FINA 1303

THE BUY-SIDE: INSTITUTIONAL INVESTORS

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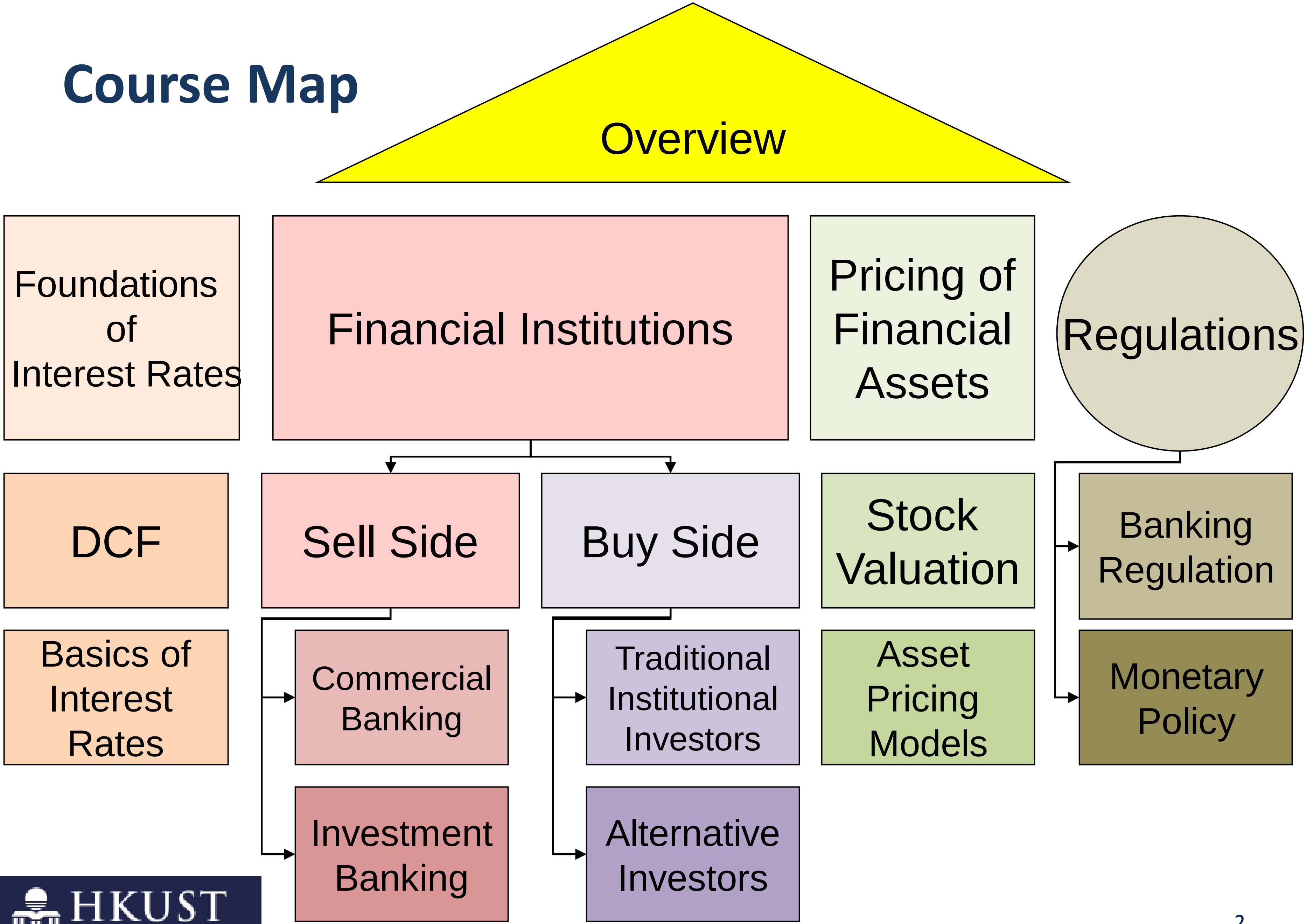
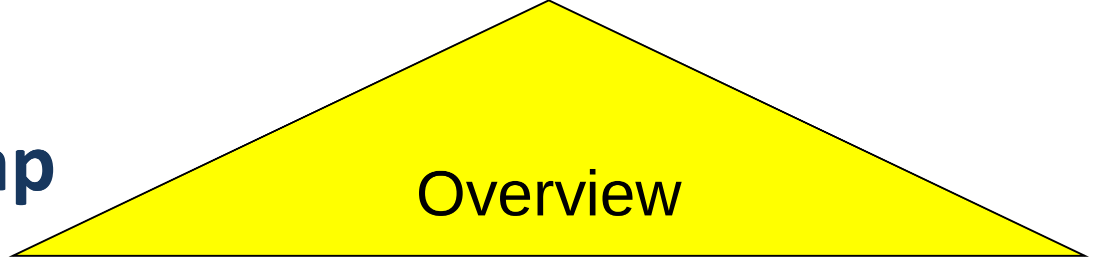
Course Map

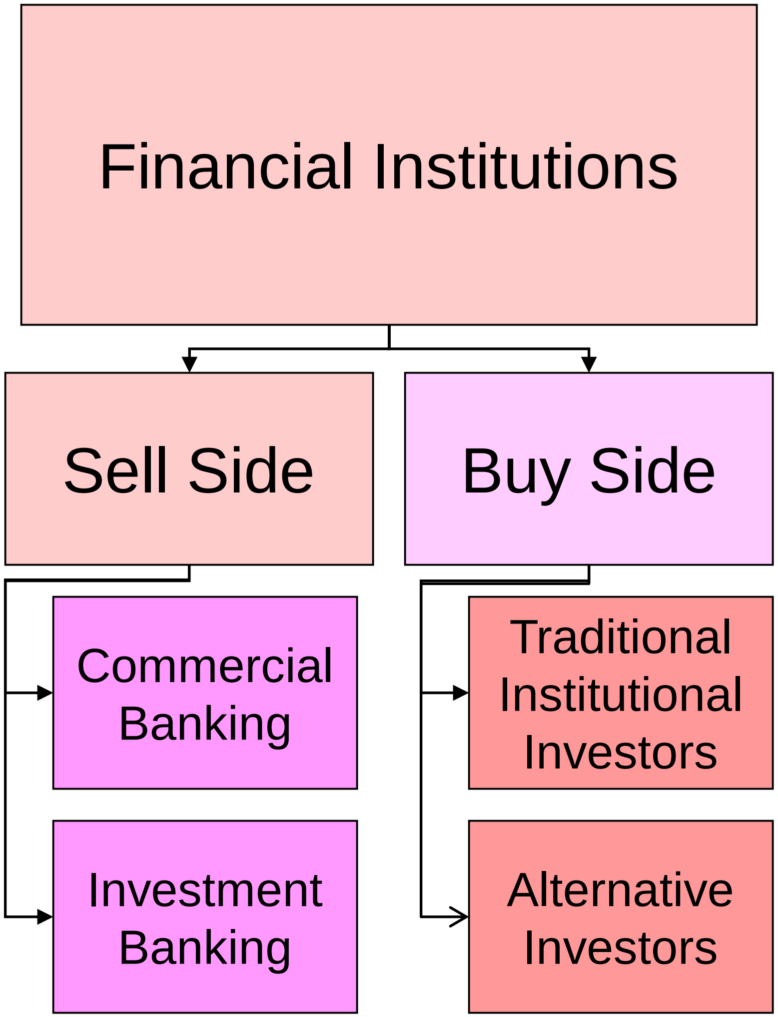

Overview
Foundations of Interest Rates
Financial Institutions
Pricing of Financial Assets
Regulations
DCF
Sell Side
Buy Side
Stock Valuation
Banking Regulation
Basics of Interest Rates
Commercial Banking
Traditional Institutional Investors
Asset Pricing Models
Monetary Policy
Investment Banking
Alternative Investors

The Buy-Side

- Traditional Institutional Investors:
  - Insurance Companies
  - Pension Funds and Retirement Schemes
  - Mutual Funds & Funds Management
- Alternative Investors:
  - SWF
  - Hedge Funds
  - VC Firms & Private Equity

Course Map





1. **Insurance Companies**
2. Pension Funds and Retirement Schemes
3. Mutual Funds and Fund Management

Insurance Companies

- Definition
- Fundamentals of insurance
- Business model and organization of insurance industry
- Types of insurance
- Insurance in HK

Definition of insurance

- Insurance provides indemnification against loss or liability from specified events and circumstances which may occur or be discovered during a specified period (FASB 113)
- The essence of insurance is the **transfer of risk** from the insured to one or more insurers
- Insurance companies are **financial intermediaries** who collect premiums and invest them in securities and other financial assets

Definition of Insurance

- Benefit provided by a particular kind of indemnity contract, called an **insurance policy**
- Issued by one of several kinds of legal entities, any of which may be called an **insurer**
- In which the insurer promises to pay on behalf of or to indemnify another party, called a **policyholder or insured**
- That protects the insured against loss caused by those perils subject to the indemnity in exchange for consideration known as an insurance **premium**

Fundamentals of Insurance

Seven basic principles all insurance companies are subject to:

1. **There must be a relationship between the insured and the beneficiary.** Further, the beneficiary must be someone who would suffer if it weren't for the insurance.
   – **'Insurable Interest'** is the right of the policyholder to effect insurance, arising out of certain relationships that may exist between the policyholder and the subject matter insured. Generally speaking, if the policyholder suffers direct losses arising from the subject matter's meeting with misfortune, then Insurable Interest exists. Without Insurable Interest, insurance protection would be speculative in nature, and not be enforceable under the law

Source: Mishkin/Eakins

Fundamentals of Insurance (Cont)

2. **The insured must provide full and accurate information to the insurance company.**

   The insurer trusts the policyholder to give precise and true details of the subject matter to be insured. This is called **the principle of 'Utmost Good Faith'**

3. **The insured is not to profit as a result of insurance coverage**

   By the **principle of 'Indemnity'**, an insurance policy compensates the policyholder only to the extent of the value of the property which he has lost, hence a policyholder should not expect to make any profit from a claim.

4. **If a third party compensates the insured for the loss, the insurance company's obligation is reduced by the amount of the compensation**

   For policies to which 'Indemnity' applies, the purchase of several policies to cover the same subject matter will not result in the obtaining of claims payments of several times the value of the subject matter. The insurers simply 'contribute' to make up the amount payable as if only one policy had been issued.

