Safe Assets[1]

Markus Brunnermeier & Valentin Haddad

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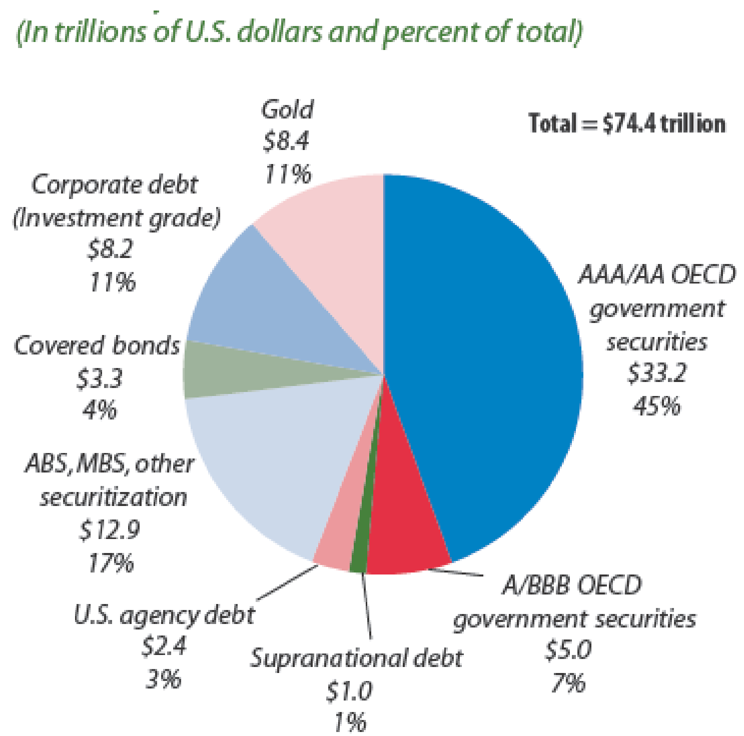
1. Examples of Safe Assets

- Gold
- Reserves, federal funds
- Government paper (without liquidity risk) due to liquidity management by CB (credible defense line against liquidity/panic/speculative attacks)
    - US Treasury + agency papers
    - German Bund
    - Japanese government bond
- Municipal bonds
- Private short-term assets that are (at least implicitly) back with excessive collateral
    - Repos, securitized debt
    - Commercial paper, Interbank loans, high-grade financial sector debt

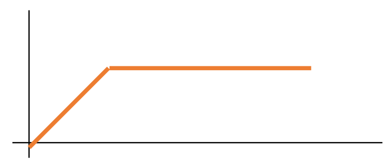


Source IMF: GFSR, April 2012

[1] Based on the academic paper with same title.

2. Different Definitions of Safe Assets:

- Classic view: risk-free asset, gold, debt
- Dang-Gorton-Holmstroem: information insensitive debt
  - (no decline in times of crisis due to asymmetric information)
  - Safe in good times, not safe when moving over the kink



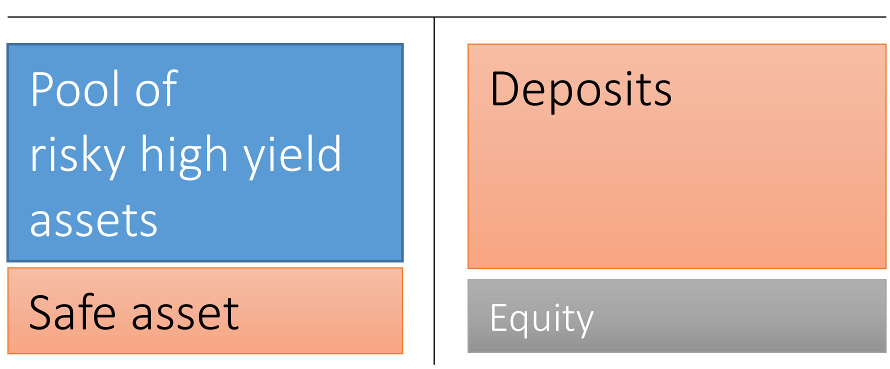
- Caballero Farhi: safe asset = Risk-free asset (inflation risk in reality)
  - Infinitely risk averse
  - wouldn't hold other risky assets
- Brunnermeier-Haddad: **"Good friend analogy"**
  - Safe across any horizon
  - Safe across crisis states (appreciates in times of crisis)

  "Safe Asset Tautology"
  - Safe because perceived to be safe
    (self-fulfilling multiple equilibrium)
  - Bubble

3. Economic Functions of Safe Assets

3.1. Safe asset = Money (close cousin)

- Store of value — store of value
  - Held in addition to more risky high yielding assets

