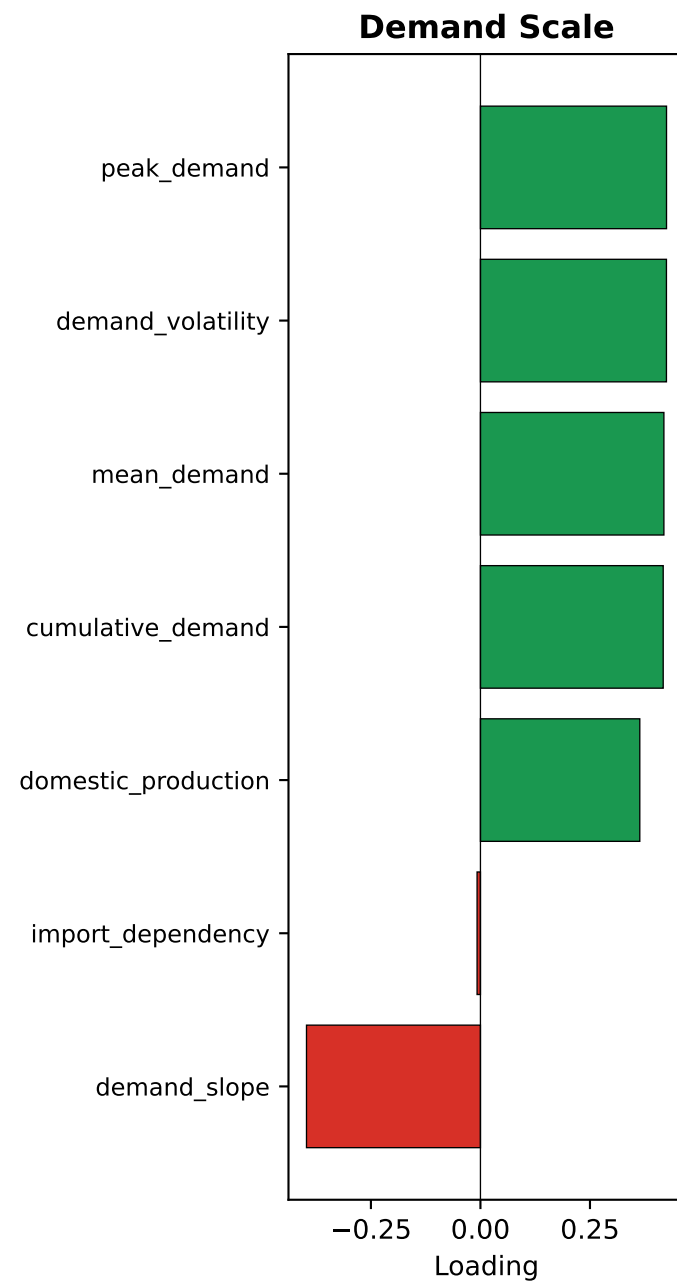
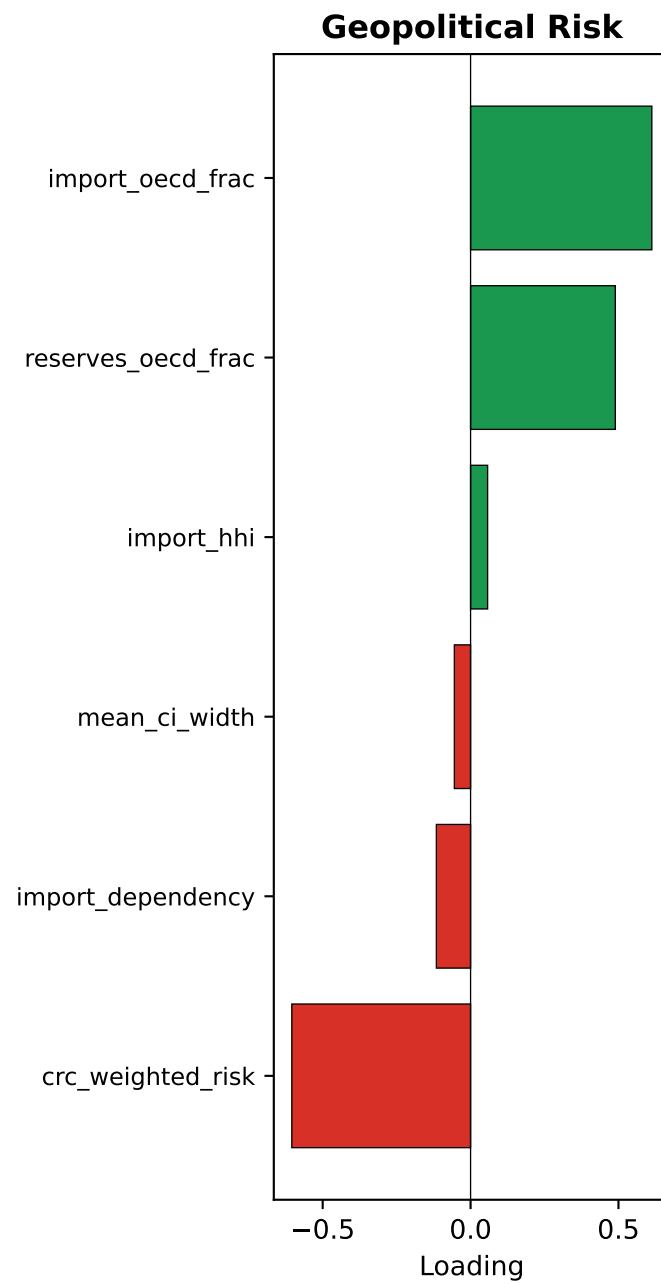


