Bundlers
266: Financial Markets and Institutions

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- **...**
  - Asymmetric information drives the economy toward 'neither a borrower nor a lender be'
  - Indirect finance through banks is one solution

    But...

- **The problem with banks**
  - Fragile: Gives rise to heavy regulation and deposit insurance
  - Costly: relationships are hard
  - Inflexible: takes time to build/rebuild relationships.

    In a fast moving economy, this can be a problem

- **Arm's length finance**
  - Alternative to banks is much less-heaviliy-mediated finance

    Note: Text says 'direct vs. indirect' more accurate is probably less heavily vs. more heavily mediated finance

  - But arm's length finance is troubled by the 'the golden contradiction' of finance

- **2 Golden Rules, 1 Golden Contradiction**
  - 1. Diversify: spread your funds widely over myriad different assets
  - 2. Don't invest in anything you don't deeply understand and monitor

    hmmm...

- Of course, you also have to keep your day job, raise your family, and keep up on your stamp collecting hobby.
- If they diversify, most people will have only limited understanding of both the market mechanisms and underlying investments that they deal with

► **Overall,**

- A main element of financial innovation is the push toward broad participation in arm's length finance
- And a main element in that push is helping ultimate wealth-holders (mainly individuals) overcome the golden contradiction.

  That is, how can they invest their money wisely with limited knowledge and understanding.

► **How do we hold nonbank wealth?**

- Directly

  go to a broker and buy a stock, bond, or other financial instrument

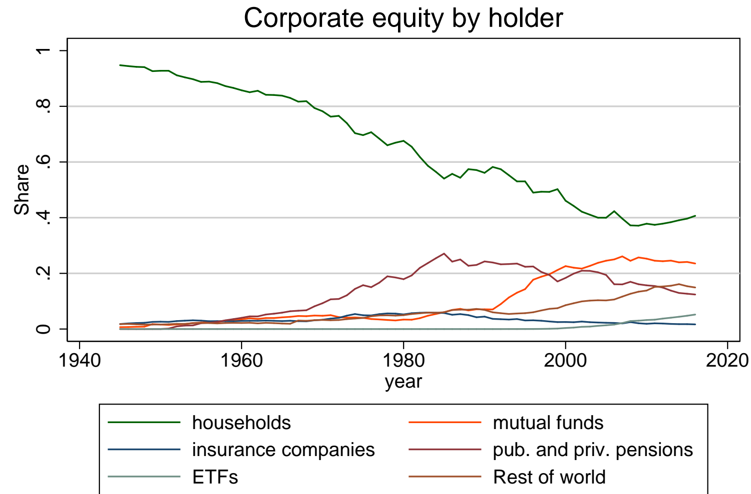
- Semi-directly:
  - mutual funds
  - exchange traded funds
  - 'Alternative' funds

    Hedge funds and private equity funds
- Indirectly:
  - insurance companies
  - pension funds
  - In some countries, sovereign wealth funds.

► **Today**

- I'll give some sense of i) what these are, and ii) how big they are, iii) how they overcome the golden contradiction.

► **How are equities held?**

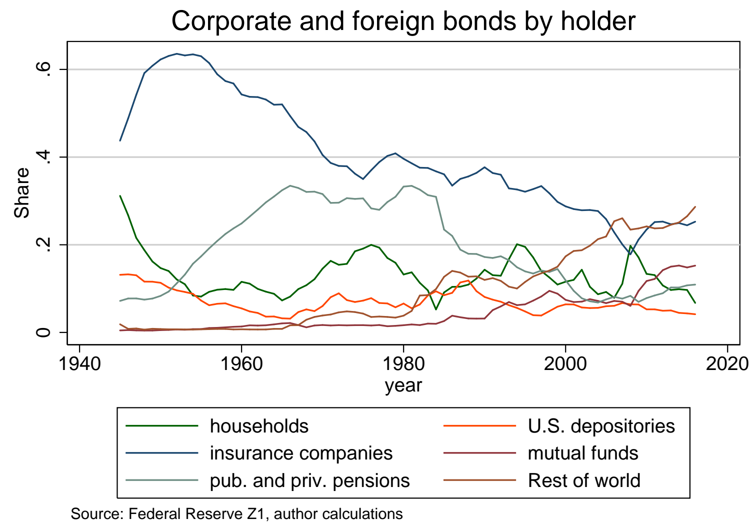


- U.S. Household direct holding has fallen consistently as a share

  Now around 40%

- Rest of World, pensions, and mutual funds now each about 20%
- ETFs small but rising

▶ **How are bonds held?**



- In 1960s, insurance companies and pensions held about 80 %
- Now much more mixed.
- Insurance companies and foreigners hold about half in total, mutual funds are next.