Source: Mishkin/Eakins

Fundamentals of Insurance (Cont)

5. **Large number of homogeneous exposure units**
   – The insurance company must have a large number of insured so that the risk can be spread out among many different policies (to apply the **law of large numbers**) – but there are exceptions to this rule (e.g. Satellite Launch insurance)
6. **Calculable loss: the loss must be quantifiable**
   – For example, an oil company could not buy a policy on an unexplored oil field
7. **The insurance company must be able to compute the probability of the loss occurring**

The **law of large numbers** says that when many people are insured, the probability distribution of the losses will assume a normal probability distribution, which allows accurate predictions

Source: Mishkin/Eakins

Summary

- definition of insurance
- 7 basic principles of insurance

Test your understanding

- Which principle of insurance most distinguishes insurance from derivatives?
  - Insurable Interest
  - Utmost Good Faith
  - Indemnity
- Which principle of insurance explains why you can buy health insurance cheaper through your employer than individually?
  - Insurable Interest
  - Law of Large Numbers
  - Indemnity

Why get insured?

- Premiums are likely to be more than the expected loss → why get insurance?
- If there is no insurance:
  - Need to set aside reserves for losses
  - Reserves cannot be invested long term as need to be immediately accessible in case of loss (liquidity) => low return
  - Worry that level of reserves may not be adequate to cover the loss
- Most people are risk-adverse: they would rather pay a certainty equivalent (the insurance premium) than accept the gamble that they will lose their house/car → insurance allows peace of mind that a single event can have only a limited financial impact
- Trade-off: cost of premium vs. probability of occurrence and likely loss

How do insurance companies make profits?

Profit = earned premium + investment income - incurred loss - underwriting expenses

Insurers make money in two ways:

1. Through **underwriting**, the process by which insurers select the risks to insure and decide how much in premiums to charge for accepting those risks;
   - An insurer's underwriting performance is measured in its combined ratio which is the ratio of losses and expenses to premiums. A combined ratio < 100 % indicates underwriting profitability, while anything over 100 indicates an underwriting loss. A company with a combined ratio over 100% may nevertheless remain profitable due to investment earnings
2. By **investing** the premiums they collect from insured parties
   - Insurance companies earn investment profits on “float”. “Float” or available reserve is the amount of money, at hand at any given moment, that an insurer has collected in insurance premiums but has not paid out in claims

Insurance industry organization

- Distribution
  - Independent **agents** may sell the insurance products of a number of different insurance companies
  - Exclusive (captive) agents only sell the products of one company
  - Nowadays most insurance companies use multiple distribution channels, including banks, professional organizations, and market places
  - In the US, since 1999 other financial institutions have started competing directly with insurance companies to provide insurance service (e.g. bancassurance)
- Underwriting
  - An **underwriter** reviews each policy prior to its acceptance to determine if the risk is acceptable.
- Claims
  - The **claim adjuster** undertakes a thorough investigation of each claim, usually in close cooperation with the insured, determines if coverage is available under the terms of the insurance contract, and if so, the reasonable monetary value of the claim, and authorizes payment.

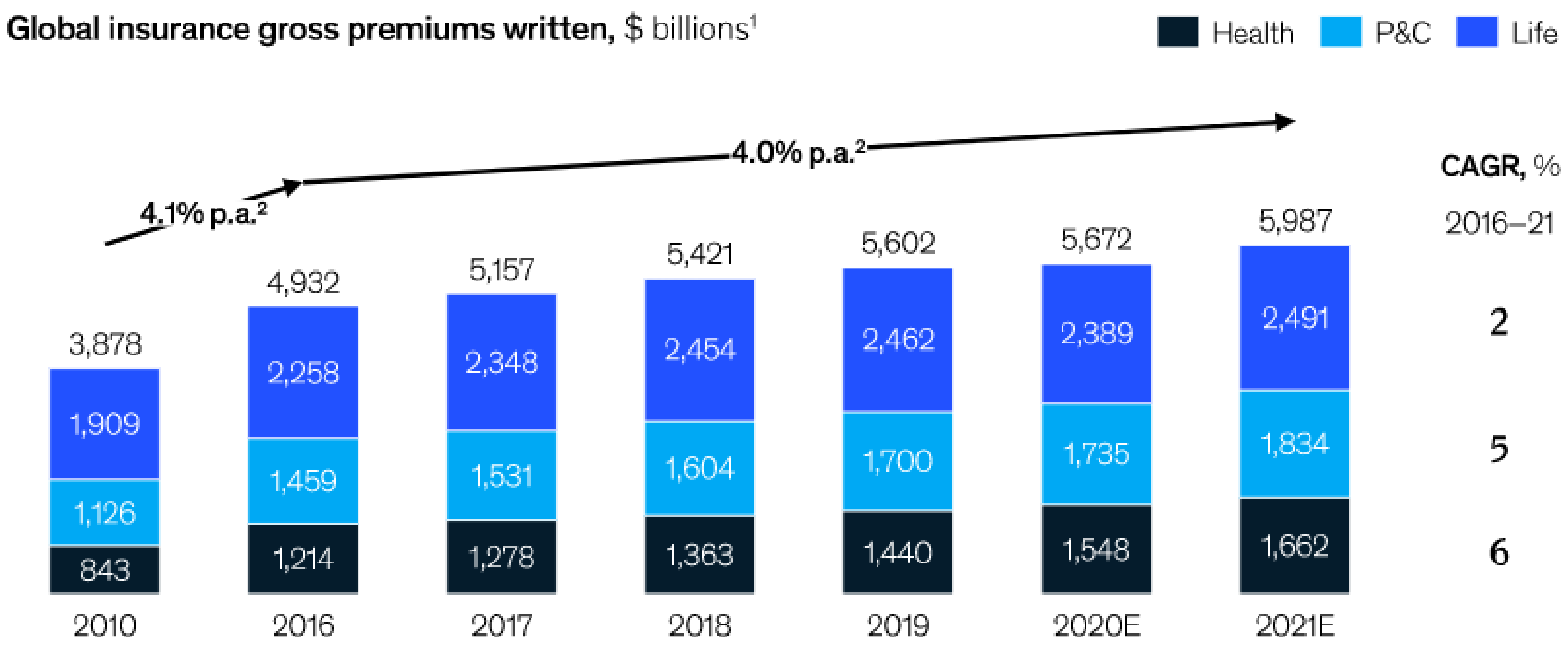
Summary

- reasons to get insured
- business model for insurance companies

Test Your Understanding

- How do insurance companies make profits?
  - Paying out less in claims then they receive in premiums
  - Investing the float to generate income
  - Premiums less claims paid plus investment income less operational expenses
  - None of the above

Global Insurance 2010-2021



Source: McKinsey Global Insurance Report 2022

Life Insurance

Basic products of life insurance

- **Life Insurance**: pays off if the insured dies
  - **Term Life**: the insured is covered while the policy is in effect, usually 10–20 years – no savings element
  - **Whole Life**: similar to term life, but allows the policyholder to borrow against the policies cash value. When the term of policy expires, the insured can get the cash value of the policy
  - **Universal Life/Endowment Life/Variable Life**: includes both a term life portion and a savings portion (savings component)
- **Disability**: pays off if the insured becomes unable to continue working due to illness or accident
- **Annuities**: pays a benefit to the insured until death, to cover retirement years

Life insurance companies can provide *retirement benefits* as well as life insurance: source of convergence of financial institutions

Source: Mishkin/Eakins

Life Insurance

Three basic classes

- **Ordinary** Life
  - Term Life
  - Whole Life
  - Endowment Life
  - Variable Life
  - Universal Life and Variable Universal Life
- **Group** Life
- **Credit** Life

Three major other activities of life insurance companies:

- Sales of **annuities**
- Private **pension** plans
- Accident and **health** insurance

Annuities represent the reverse of life insurance. They involve different methods of liquidating a fund over a long period of time, such as paying out a funds' proceeds to the beneficiary.

Source: Saunders/Cornett

Health Insurance

The US government is also involved in health insurance through Medicare and Medicaid. Medicare provides coverage for the elderly, and Medicaid provides coverage for people on welfare.

- Health insurance policies are highly vulnerable to the **adverse selection** problem
  - Those with known or expected health problems are more likely to seek coverage
  - This is why most health insurance is offered through **group policies**. Individual policies must be priced assuming adverse selection
- Hot topic in the political environment, focusing on increased costs and availability of coverage
  - Insurance programs are attempting to shift costs to the employers
  - Health Maintenance Organizations (HMOs) are another attempt to keep costs down

