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GLOBAL OR REGIONAL SAFE ASSETS:

EVIDENCE FROM BOND SUBSTITUTION PATTERNS

EUROPEAN CENTRAL BANK

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Global or Regional Safe Assets:
Evidence from Bond Substitution Patterns

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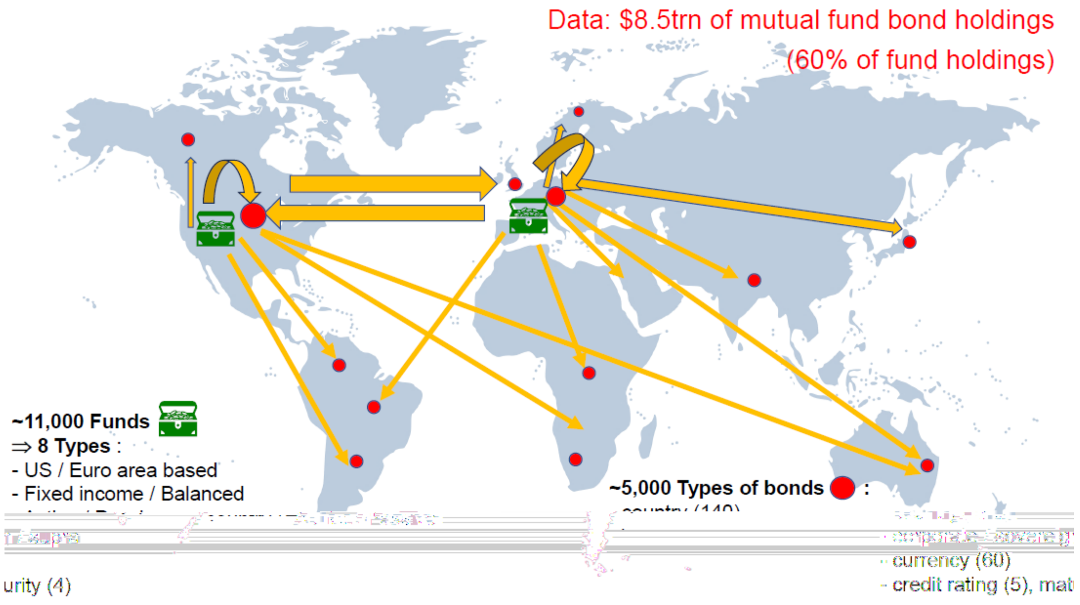
Granular Look at Global Bond Markets

- Role of Global & Regional Safe Assets in International Monetary Policy Transmission
- New perspective: *demand elasticities* of international bond investors
  - *Own* elasticities → degree of portfolio rebalancing
  - *Substitution* elasticities → composition of portfolio rebalancing
  - Estimated at detailed bond level for ~57% of global debt securities
- Lessons:
  - Different Fed *vs* ECB *spillovers* : global (US Treasuries) *vs* regional safe assets (German Bunds)
  - Less substitution between safe and risky assets *during financial crises* → *QE less effective*

- Bond portfolios of US & Euro area mutual funds
  - 2007--2020 *(Morningstar + Refinitiv)*



Bond Demand Model & Elasticities

- B :
  - ✓ Portfolio return maximization
  - ✓ Risks : credit, duration, liquidity, country, FX
  - ✓ Mandates : geographic, asset type
  - ✓ Time-varying risk aversion
  - → Builds on Koijen & Yogo (2019, 2020) : *flexible substitution patterns*

Panel Logit demand functions (per fund type) :

$$\log\left(\frac{w_{i,t}(n)}{w_{i,t}(0)}\right) = \alpha_{T(i)} per^h_{\chi(i),t}(n) + \mathbf{x}^1_t(n)'\beta^1_{T(i)} + \mathbf{x}^2(n)'\beta^2_{T(i)} + \mathbf{b}_i(n)'\theta_{T(i)} + \zeta_{i,t} + \varepsilon_{i,t}(n)$$