▶ **Insurance companies**

▶ **Insurance companies**

- Insurance companies: invest premia paid by customers so as to be able to meet payout obligations
- Size (U.S. assets): \$8 t
  - Property & Casualty: ≈ \$2t;
  - Life: \$6t
- Source: Flow of funds data

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  http://www.federalreserve.gov/releases/z1/Current/

▶ **Shakespeare problems**

- Of course, insurance is the area where classic information problems such as moral hazard are most obvious.
- Both sides:
  - Insurance buyers: why should I believe you'll payoff when you are supposed to?
  - Insurance sellers: why should I believe you won't kill your spouse for the money.

▶ **Regulation**

- Highly regulated: in the last couple decades, insurance companies don't fail

  Folks don't need to spend a lot of time checking up on the financials of their insurance company in order to have confidence that the payoff would be there if needed.
- U.S. regulation largely at the state level

▶ **But. . .**

- Certain life insurance products and annuities offered by life insurance companies have the same character as pensions described below.
- The extended period of abnormally low (by historical standards) interest rates may is putting stress on life insurers

  But I'll mainly discuss this in the context of pensions . . .

▶ **How do insurance companies manage moral hazard?**

- Same thing we've been saying all term: screen ex ante and monitoring and restrictions on behavior ex post

- Deductible and coinsurance: the insured has to pay for part of the costs due to the insured event happening

  akin to 'risk retention' rules in asset-backed securities

- Fraud laws

▶ **Pension funds**

- Assets of pensions, private and public: $18t

  about half private/half government

▶ **Pension fund types**

- Defined benefit

  the plan promises certain payments during retirement

- Defined contribution

  The plan requires employer and/or worker to make certain contributions. These are invested, often at the discretion of the worker. Pay out is simply determined by the investment outcome.

▶ **For this class**

- Defined contribution is just a form of savings that has some special regulatory and tax issues

  but no new or special issues arise in thinking about these investments

▶ **Defined benefit**

- Defined benfit plans are much more subtle
- You make payments while working and are promised certain specified payments when retired

  e.g. $10,000 /month until you die.

- These used to predominate in the U.S., now becoming very rare.

▶ **Defined benefit pensions: the problem**

- Company promises you a pension

  that pension is a nontrivial part of compensation and part of why you come to work each day

- Company goes broke
- And you learn that you were a long-term unsecured creditor to the firm

▶ **Companies have only weak incentives to properly put away reserves today to pay the future benefits**

- **The private market**
  - The workers, in this scheme, look like unsecured creditors
  - If you are an unsecured creditor to anyone, you have an incentive to monitor, impose covenants, require collateral
  - Yeah, try telling your boss that...

    Uh, I'd rather you didn't make that stupid decision because it threatens my pension.

- **Thus,**
  - Problems were rampant with private pensions
  - And today, there is a potential pension crisis brewing

    both public (state and local) and private pensions

- **The fix!?!**
  - The various laws have evolved regarding pension accounting and requiring setting aside of reserves by firms

    ERISA, employee retirement income security act (1974), Pension Funding Equity Act (2004) Pension Protection Act (2006)
  - ERISA created PBGC: Pension benefit guarnaty corp.

- **PBGC**
  - PBGC strategic plan:

    'The Pension Benefit Guaranty Corporation (PBGC) is a federal corporation established under the Employee Retirement Income Security Act of 1974 (ERISA). ERISA established PBGC to insure, subject to statutory limits, benefits for participants in private defined benefit pension plans in the United States'

- **...** Congress doesn't promise adequate money, sets the premia that PBGC can charge, and then

  gives PBGC a mandate to pay out more than it takes in!?!

- **PBGC**
  - PBGC strategic plan:

    'The agency's financial condition continues to be unsound, with significant program deficits and few tools to correct them.'