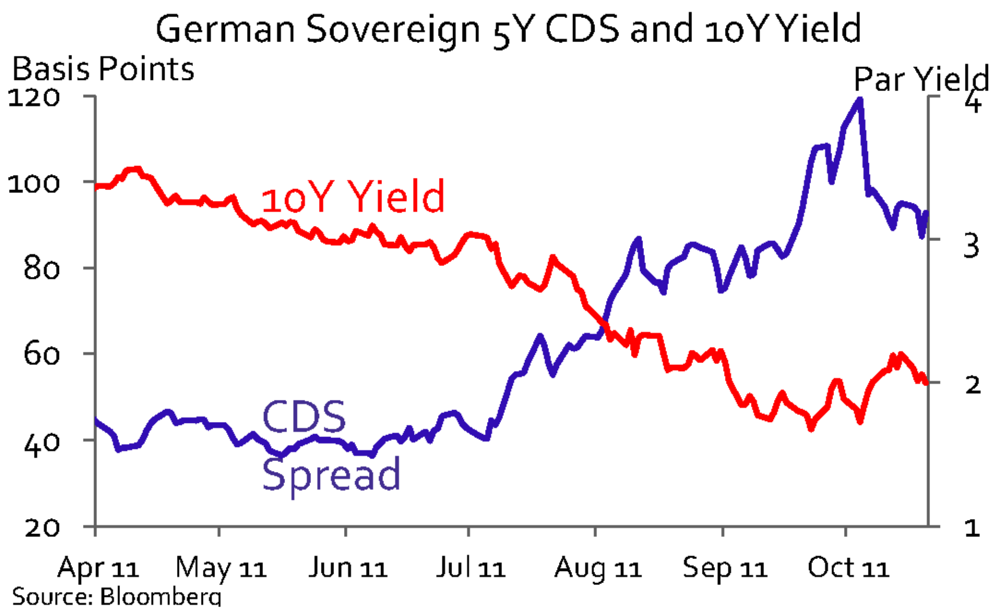


  - Held in order to produce "safe asset".

- Reference/benchmark asset — unit of account
- Good collateral – stable haircut/margins
  - Facilitates financial trades — transactions role of money

3.2. Safety versus Risk

- US Treasury downgrade by S&P in 2011 (due to default risk) => yield declines
- German CDS spread versus yields during the Euro crisis



- Safe Asset versus VIX

4. Characteristics of “safe” assets

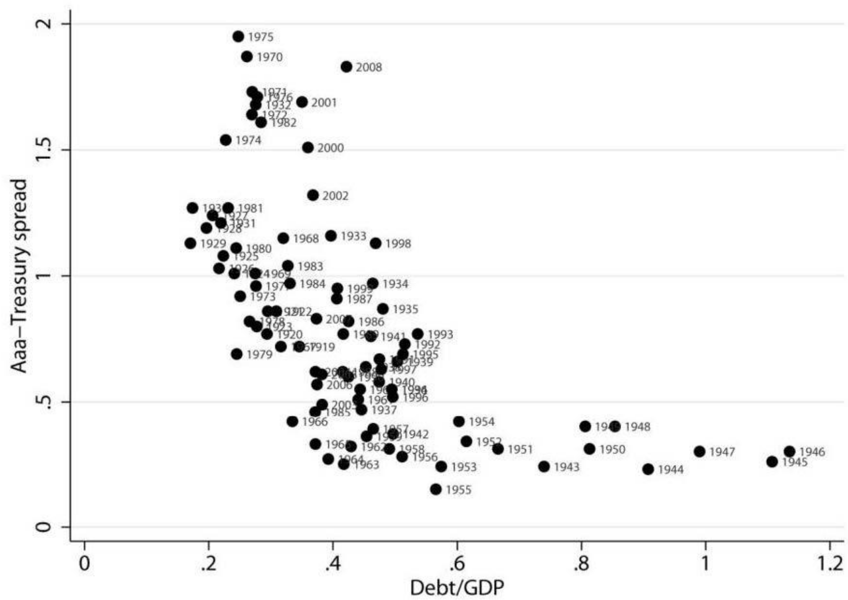
What makes a “safe asset” special?
(Discontinuous versus smooth transition between safe and unsafe asset)

- “Safe Asset Tautology”
  - An asset is safe as long as it is perceived as safe (as a “flight to safety asset”)
  - Endogeneity – multiple equilibria
- Can be a (stochastic) bubble
- “precautionary asset” - tends to appreciate, when one needs resources (negative beta asset)
- Relative stability
  - An asset is safe relative to other assets (not absolute): Tiger analogy
- Demander of safe assets hold profitable risky assets
  - Plot balance sheet (from video)
- IMF GFSR
  - Low credit and market risks
  - High market liquidity
  - Limited inflation risk
  - Limited idiosyncratic risk