Key issue: spiraling costs of health care

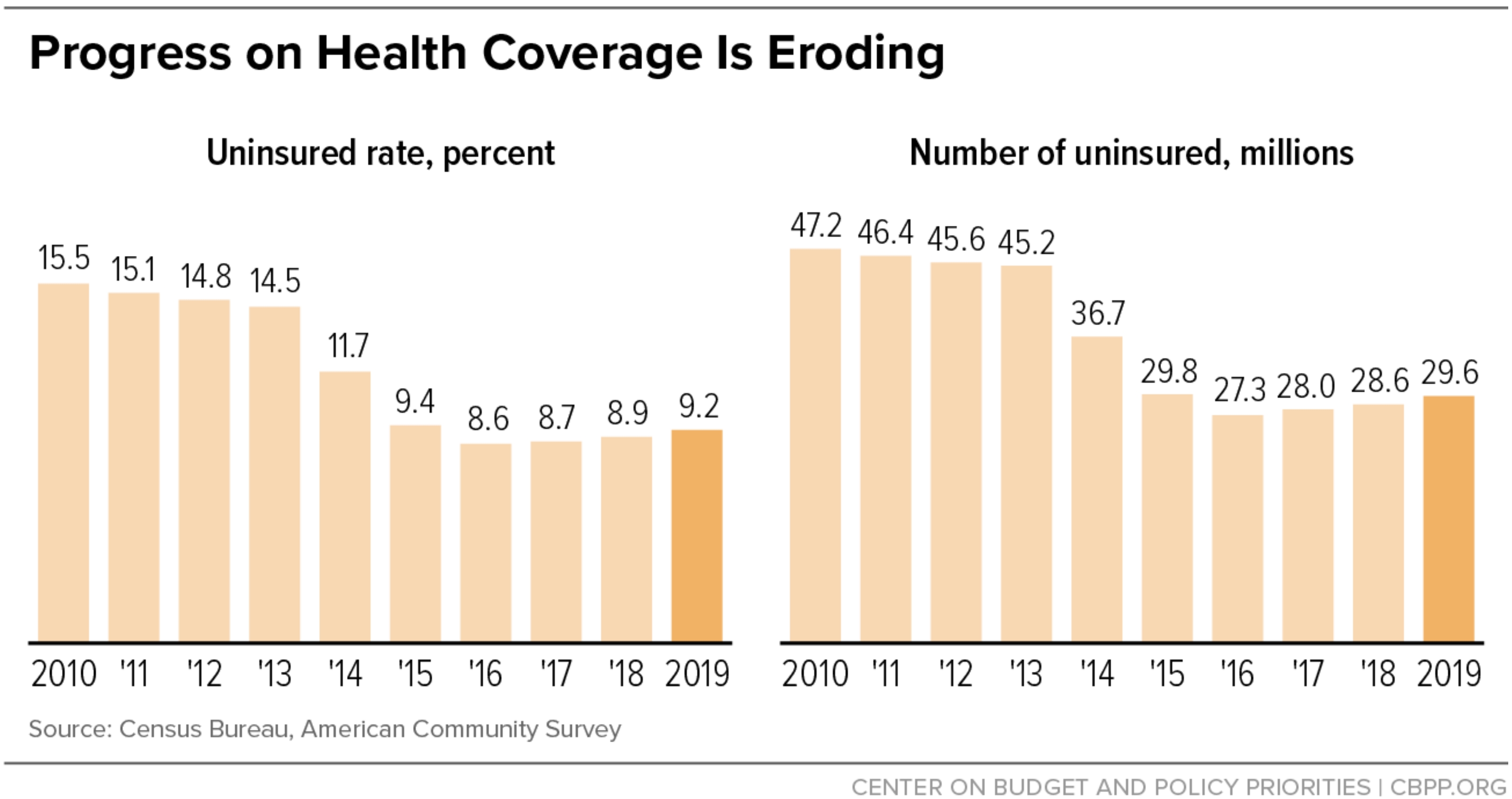
Source: Mishkin/Eakins

Current issues in life and health insurance

- **2010** President Obama signed the **Patient Protection and Affordable Care Act “Obamacare”**, requiring most U.S. citizens to have health insurance.
- PPACA reforms certain aspects of the private health insurance industry and public health insurance programs, increases insurance coverage of pre-existing conditions, expands access to insurance to over 30 million Americans, and increases projected national medical spending while lowering projected Medicare spending.

Source: Wikipedia

Impact of Trump on Obamacare



Property and Casualty Insurance

- **Property Insurance**: earliest form of insurance; protects businesses and owners from the risk associated with owning property. Includes replacement and loss of earnings from income-producing property as well as financial losses to the owners of residential property
  - **Named-peril policies**: insures against any losses only from perils specifically named in the policy (e.g. flood insurance)
  - **Open-peril policies**: insures against any losses except from perils specifically named in the policy (e.g. homeowners insurance)
- **Casualty/Liability Insurance:** protects against financial losses because of a claim of negligence (e.g. physician insurance; **D&O liability insurance**; product liability insurance against defects).
  - In the US liability premiums have risen considerably due to litigation (juries awarding high liability awards).

Source: Mishkin/Eakins

Summary

- Life Insurance
  - Definitions
  - Classes and product categories, in particular
    - term life (as purest form of life insurance)
    - annuities
- Health Insurance
- Obamacare - purpose
- Property and Casualty Insurance
  - D&O insurance

Test Your Understanding

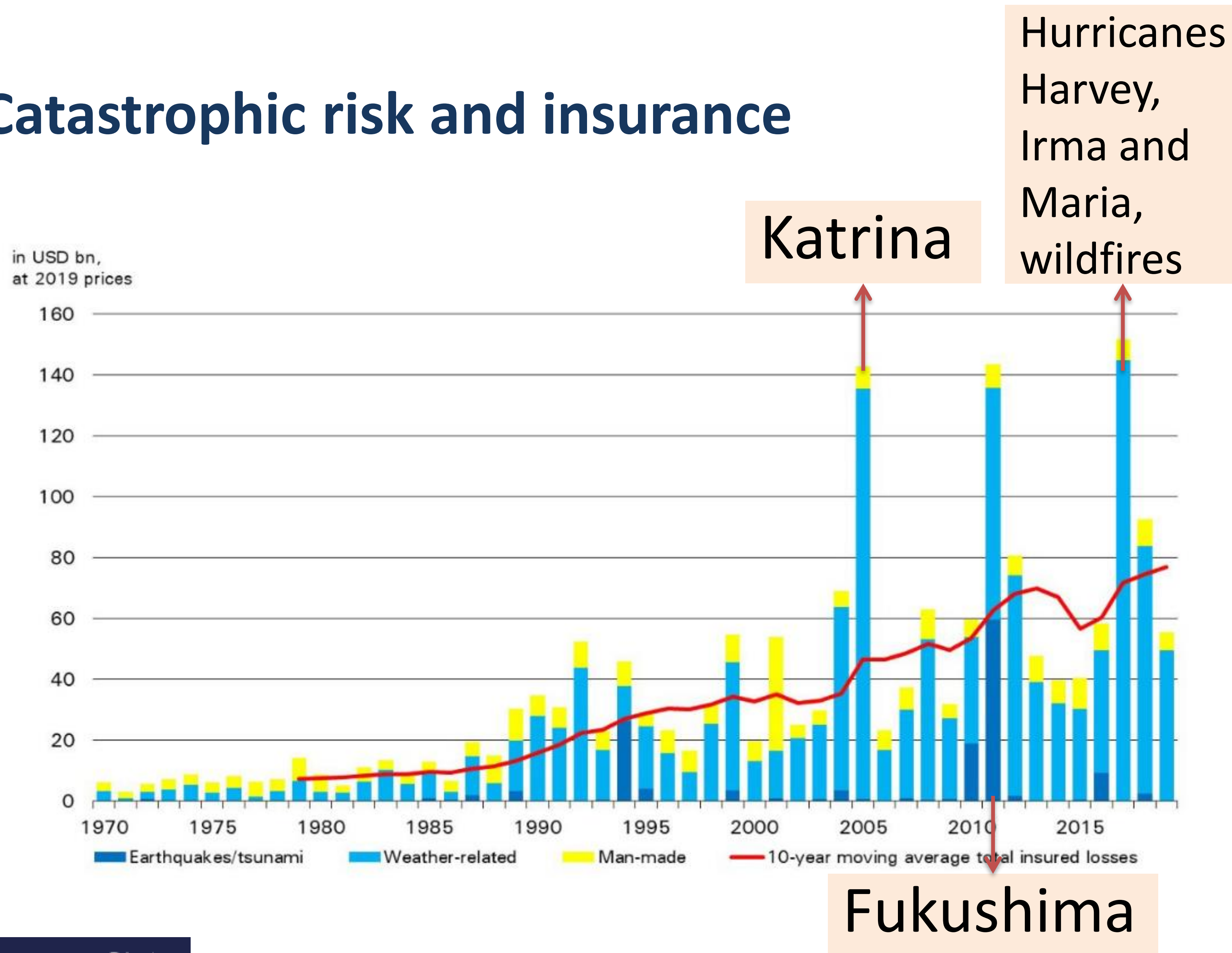
- What was the goal of Obamacare?
  - Ensuring that all Americans had health insurance
  - Ensuring that all Americans had life insurance
  - Ensuring that insurance companies were properly regulated in the US
- Which type of insurance premiums has gone up significantly in the US due to corporate fraud?
  - Health insurance
  - Life insurance
  - D&O insurance

Reinsurance

- **Reinsurance = insurance for insurance companies**
  - Allocates a portion of the risk to another company in exchange for a portion of the premium
  - Started in 17th century with Lloyds of London
- Key issues in reinsurance: impact of catastrophic losses such as Katrina
- One of the recent trends has been the crossover from reinsurance into capital markets (catastrophe bonds, mortality bonds) with growing role of hedge funds as investors

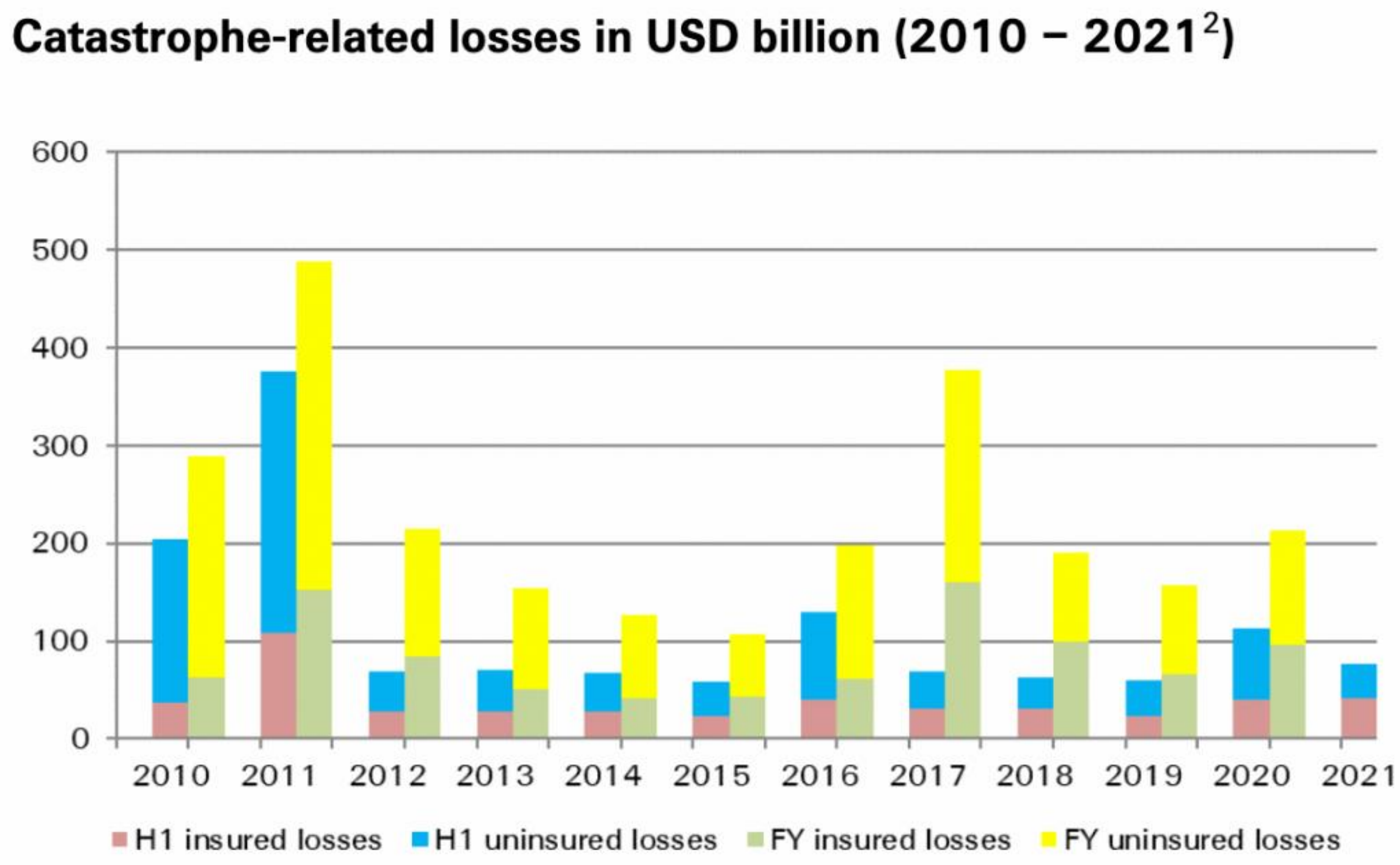
Source: http://www.freefoto.com

Catastrophic risk and insurance



Insurance Companies

Cat losses


Catastrophe-related losses in USD billion (2010 – 2021[2])
600
500
400
300
200
100
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
H1 insured losses
H1 uninsured losses
FY insured losses
FY uninsured losses

From insurance to capital markets: convergence product: ILS

- **Insurance Linked Securities (ILS)** are fixed-income securities through which the insurance industry passes on pure insurance risk to the financial markets.
- They are issued by insurance and reinsurance companies as protection in the event of extreme insurance losses, for instance following severe natural catastrophes or a potential pandemic disease outbreak.
- The risk assumed by investors is related to a specific insurance loss (such as earthquake, mortality or airplane crash).
- Prior to the maturity of a cat bond, two scenarios may develop:
  - as long as no major natural catastrophes have occurred, cat bonds are redeemed at 100% on the maturity date.
  - Alternatively, if a catastrophic event of a pre-defined peril and within a specified region does occur, the bonds may default, and part or all of the capital is immediately transferred to the insurance buyer under the bond. The insurance buyer then uses this capital to pay its claims to policyholders.