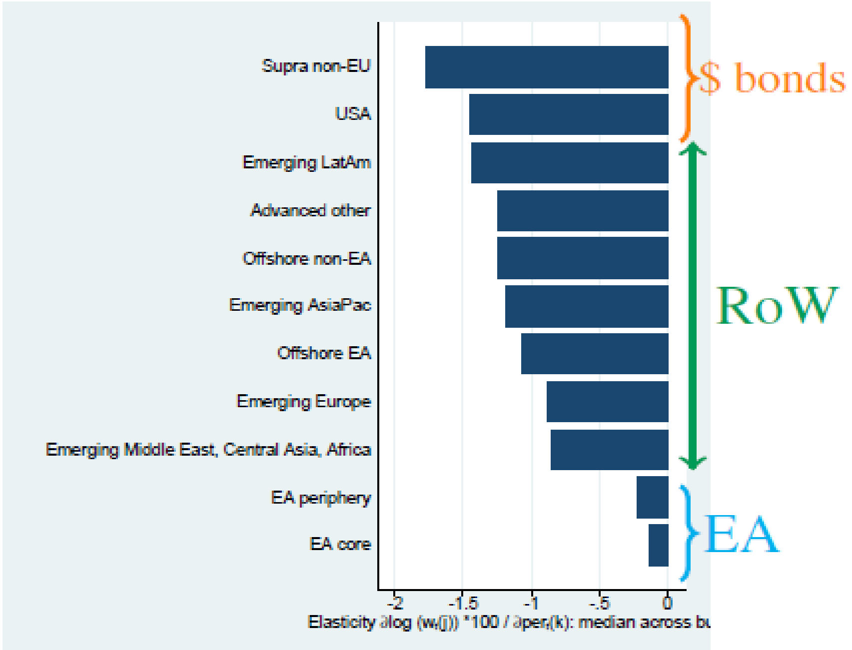
- Instruments for bond returns:
  - Fed & ECB shocks to different *maturities* spill over heterogeneously by bond *country*, *currency* (Miranda-Agrippino & Nenova, 2022)

Substitution elasticities :

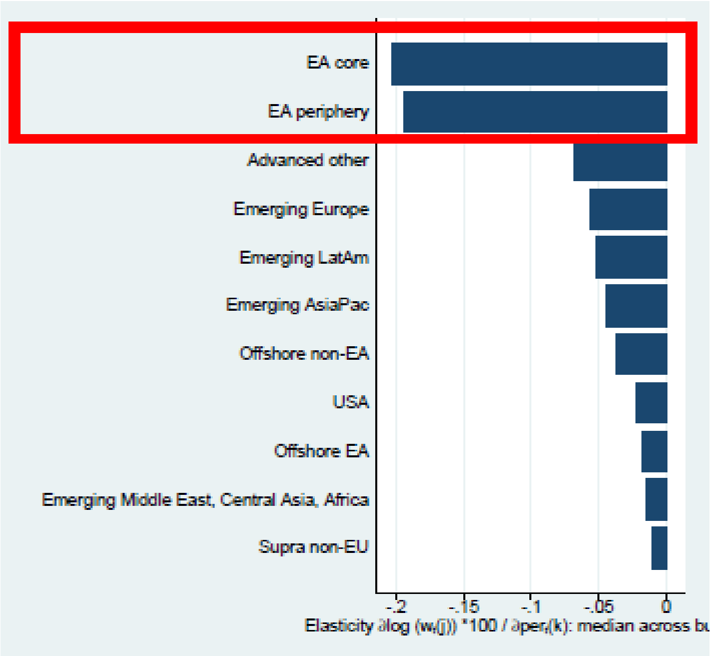
% change in weight of bond *j* in fund sector portfolio in response to 1ppt change in predicted excess return of bond *k*

$$\eta_t(j,k) \equiv \frac{\partial \log(w_t(j))*100}{\partial per_t(k)} = -\sum_i \underbrace{\frac{AUM_{i,t}w_{i,t}(j)}{\sum_i(AUM_{i,t}w_{i,t}(j))}}_{\text{fund } i \text{ footprint}} \underbrace{\hat{\alpha}_{T(i)}}_{\text{estimated return sensitivity}} \underbrace{w_{i,t}(k)}_{\text{exposure to bond } k} *100$$