5. Long-run Trends

- Safe assets as share of total assets stayed stable since 1952
- Asset to GDP increased by a factor 2.5
    - Equity to GDP ratio was relatively constant (Kaldor 1957)
- Composition of various safe assets changed
    - Treasuries, bank deposits
    - Shadow banking main supplier of safe debt
- Public safe assets crowd out private safe assets (?) Krishnamurthy & Vissing-Jorgensen

6. Demand/Supply (Imbalances) of Safe Assets

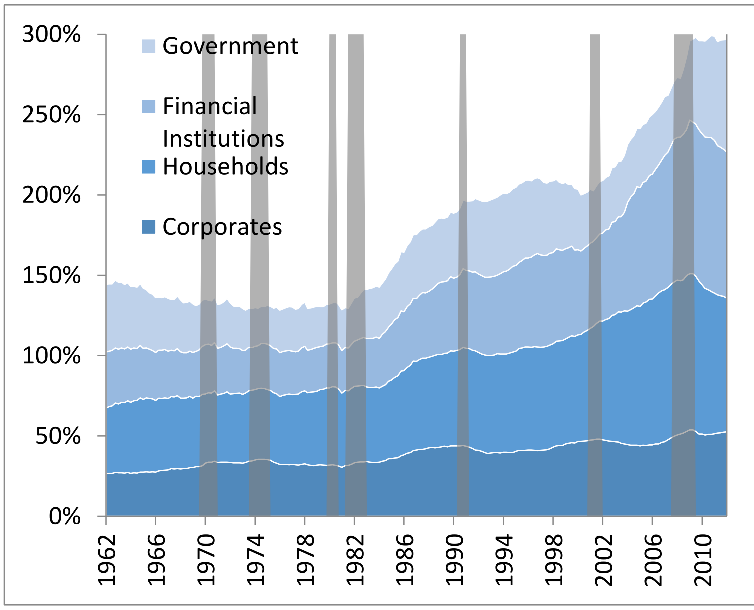


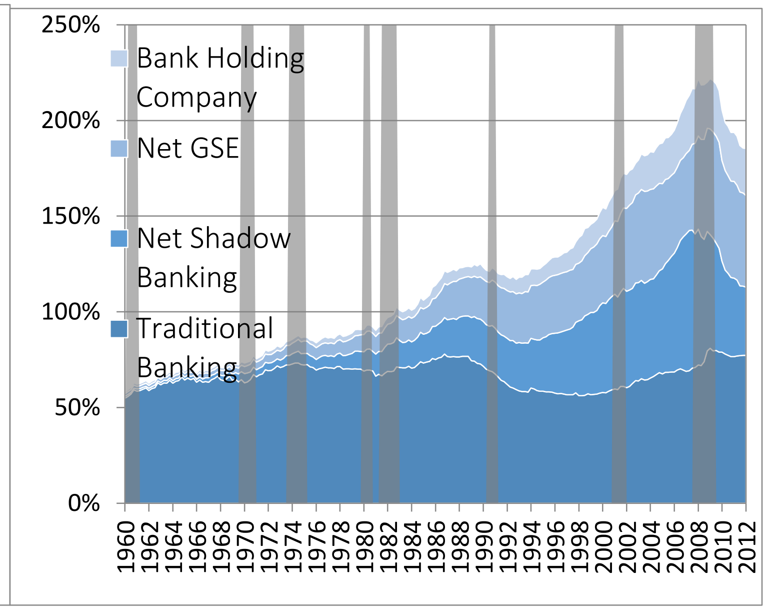
Source: Krishnamurthy & Vissing-Jorgensen, JPE 2012

6.1. Supply

- Public Section

Private Sector





Source: Brunnermeier & Sannikov, “Redistributive Monetary Policy” 2012

6.2. Demand

- Banks – manage solvency and liquidity risk + produce own safe asset
- Official Reserve Managers
- Sovereign wealth funds
    - Heterogeneous – stabilization funds have demand
- Insurance companies and pension funds
- Different investors put different emphasis on different characteristics
    - Spanish bank and Spanish sovereign

6.3. Shortage Debate

- Private safe asset supply (loss of “moneyness”): Equity cushion shrinks
- Micro versus macro debate (store of value – precautionary motive in OLG, Bewley, …)
- QE measures: Remove safe asset – replace it with excess reserves (doesn’t change overall)

7. Safety and Maturity

- Safe assets are useful for liquidity management
- Liquidity mismatch matters
    - Long duration is fine – as long as market liquidity is high (sell off with little price impact) 30 year US Treasury provides safety even if it is funding with overnight debt
    - Consistent with empirical data. (see K&VJ)
- Moneyness at the short-end of the yield curve
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