

Asset Classes

An asset class is a *investment vehicle*.

Three main classes

▶ **Bonds** – “fixed income securities”

Issuers

- ▶ Governmental/agency
- ▶ Corporate
- ▶ Asset backed
 - ▶ Mortgage-backs (packaging private borrowing)
 - ▶ Other assets (packaging corporate assets/borrowing)

Characterizing

- ▶ Maturity?
- ▶ How fixed are payments?
 - ▶ Treasuries – Certain future payments
 - ▶ Floating rate – Uncertain future payments
 - ▶ Bankruptcy risk – additional uncertainty about future obligations met

Three main classes, ctd

Equities/Common Stock

Own a fraction of equity in a corporation – Residual claimant

Listed/Nonlisted

Three main classes, ctd

Derivatives

Value depend on price of other financial asset

- ▶ Futures/Forwards
- ▶ Options
- ▶ Swaps

Wider grouping

- ▶ Equities
- ▶ Bonds
- ▶ Derivatives
- ▶ Mutual Funds/Hedge Funds
- ▶ Private Equity/Venture Capital
- ▶ Real Assets
 - ▶ Real Estate
 - ▶ Infrastructure

Digging deeper

But classification can be more finely specified

- ▶ Equities
 - ▶ Industry-Grouped
 - ▶ Country-Grouped
- ▶ Bonds
 - ▶ Country Grouping, e.g.
 - ▶ Industrialized countries
 - ▶ Emerging Economies
 - ▶ ...
 - ▶ Type of Issuer Grouping, e.g.
 - ▶ Treasury securities (Sovereign debt)
 - ▶ Company debt
 - ▶ ...
 - ▶ Creditworthiness grouping, e.g.
 - ▶ Sovereign debt
 - ▶ Investment grade company debt
 - ▶ High yield company debt (Junk Bonds)

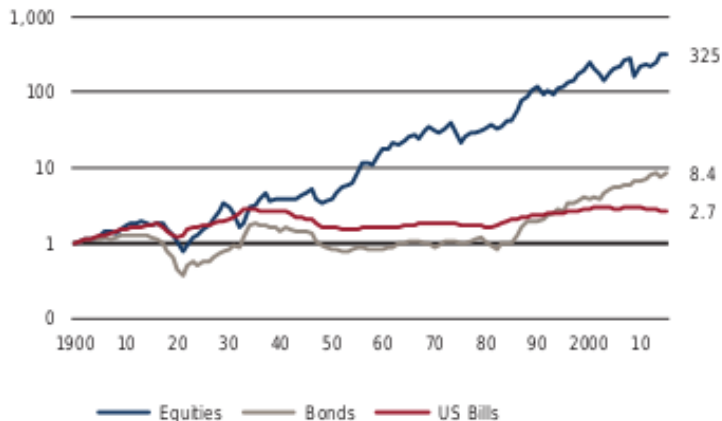
Characterizing asset classes

Key information:

- ▶ Return over time
- ▶ Uncertainty in return over time

Historical performance of the world portfolio

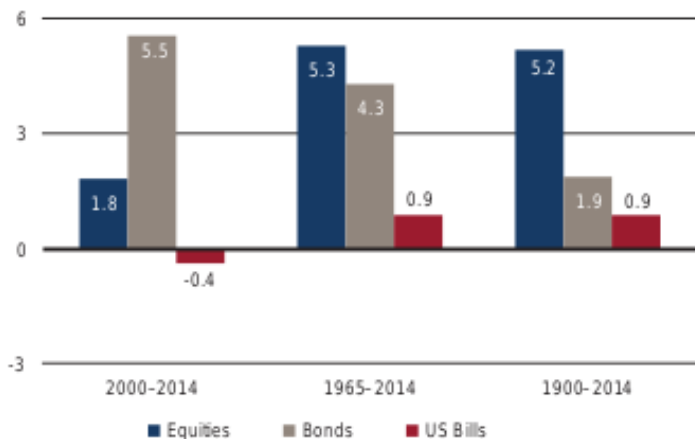
Cumulative real returns from 1900 to 2014



Real (inflation-adjusted) returns. Source Credit Suisse Global Investment Returns Yearbook 2015.

World average returns

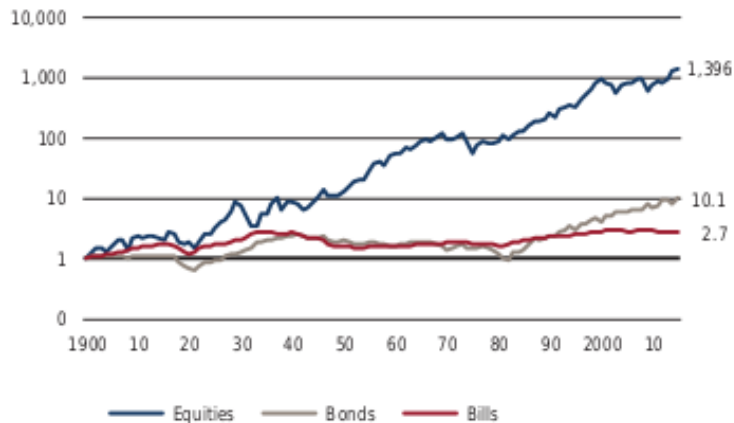
Annualized real returns on major asset classes (%)



Real (inflation-adjusted) returns. Source Credit Suisse Global Investment Returns Yearbook 2015.