Summary

- Reinsurance definition
- ILS (insurance Linked Securities)
  - Cat Bond

Test Your Understanding

- Imagine that HKSAR Government issues a Cat Bond linked to a severe earthquake. What will happen to investors if the earthquake takes place (meeting the criteria of the bonds)
  - Investors will get the coupons and principal
  - Investors will get the principal
  - Investors will lose the principal

Insurance in HK

Hong Kong Insurance Market in 2019

HK$ 566.8 billion
total gross premiums

1st in Asia
for insurance density[a]

14 of the world's top 20
insurers operating from and in Hong Kong[c]

10.2%
annual growth rate

2nd in the world
for insurance penetration[b]

IA Activities 2019-20

Prudential regulation

163
authorized insurers

126,006
licensed insurance intermediaries

13
sets of rules, codes and guidelines issued in relation to the direct regulatory regime for insurance intermediaries[d]

Source: IA report 2019

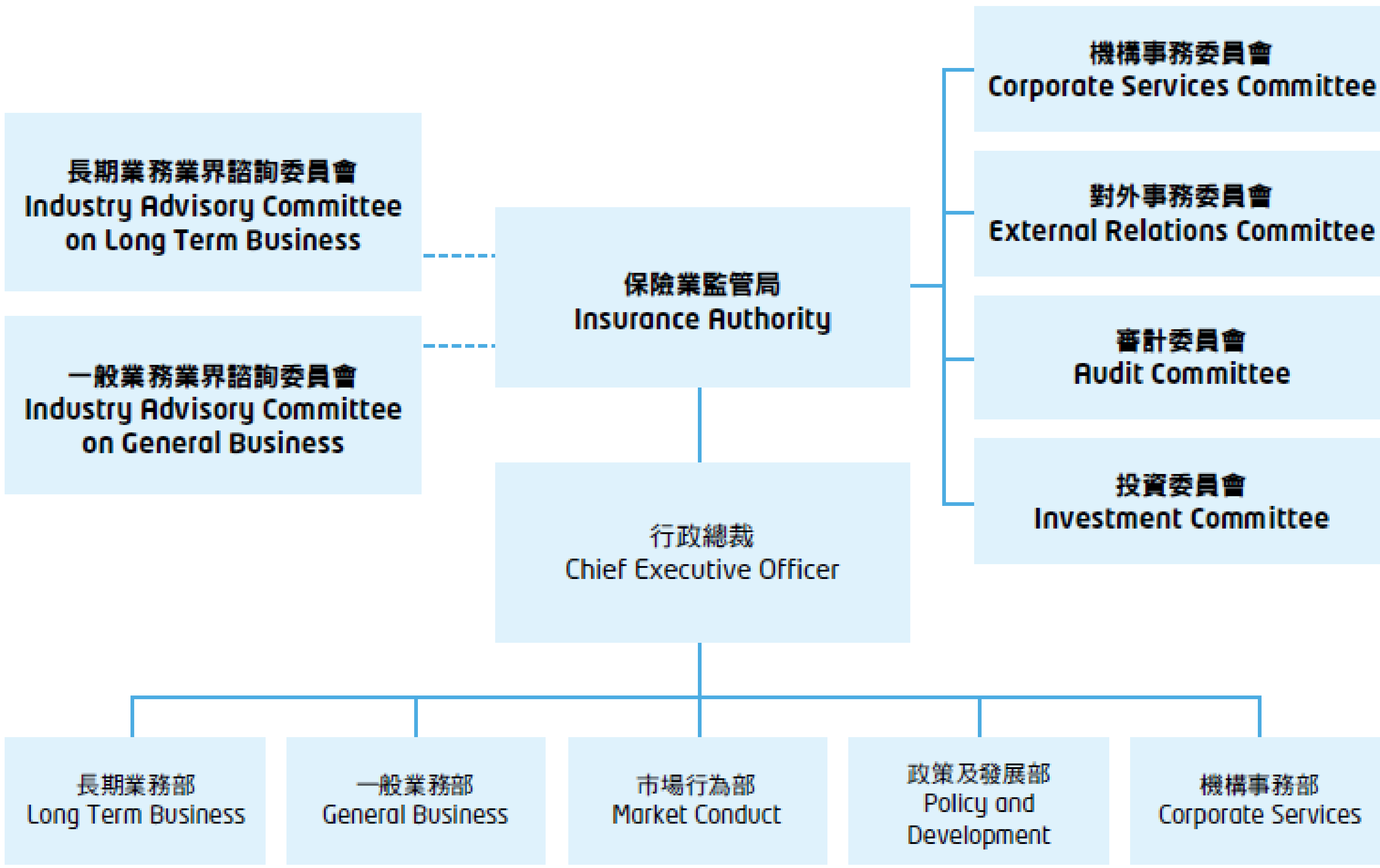
Insurance in HK: from self regulated to the IA

- "In respect of the insurance regulatory structure, we are setting up *an Insurance Authority that is not part of the government,* as mandated in ICP 2.
- We are also *abolishing our current self-regulatory system for intermediaries* to strengthen the conduct regulatory regime.
- We are establishing a ***Policyholders' Protection Fund*** to provide another safety net for policyholders.
- We issued *new requirements on underwriting unit-linked policies*, following the cradle-to-grave approach adopted in ICP19 on Fair Treatment of Customers.
- We also introduced *a new intermediaries' remuneration disclosure system* to enhance transparency.
- Together with the banking and securities regulators, we have enacted a new legislation *on anti-money laundering* and are working on *a resolution re*gime for financial institutions.
- Just two days ago, we issued a consultation paper on a *risk-based capital framework* for Hong Kong." *Annie Choi, CI, 18 Sept 14 at the FT Insurance Summit in Hong Kong*

Regulation: Independent Insurance Authority (IA) in Hong Kong

- The IA, a statutory body established by the Insurance Companies (Amendment) Ordinance 2015 (Amendment Ordinance), is a **new** insurance regulator **independent** of the Government.
- Since end of 2016 the IA has replaced the OCI and has taken over the regulation of insurance intermediaries from the three Self-Regulatory Organisations (SROs) through a statutory licensing regime. The IA has fully taken over the supervision of insurance intermediaries from the SROs.

Organisation structure of the IA



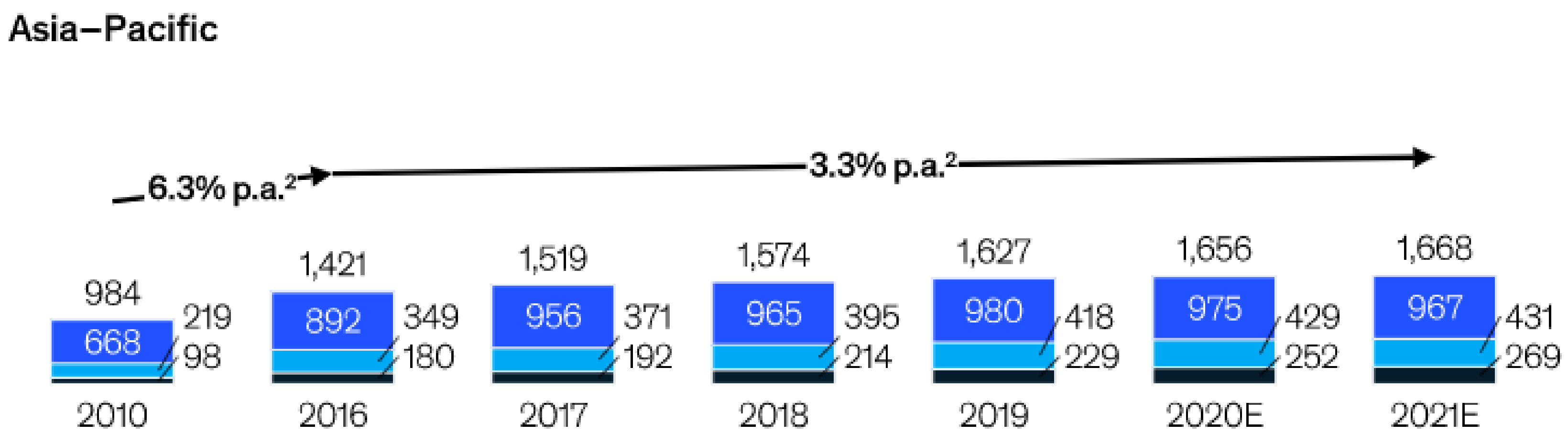
Current issues in Insurance

- Growth of insurance in Asia
- The rise of InsurTech
  - Automation
  - Digitization
  - Virtual Insurance
  - Increased competition from China (Zhong An, Ping An…)
- IFRS 17 and other accounting changes
- Solvency II and regulatory changes

Summary

- Insurance regulation in HK

Asia Insurance Market 2010-2021



2
4
8

Note: Figures may not sum, because of rounding.
[1] Based on 2020 average fixed exchange rate.
[2] Per annum.
Source: McKinsey Global Insurance Pools

Source: McKinsey Global Insurance Report 2022

Current issues in Insurance

- Insurance in Asia: what is the penetration level of insurance in Asia? Compare to Europe and US - why the differences? Implications? (Group 13)
- Video
- https://www.youtube.com/watch?v=TwcSMy4SIeQ
- Article
- https://www.munichre.com/topics-online/en/economy/insurance-markets/high-risk-low-insurance-penetration-asia-2018.html