US Treasuries : Global Safe Asset Spillovers

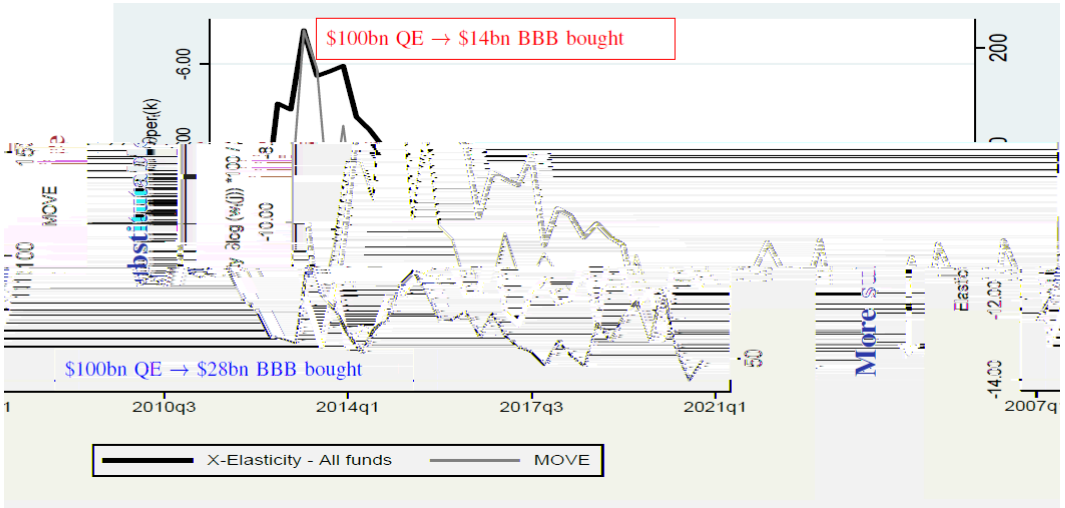


German Bunds : Regional Safe Asset Spillovers



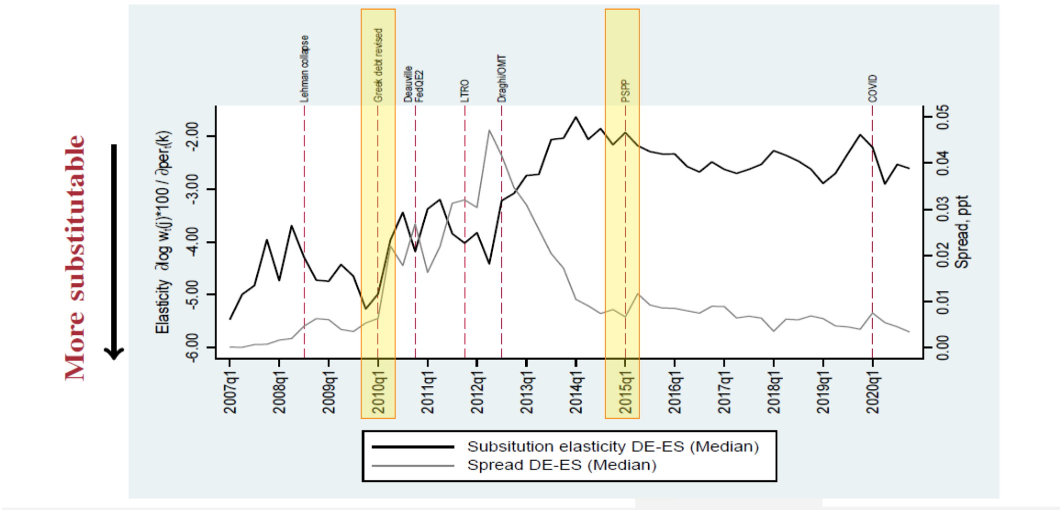
Flights to Safety Impair Monetary Policy Transmission

… between global safe and risky assets



ubstitution elasticity of BBB-rated US corporate bonds with maturity of over 10 years
pt change in predicted excess returns on US Treasury with maturity over 10 years.

… within euro area sovereign bond market



overeign bonds *w.r.t.* 1ppt change in predicted excess returns on German sovereign bonds. *Black line:* Substitution elasticity of Spanish s
within all four maturity buckets (under 1y, 1-5y, 5-10y, over 10y). Median of substitutions