Historical performance of the US portfolio

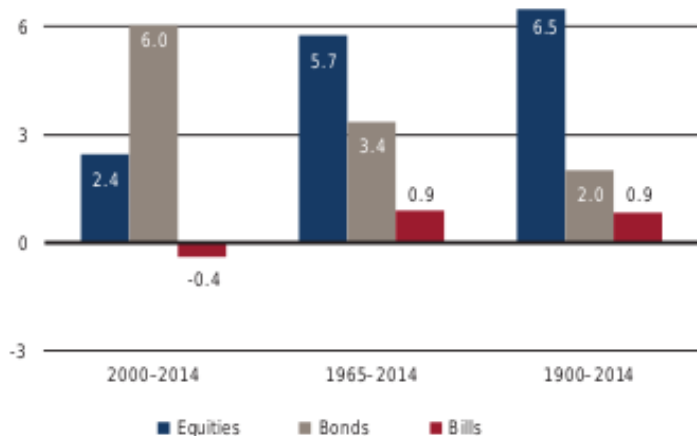
Cumulative real returns from 1900 to 2014



Real (inflation-adjusted) returns. Source Credit Suisse Global Investment Returns Yearbook 2015.

Historical performance of the US portfolio

Annualized real returns on major asset classes (%)



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Historical performance of real estate investments

	CREI	Stocks	Bonds	U.S. REITs
Panel A: Dec 1994–June 2015				
Mean	9.79	8.73	5.39	12.78
Standard Deviation	17.63	15.18	5.52	20.00
Sharpe Ratio	0.41	0.41	0.51	0.51

Source: (Nieuwerburgh, Stanton, and de Bever, 2015, pg 39).

The Market Portfolio

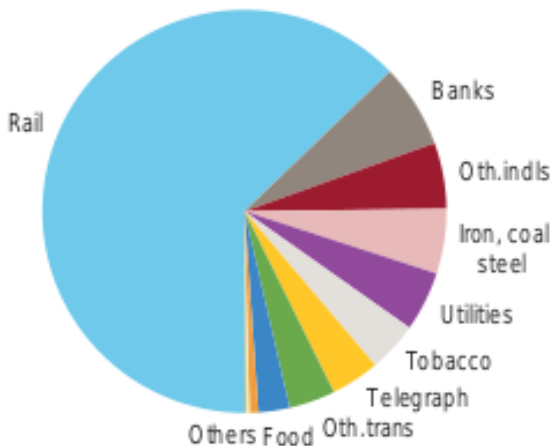
The main components of a country's market portfolio:

- ▶ Government Bonds – debt to the country.
- ▶ Corporate Bonds – debt to largest companies in country.
- ▶ Listed equities – equity of largest companies in country.

By holding the market portfolio of a country, own a “fraction” of country's productive capacity.

The Market Portfolio

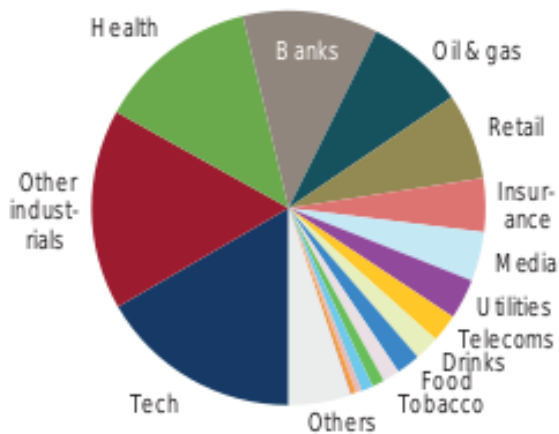
The composition of the US stock market portfolio in 1900.



(If Morgan Kane was investing.)

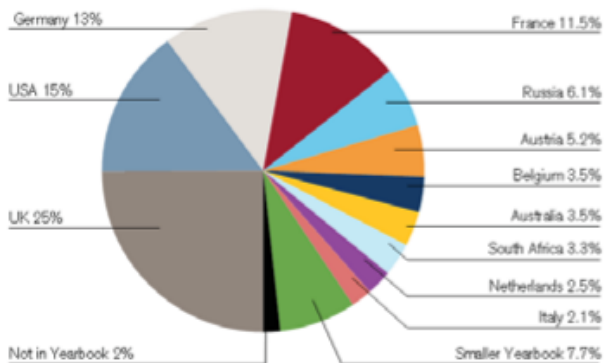
The Market Portfolio

Industry Composition US stock market portfolio 2015



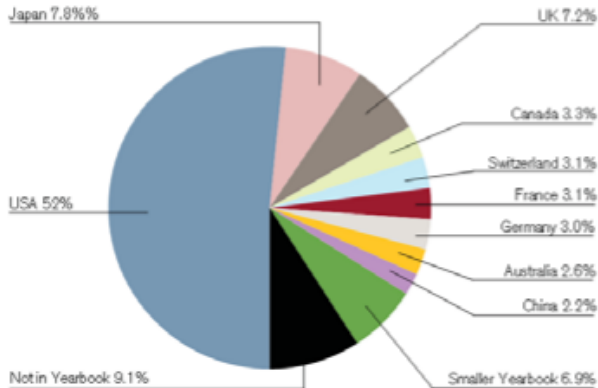
The World Market Portfolio

Country Composition World Stock market portfolio. 1900.



The World Market Portfolio

Country Composition World Stock market portfolio. 2015.



Source Credit Suisse Global Investment Returns Yearbook 2015

Stijn Van Nieuwerburgh, Richard Stanton, and Leo de Bever. A review of real estate and infrastructure investments by the Norwegian Government Pension Fund Global (GPFG). Report submitted to the Norwegian Ministry of Finance, December 2015.