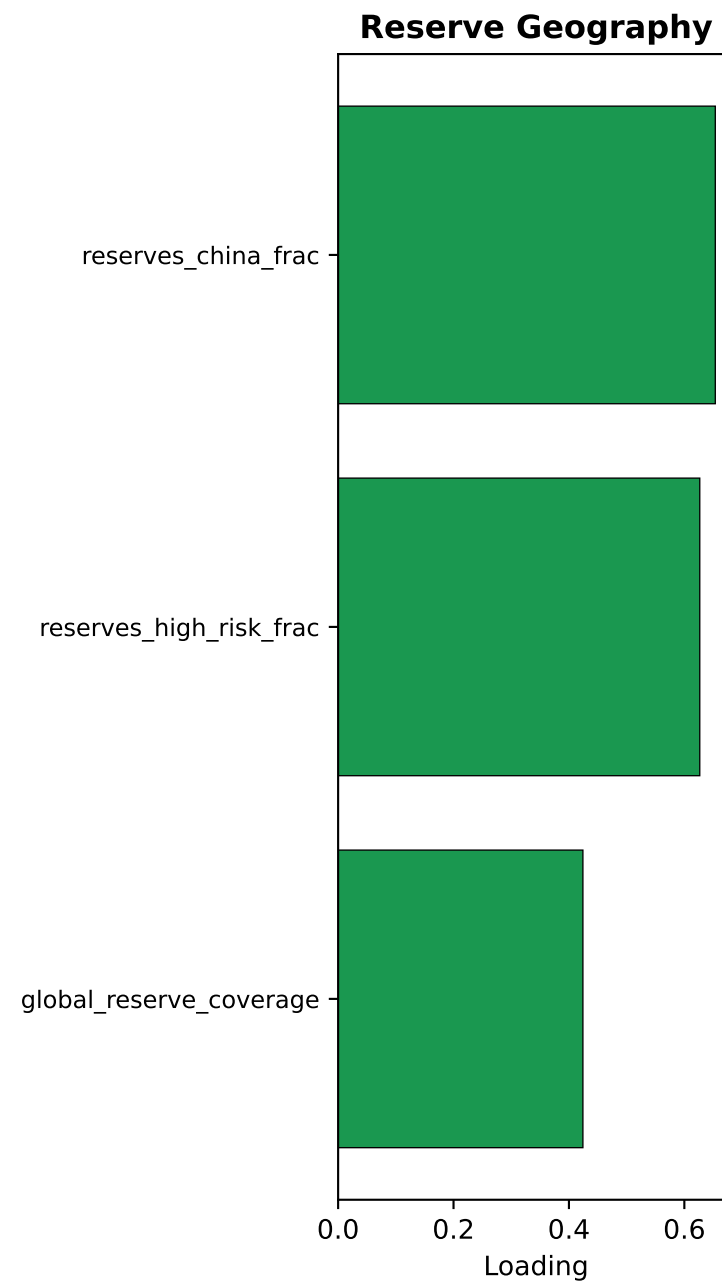
# Sparse PCA Component Interpretation — Materials