- **PBGC**

- PBGC Strategic Plan, FY2012-2016

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  http://www.pbgc.gov/documents/2012-2016strategicplan.pdf

▶ **Note**

- looming pension crisis
- Includes Social security, state and local pensions, and private pensions
- Partly attributable to demographics

  With baby boom, the share of retirees relative to prime age is shifting in an unfavorable way from the standpoint of paying off pensions

- And these demographics are worse in many European countries

▶ **The solution?**

- Economic growth? If we return to strong growth many problems become much more manageable.
- Immigration? Allow the labor force to grow relative to the retired population

  This one doesn't seem so politically viable just now.

- Delayed benefits? Later retirment age, perhaps justified by longer, healthier lives.
- Society faces some tough choices here.

▶ **Sovereign wealth funds**

- Some governments collect and invest wealth on behalf of their citizens.
- Often this wealth is associated with the sale of some natural resource such as oil.
- The idea is that the oil or other resource is owned by the current *and future* citizens collectively and the proceeds from selling it should be collectively managed for the good of all.
- We won't get much into the rationale for sovereign wealth funds or into how they should be managed.
- We simply note that at around $7 trillion they are large enough collectively to be a major player in the investment world.

  Sovereign Wealth Fund Inst. go

  http://www.swfinstitute.org/sovereign-wealth-fund-rankings/

▶ **Mutual funds**

- Each fund invests in a well-defined and fairly tightly circumscribed set of fairly liquid marketable assets
- Individuals do not have direct claim to the assets, they own claims to a share of the fund
- Regulated so that the risk of fraud is low

  fund mainly accepts inflows (sells shares), channels those inflows according to prescribed rules, and routes the payoffs back to the shareowners.

- Can move in and out of the funds pretty easily, but like bank deposits inflows and outflows are processed at the close of business

  And there may be other restrictions

- Thus, on a day when the market is falling, you can't get out mid-day

▶ **Varieties**

- Money market

  Hold only very short-term, highly liquid assets.

- Bond funds

  Self explanatory

- Equity funds
  - Passive: Invest based on some fixed, nondiscretionary, rule, e.g., mirror the S&P 500.
  - Active: Try to be clever in selecting equities so as to deliver a higher return than some index benchmark.

▶ **Aside:: Active v Passive**

- It is pretty cheap to run a passive funds, so transactions costs and fees are low
- A good active fund requires paying sophisticated folks to make good decisions

  This is very expensive.

- As a general rule, active funds lose money for their investors relative to passive alterantives

  That is, after the fees are deducted the investors consistently earn less than they would net in a passive fund.

▶ **Mutual funds and Shakespeare**

- Mutual funds are pretty transparent, and simple to run and regulate.

  Thus, you can trust that there is no outright fraud

- And passive funds are pretty easy to understand
- Thus, agents can invest without any heroic learning, study, or monitoring.
- As for active funds, you can trust the lack of fraud part, but it is very hard to understand whether the manager's insights (which are proprietary) warrant the fees.

▶ **Closely related: ETF (exchange traded funds)**

▶ **ETFs**

- ETFs are very much like mutual funds in allowing you to buy shares the value of which reflect some underlying, well-defined pool of assets.
- Main difference: the ETF shares are traded throughout the day on exchanges

    Thus, you can get in and out as you like

▶ **Size of mutual funds and ETFs**

- Total mutual funds and ETF worldwide: about $30 trillion, U.S. about $18 trillion
- These numbers come from ICI factbook 2015.

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    http://www.icifactbook.org/pdf/2015%5Ffactbook.pdf

- U.S. mutual funds: $16t, ETFs, $2t
- ETFs relatively new; still smallish, but growing.

▶ **Hedge fund vs. private equity**

- Hedge fund: playing risky strategies in liquid financial markets
- Private equity: taking longer-term positions in fairly illiquid large positions in individual companies

    LBO, Venture capital (capital for startups), distressed investments

- Both: Lightly regulated

    Idea is that everyone who invests is sophisticated and doesn't want or need protection

▶ **Details:**

- Guest speaker next time will cover these

▶ **Size**

- Less than $5t

- source: AIMA

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  http://www.aima.org

- **Private equity**
  - Private equity funds invest in longer-term less liquid investments
  - For example, you buy a distressed company and attempt to reorganize it

    e.g., Chrysler

- **Size**
  - Private equity similar in size to hedge funds, $\$ < 5t$