Course Map

Overview

Financial Institutions

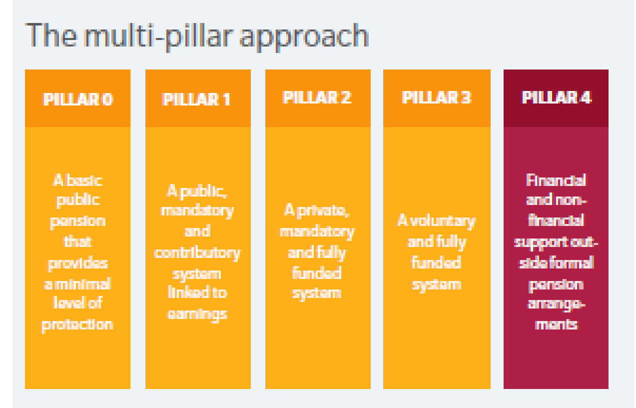
- Sell Side
  - Commercial Banking
  - Investment Banking
- Buy Side
  - Traditional Institutional Investors

1. Insurance Companies
2. **Pension Funds and Retirement Schemes**
3. Mutual Funds and Fund Management

Pensions and Retirement Funds

- Definition
- Public pensions: social security and mandatory retirement plans
- Private pensions: 401K and IRAs
- Regulation
- Pensions & retirement funds in Asia
- Current issues

Multi-pillar retirement system



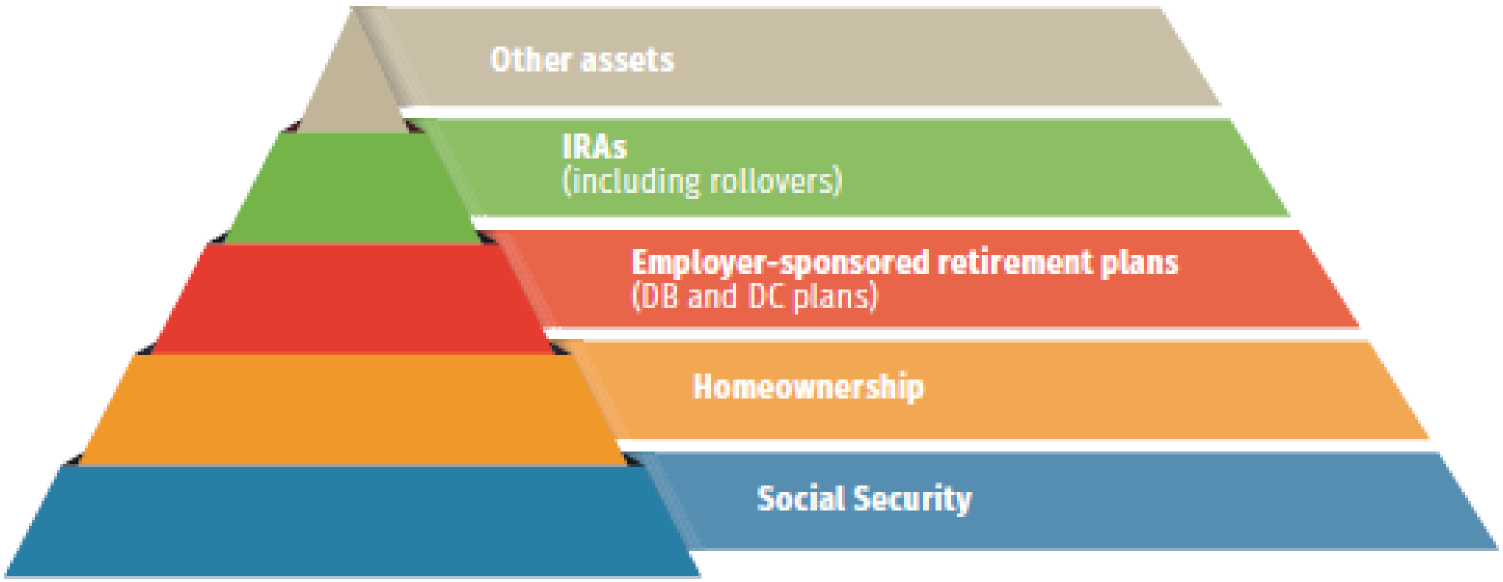
- In 1994, the World Bank recommended a three-pillar framework to address the issue of old-age protection; this was expanded to a **five-pillar framework** In 2005 based on operational experience:

public
  - Pillar 0: a non-contributory, publicly financed and managed system that provides a minimal level of protection for retirement;
  - Pillar 1: a mandatory, contributory and publicly managed system

private
  - Pillar 2: a mandatory, privately managed, fully funded contribution system;
  - Pillar 3: voluntary savings (e.g. personal savings and insurance); and

  - Pillar 4: informal support (e.g. family support), other formal social programmes (e.g. health care and housing) and other individual assets (e.g. home ownership).

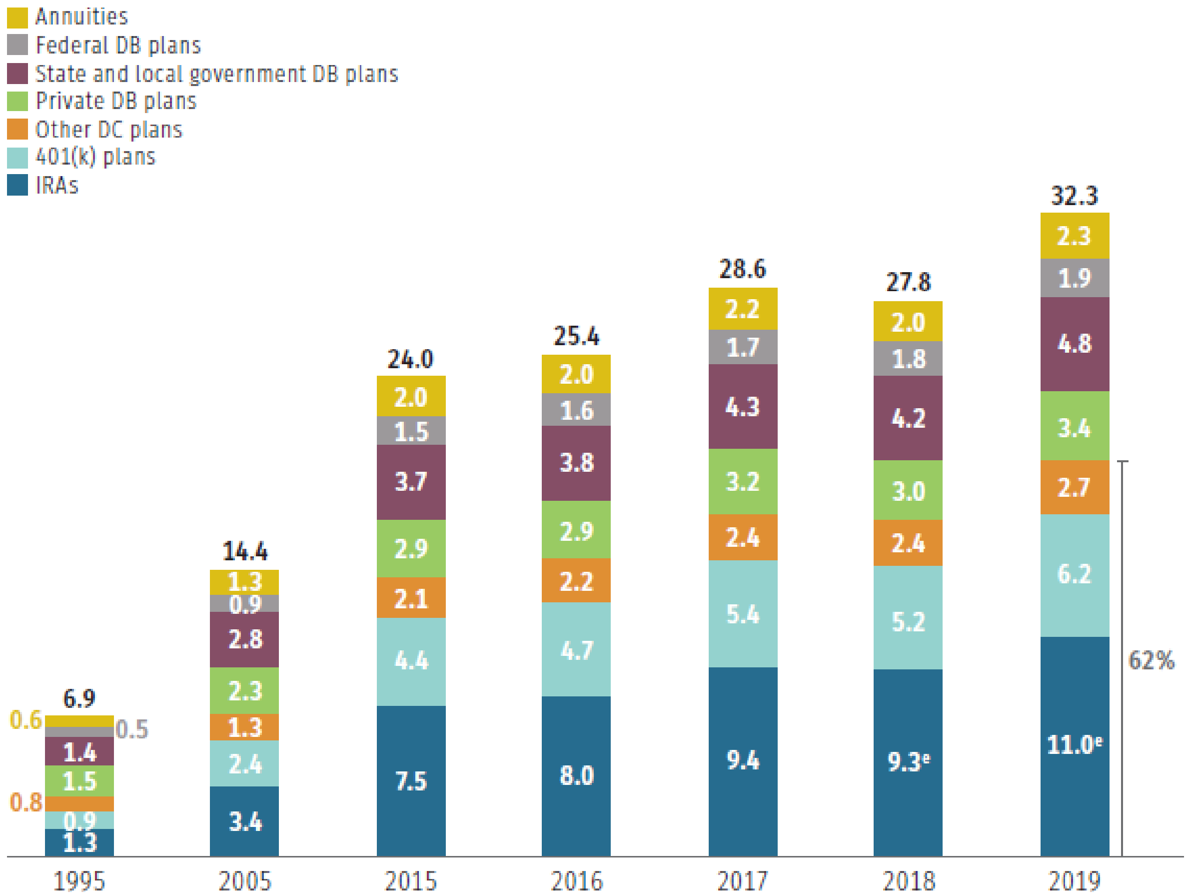
The retirement resource pyramid (US)



Source: Investment Company Factbook 2019

Total US Retirement Market Assets

1995-2019, Trillions of $, year-end



e Data are estimated.
Source: Investment Company Institute. For a complete list of sources, see Investment Company Institute, "The US Retirement Market, Fourth Quarter 2019."

Source: Investment Company Factbook 2020

Pensions in the US

- Definition: A pension plan is **an asset pool that accumulates over an individual's working years and is paid out during the nonworking years**
- Developed as Americans began relying less on children for care during their later years
- Also became popular as life expectancy increased

Source: Mishkin/Eakins

Defined Benefit vs. Defined Contribution Pension Funds

Defined-Benefit Pension Plans:

- A plan where the sponsor promises the employee a specific benefit when they retire
  - E.g. Annual Retirement Payment = 2% × average of final 3 years' income × years of service

Defined-Contribution Pension Plan:

- A plan where a set amount is invested for retirement, but the benefit payout is uncertain

Defined-Benefit Pension Plans place a **burden on the employer** to properly fund the expected retirement benefit payouts.

- **Fully funded**: sufficient funds are available to meet payouts
- **Overfunded**: funds exceed the expected payout
- **Underfunded**: funds are not expected to meet the required benefit payouts

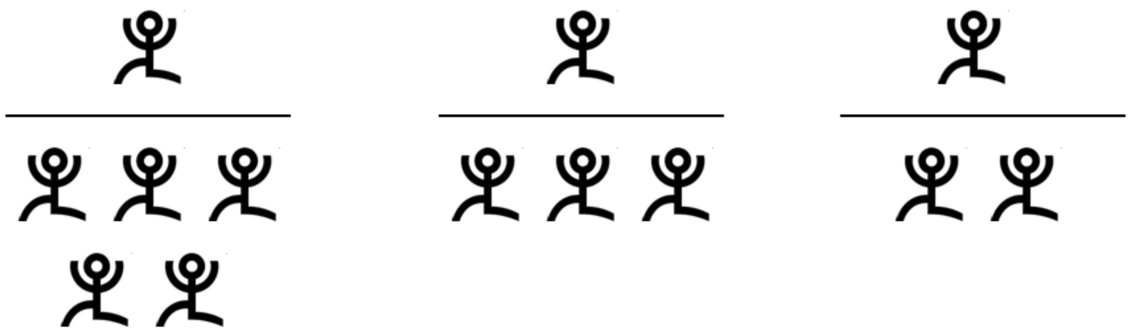
US - Public Pension Funds

- Any pension plan set up or sponsored by a government body; funds administered by a federal, state, or local government
- 2 types:
  - **State or local government pension funds**
    - set up for state or local government employees
    - funded on a **"pay as you go" basis**
    - state and local pension funds held most of their assets in corporate equities (58.13% in 2004)
  - **Federal government pension funds - two types**
    - federal government employees, civil service employees, military and railroad employees not covered by The Federal Old Age and Disability Insurance Program ("Social Security")
    - **Social Security**
      - funded on a "**pay as you go**" basis
      - Projected number of workers is falling while projected number of retirees is increasing, which will cause problems in years to come if not corrected
      - Social security contributions are invested in relatively low-risk, low-return Treasury securities

"Pay as you go" means that money that workers contribute today pays benefits to current recipients. Future generations will be called on to pay benefits to current contributors.