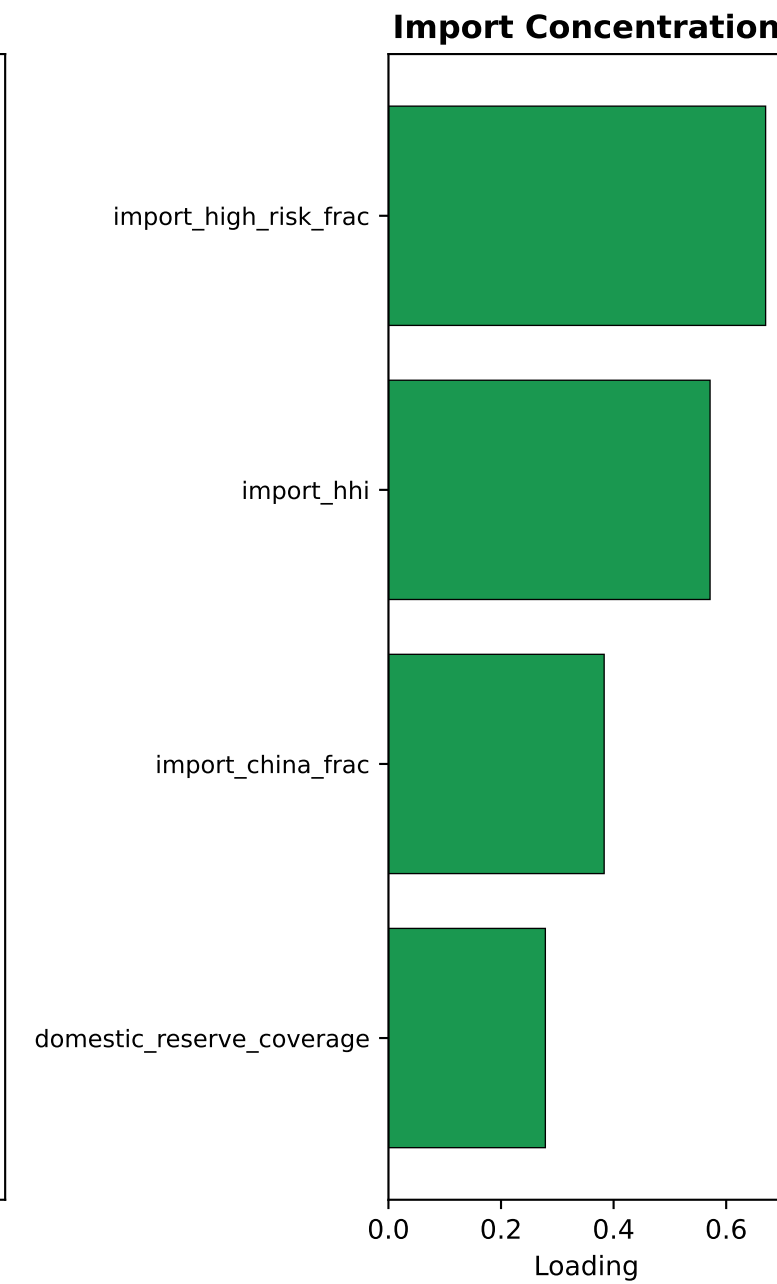
High demand magnitude  
(peak, mean, volatility)



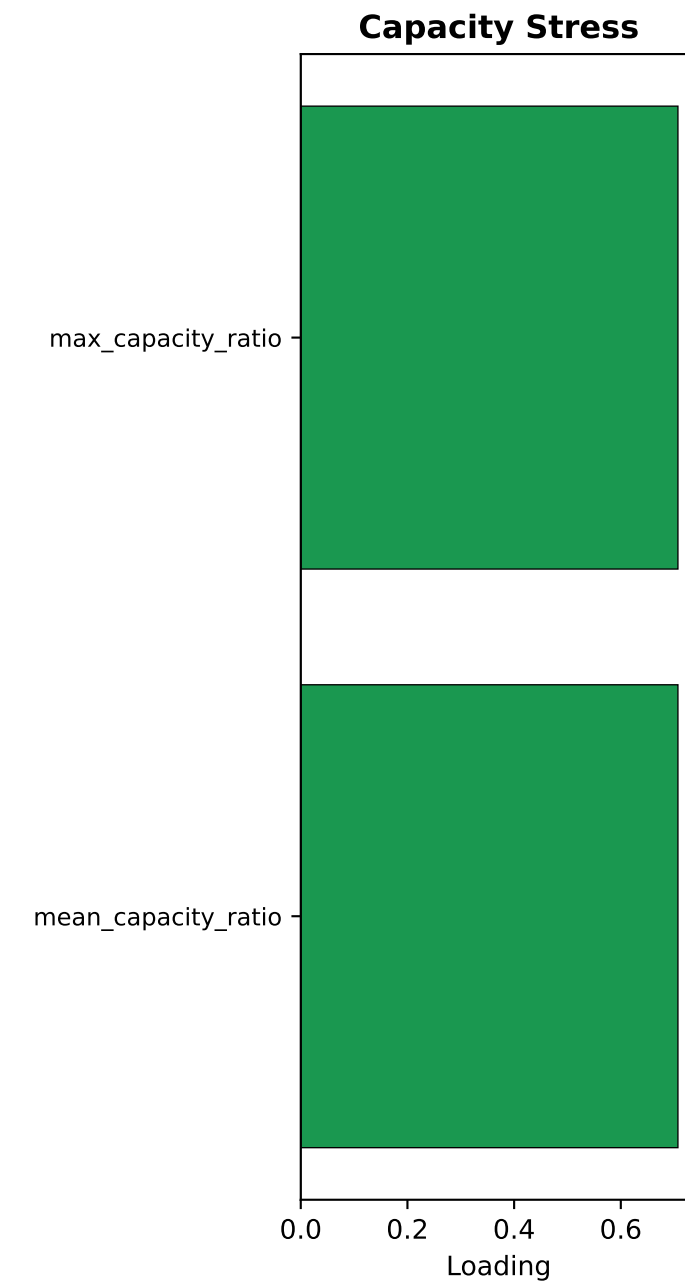
Supply from risky regions  
vs. OECD sources



Reserves in China/  
high-risk countries



Concentrated imports  
from few suppliers



Demand vs. production  
capacity ratio