Social security in the US

Social Security: Worker to Beneficiary Ratio



1960: 5.1 to 1 | 2009: 3.0 to 1 | 2030: 2.2 to 1

Source: Social Security Administration Trustees Report Table IV.B2
Ratio of covered workers to beneficiaries

US - Private pension funds; types of retirement plans

- Any pension plan set up by employers, groups, or individuals; funds administered by a private corporation (e.g., insurance company, mutual fund)
- Increasingly dominated by defined contribution plans
- Types of private pension plans
  - **401(k) and 403(b)**: employer sponsored plans that supplement a firm's basic retirement plan
  - individual retirement accounts (**IRA's**) and **Roth IRAs**
  - **Keogh** accounts (for self employed and SME employees)

Summary

- Multi-pillar retirement system and the retirement pyramid
- Pensions & retirement Plans in the US
  - Defined-benefit v. defined contribution
  - Public v private pension fund
  - Social Security
  - Types of private retirement plans in the US

Test Your Understanding

- Demographic trends and changes in retirement patterns suggest that Social Security funding problems will ease over the next few decades.
  - TRUE / FALSE
- In the US, Social Security is a ________
  - fully funded pension plan.
  - federally insured private pension plan.
  - government sponsored private pension plan.
  - "pay-as-you-go" system.

US Regulation of Pension Plans

- **1949 U.S. Supreme Court decision** → pension benefits are a legitimate part of collective bargaining
  - The number of plans increased from this as unions negotiated for such plans
- **Employee Retirement Income Security Act of 1974 (ERISA)**
  - Does NOT mandate that employers establish pension funds for their employees
  - Established guidelines for funding: contributions to pension funds must be sufficient to cover all annual costs & expenses and to fund any unfunded historical liabilities over a 30 year period; any new underfunding arising from low investment returns have to be funded over a 15 year period.
  - Allowed plan credit to transfer with employees
  - Established vesting requirements to gain plan benefits
  - Increased disclosure requirements
  - Assigned regulatory oversight to the Department of Labor

Source: Mishkin/Eakins

US Regulation of Pension Plans

- ERISA also established the **Pension Benefit Guarantee Corporation** to insure pension benefits if an underfunded pension plan is unable to meet its obligations.
  - Accounting makes it difficult to assess funding status of a plan
  - May be in trouble as plans appear underfunded
- Pension reform Act of 1978 authorized individual retirement accounts (**IRAs**)
  - Enjoy a preferential tax treatment
  - Keogh plans are similar plans for self-employed individuals
  - SIMPLE IRAs are simplified retirement plans for small businesses.

The Pension Protection Act 2006

2006 Pension Protection Act signed 17 August 2006

- Strengthens the federal pension insurance system
- Allows companies to phase out their Traditional Defined Benefit or other pension plan and automatically enroll employees in 401(k) plans, as well as set investment guidelines
- makes tax breaks for retirement plans and accounts which were scheduled to expire in 2010 permanent
- gives taxpayers the option of direct depositing portions of their tax refunds into IRAs
- permits 401(k) and similar plans to offer investment advice
- Gives employers seven years to fully fund their plans (some airlines in bankruptcy proceedings got 10 years)

Summary

- US regulation of pension plans:
  - Regulator
  - ERISA
  - Pension Reform Act 1978
  - Pension Protection Act 2006

Test Your Understanding

- which government entity regulates the pension sector in the US?
  - The Fed
  - The SEC
  - The Department of Labor
- If a private pension plan fails in the US, what happens to workers pensions?
  - They lose all their pensions
  - Pension liabilities are taken over by the PBGC
  - Pension liabilities are taken over by the Fed

Pension Funds in HK: the Mandatory Provident Fund

- Established 1 December 2000. Privately managed, employment related scheme.
- Regulation: MPFS Ordinance August 1995. Regulator: MPFSA (Mandatory Provident Fund Schemes Authority) set up in September 1998

- Mandatory:
  - Employees (> 60 days continued employment) have to contribute 5% of their wages to the MPF; contributions are matched by employer (total 10%)
- Members choice:
  - Means employee can choose where contributions are invested, within the array of choices available under the plan

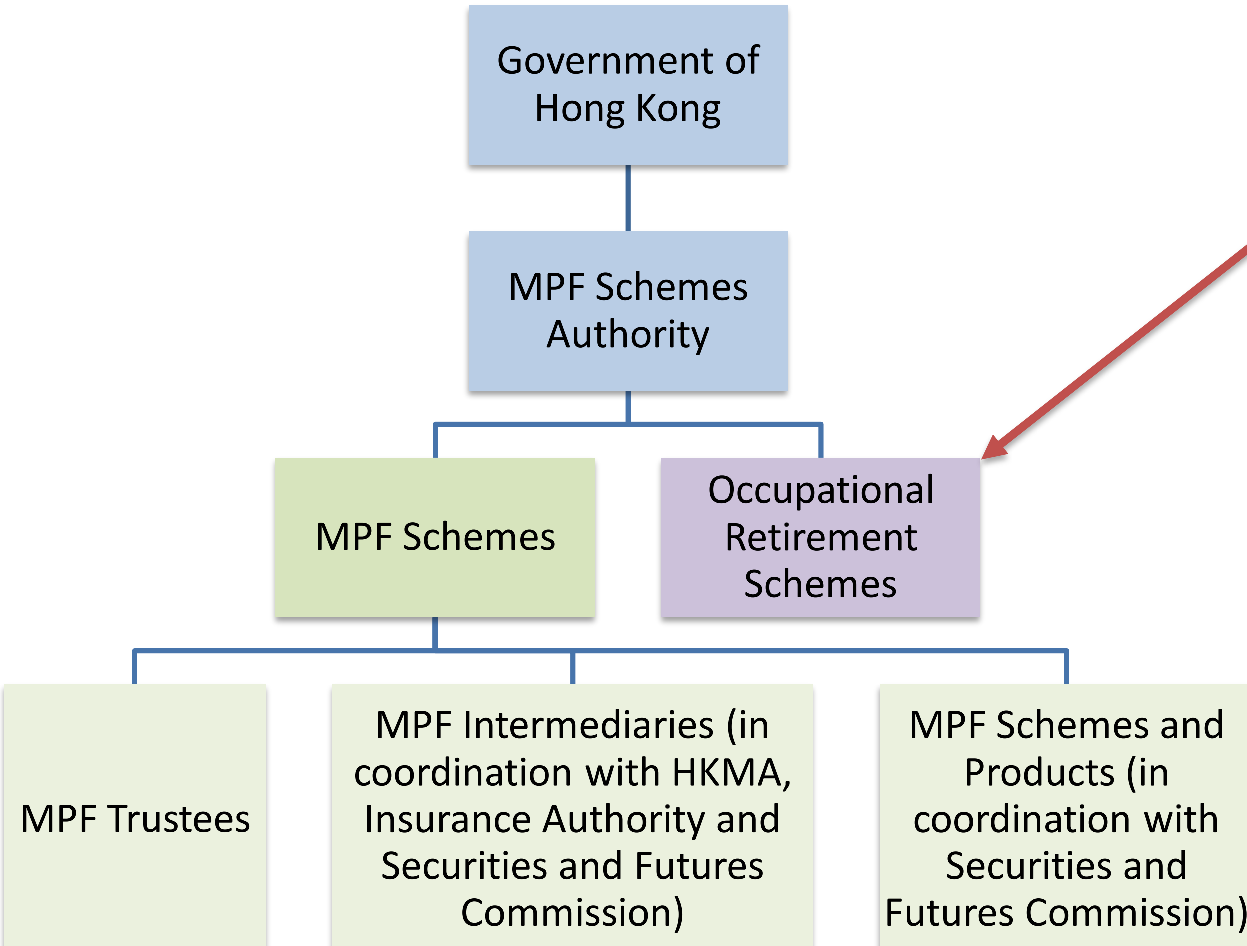
- Contributions not available until retirement age (65)
- Portable plan:
  - When changing jobs, employee can transfer to new employer plan or to own MPF
- Trustee set-up:
  - MPF funds must be in a trust structure to ensure maximum protection of scheme members' assets

HK v. World Bank Five Pillars

	WORLD BANK five pillars	HONG KONG retirement protection schemes
ZERO PILLAR	A non-contributory social security scheme	Comprehensive Social Security Assistance, Old Age Living Allowance, Old Age Allowance
FIRST PILLAR	A mandatory, publicly-managed, fully-funded and defined contribution system	**NONE**
SECOND PILLAR	A mandatory, privately managed, fully funded and defined contribution system	Mandatory Provident Fund Scheme, Occupational Retirement Schemes Ordinance, Old Pension Scheme, New Pension Scheme, Civil Service Provident Fund
THIRD PILLAR	Voluntary contributions or savings	Voluntary MPF contributions, personal savings, life insurance, HKMC Annuity Plan, Policy Reverse Mortgage Program
FOURTH PILLAR	Informal support, other formal social programs, and home ownership	Family support, government's subsidized health care and housing, Reverse Mortgage Program

Source: China Daily Hong Kong Edition • Get the data • Created with Datawrapper

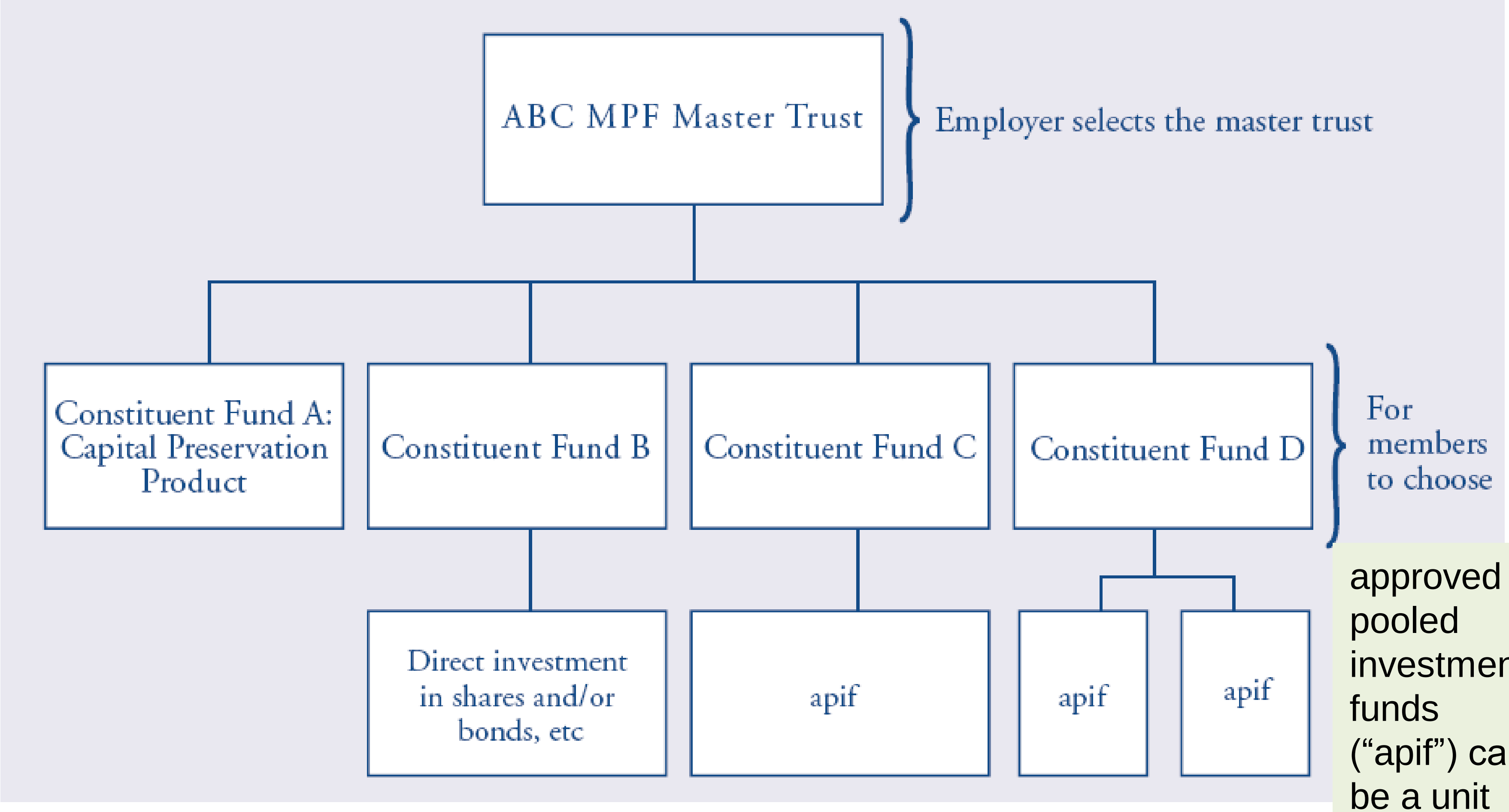
Pensions in HK: Regulatory Structure



Before the MPF System was launched (in 2000), retirement schemes set up voluntarily by employers for their employees were regulated under the Occupational Retirement Schemes Ordinance (ORSO).

The MPFA is now responsible for regulating both MPF schemes and ORSO schemes, under the MPFSO and the ORSO respectively

MPF Structure: Constituent Funds



approved pooled investment funds ("apif") can be a unit trust or an insurance policy

Source: http://www.hkifa.org.hk/eng/download/fundinfo/mpf/HKIFA_Edu_E.pdf

Employee Choice Arrangement

- The **Employee Choice Arrangement (ECA)** started on 1 November, 2012. From that date, employees are allowed to transfer their accrued benefits, i.e. the accumulated contributions and investment returns, which arise from the employee mandatory contributions made during their current employment to another MPF trustee and scheme of their own choice once every calendar year; or not to make any change by retaining the accrued benefits in the MPF scheme they are currently enrolled in.
- In addition, the minimum and maximum levels of relevant income have been adjusted to HKD 7,100 and HKD 30,000 respectively (as of October 2014)

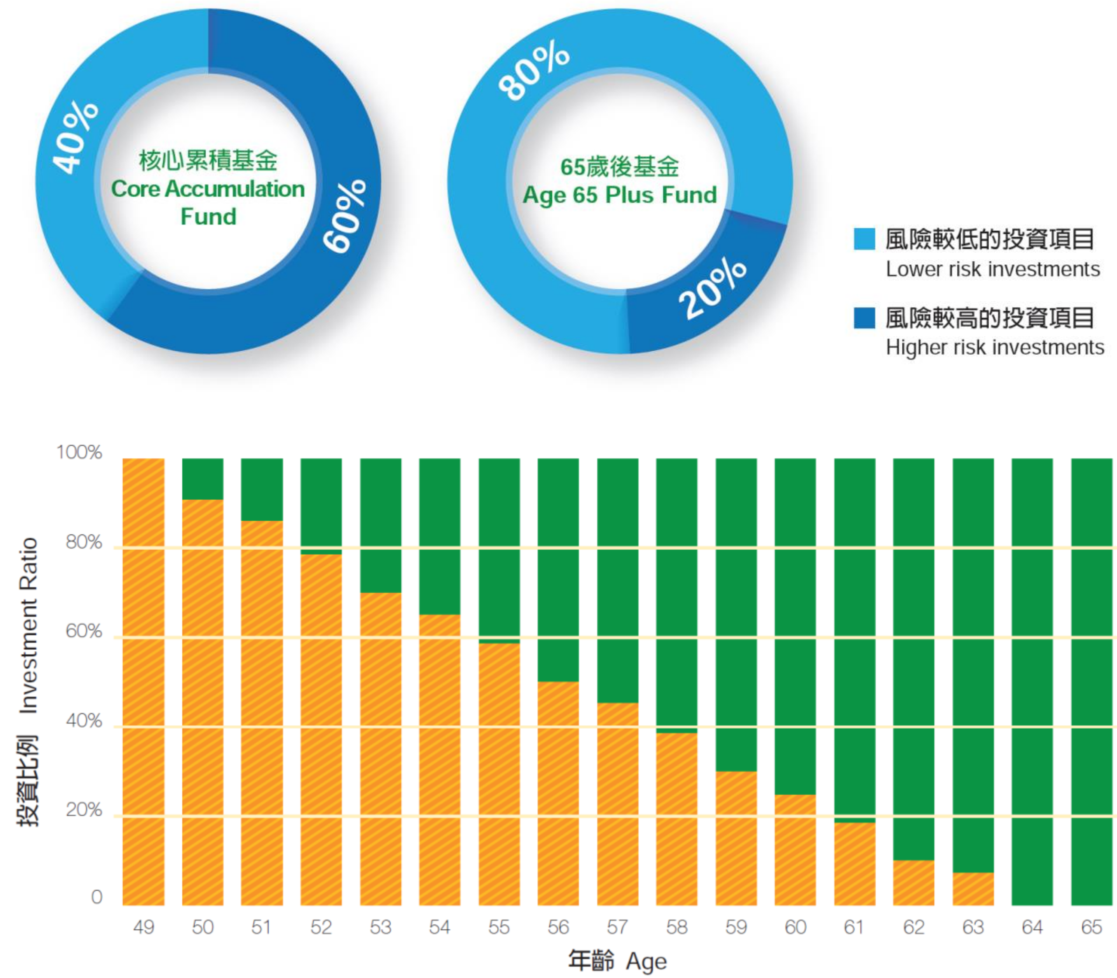
Withdrawal choice arrangement

- Introduction of choice of withdrawal by installments instead of lump sum (effective 1 Feb 16) : Scheme members who have reached the age of 65, or who have reached the age of 60 and have decided to early retire can choose to either :
  - withdraw their MPF benefits by installments or
  - withdraw all their MPF benefits in a lump sum, or
  - retain all their MPF benefits in their accounts for continuous investment.

Default Investment Strategy

- To address the problems of high fees and difficulty in making choices associated with some MPF schemes, the Government and the MPFA propose to require each trustee to provide, in each scheme, a **Default Investment Strategy (DIS).** The Government introduced the amendment bill to the Legislative Council on 25 November 2015, and the was launched by the **end of 2016.**
- MPF members who don’t select any options will by default contribute into the DIS.

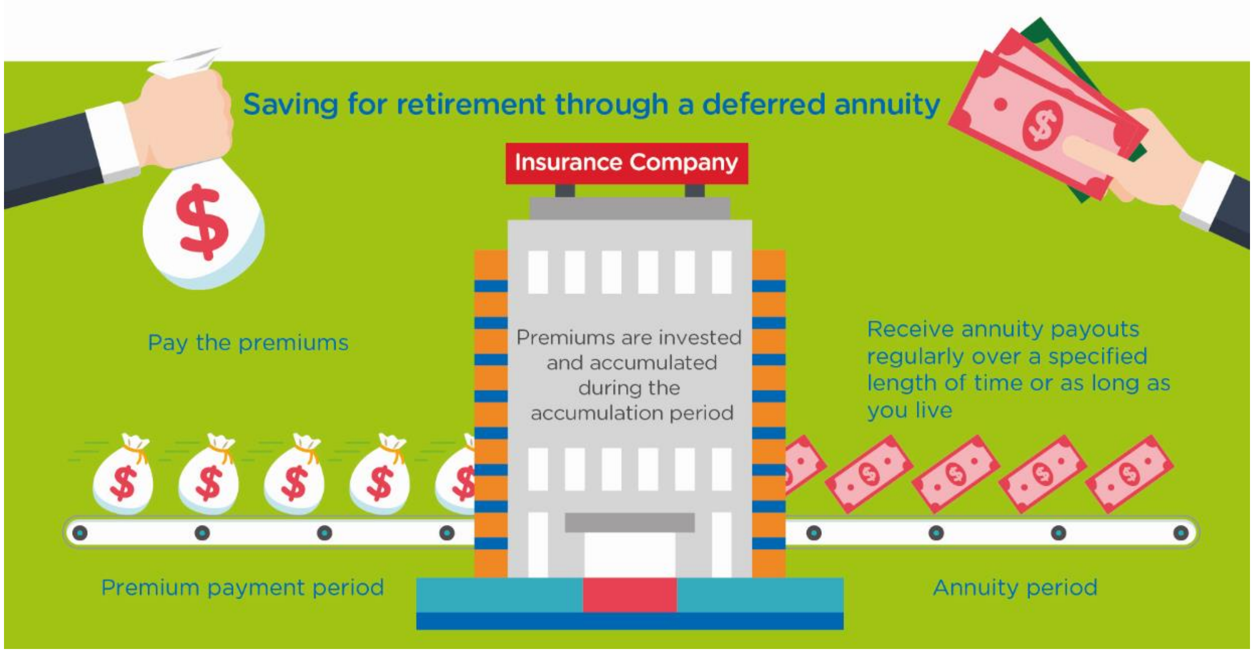
Default Investment Strategy



- 2 globally diversified funds : Core accumulation Fund and Age 65 Plus Fund
- Principle of **age de-risking**:
  - <50: 100% invested in the Core Accumulation Fund.
  - 50-64: MPF benefits in the Core Accumulation Fund gradually switched to the Age 65 Plus Fund every year, so that the ratio of higher risk investments in the investment portfolio will fall by around 2.6% every year.
  - 65+: all MPF benefits will be invested in the Age 65 Plus Fund.
- **Fee controls**: management fees capped at **0.75%** p.a.

Launch of Tax Deductions for Annuity Premiums and MPF Voluntary Contributions

- The amendment ordinance (2019) provides **tax deductions** for **qualifying** deferred **annuity** premiums (**QDAP**) and tax deductible MPF **voluntary contributions** (**TVC**) under salaries tax and personal assessment.
- The deduction cap is **$60,000 per year**, which is an **aggregate limit** for both qualifying deferred annuity premiums and TVC



Qualifying Deferred Annuity Policy ("QDAP")

- For relevant premiums to qualify for tax deductions, a **deferred annuity** product must comply with the guideline issued by the Insurance Authority, including:
  - Minimum total premiums of $180,000 and minimum payment period of 5 years
  - Minimum annuity period of 10 years
  - Annuitization at the age of 50 or beyond
  - Disclosure of the internal rate of return of the product to facilitate evaluation and comparison
  - Clear presentation of the guaranteed and non-guaranteed annuity payouts
  - Clear separation of premiums of all riders (e.g. critical illness, hospitalisation cash, etc.) from the qualifying deferred annuity premiums

Summary

- HK's Mandatory Provident Fund
  - Characteristics
  - regulatory structure
  - constituent funds
  - ECA
  - DIS
  - WCA
  - tax deductions
  - QDAP

Test Your Understanding

- The MPF is a
  - Defined benefits plan
  - Defined contributions plan
- Under the Employee Choice Arrangement (ECA), employees can:
  - Change their allocation choices within the employer plan
  - Transfer their contributions to another MPF plan of their choice
  - Transfer both their employers and their own contributions to another MPF plan
- The Withdrawal Choice Arrangement allows employees to
  - Take their contributions in cash at any time
  - At retirement, choose to get a lump sum or an annuity or keep the money in the MPF longer

Current issues: MPF

MPF in HK: what are the issues? What are the possible solutions?(Group 15)

- Video
- http://tyr.jour.hkbu.edu.hk/2018/10/10/long-disputed-mpf-hedging-abolished-after-30b-vanished/
- Article

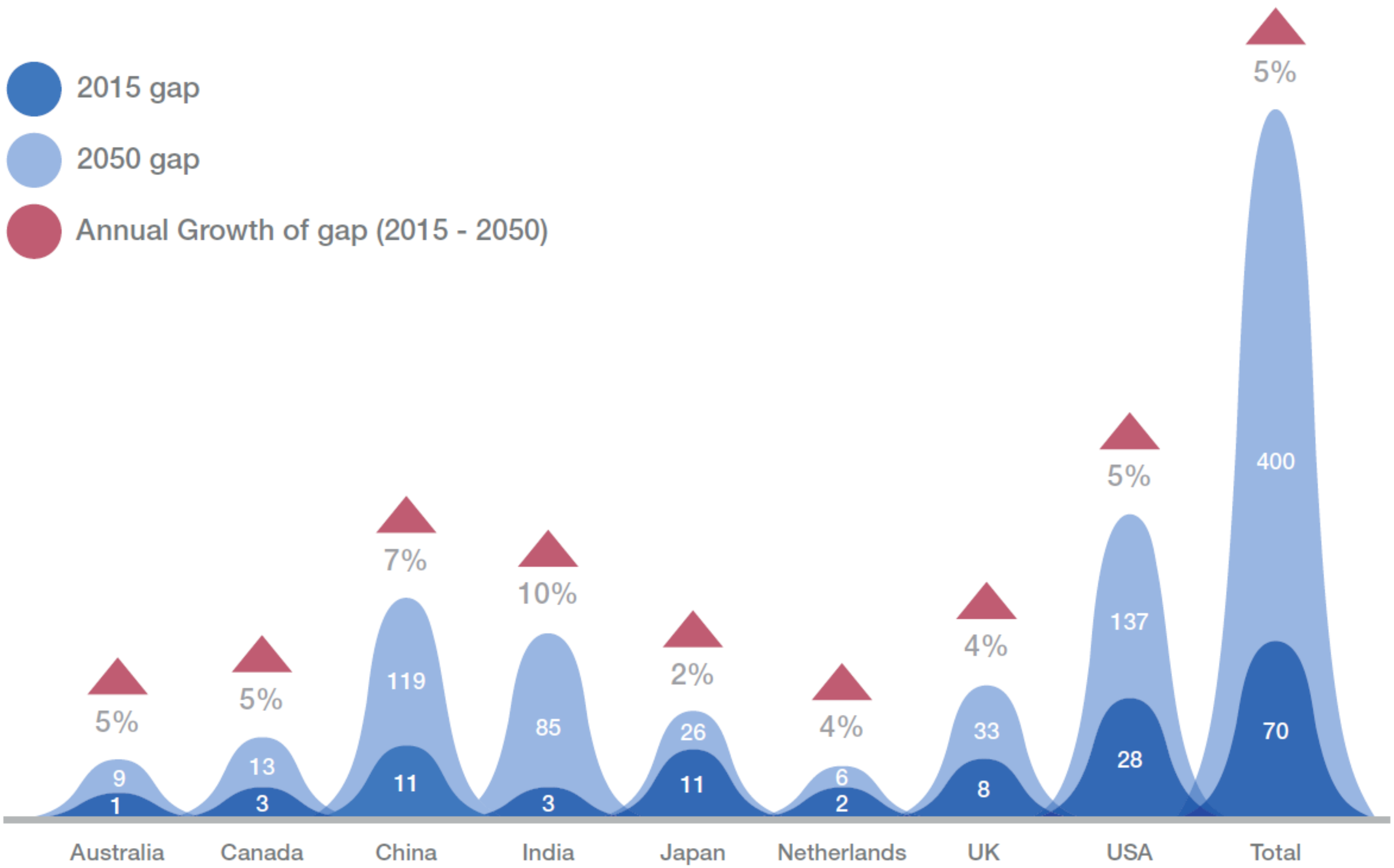
1. https://www.asianinvestor.net/article/covid-19-shows-problems-of-mpf-offsetting-mechanism/461575
2. https://www.wtwco.com/en-HK/Insights/2021/07/enabling-legislation-to-abolish-the-mpf-offsetting-mechanism

Current Issues for Pension Funds and Retirement Plans

"If I were a DB plan sponsor, I'd certainly be concerned about **longevity risks**. In the recent 20 years or so, we haven't projected as rapid improvements (in lifespans) as what was actually happening. That is having huge repercussions on the actual cost of providing pensions." *Samuel Cox, Thomas P. Bowles Jr. chair of actuarial science at Georgia State University, Atlanta*

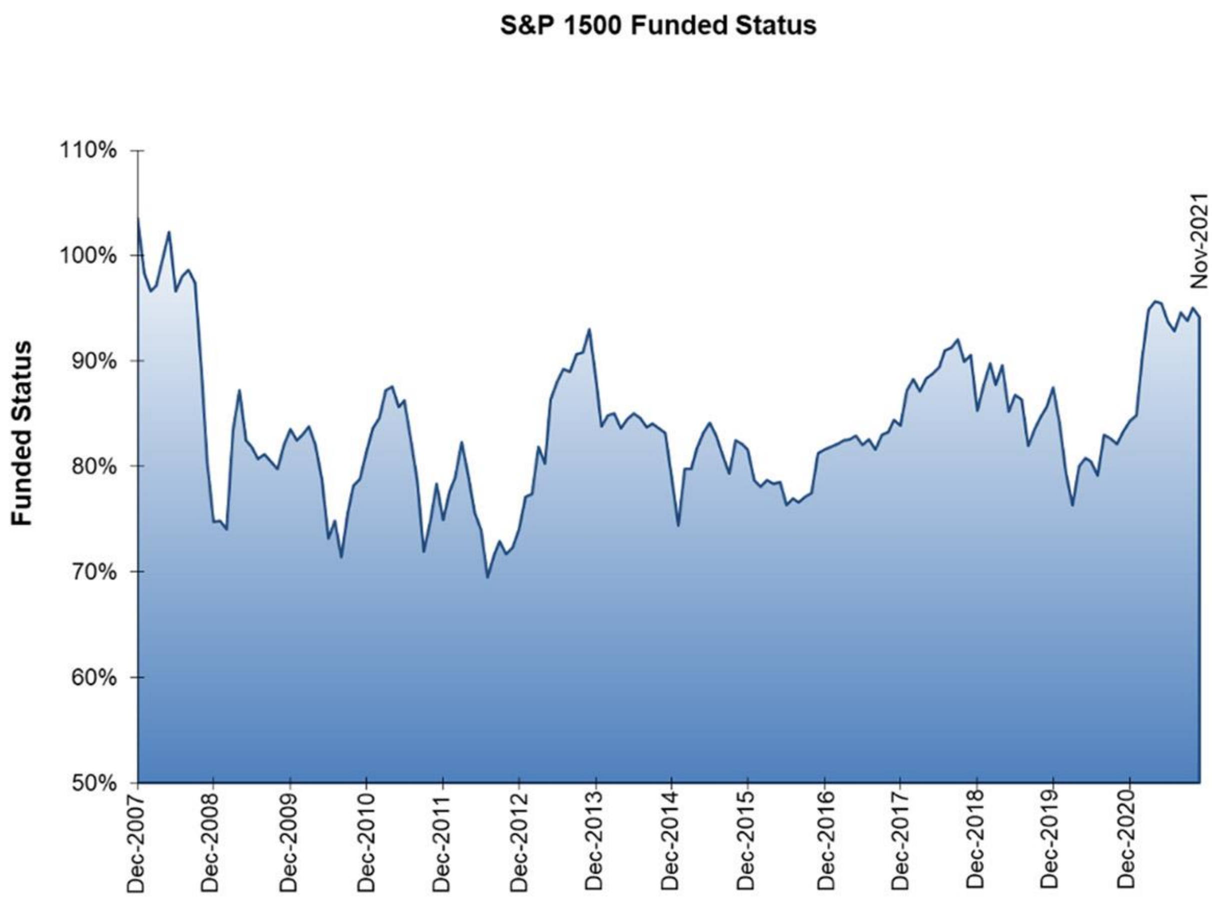
- Ageing of population presents critical issues for public pension funds – particularly Social Security plans
- Longevity risk: Increase in life expectancy raises the question of retirement age
- Rising trend of quest for yield driving increased participation of pension and retirement funds in alternative investments, raising issues of risk

Size of Retirement Savings Gap
$ trillions, 2015

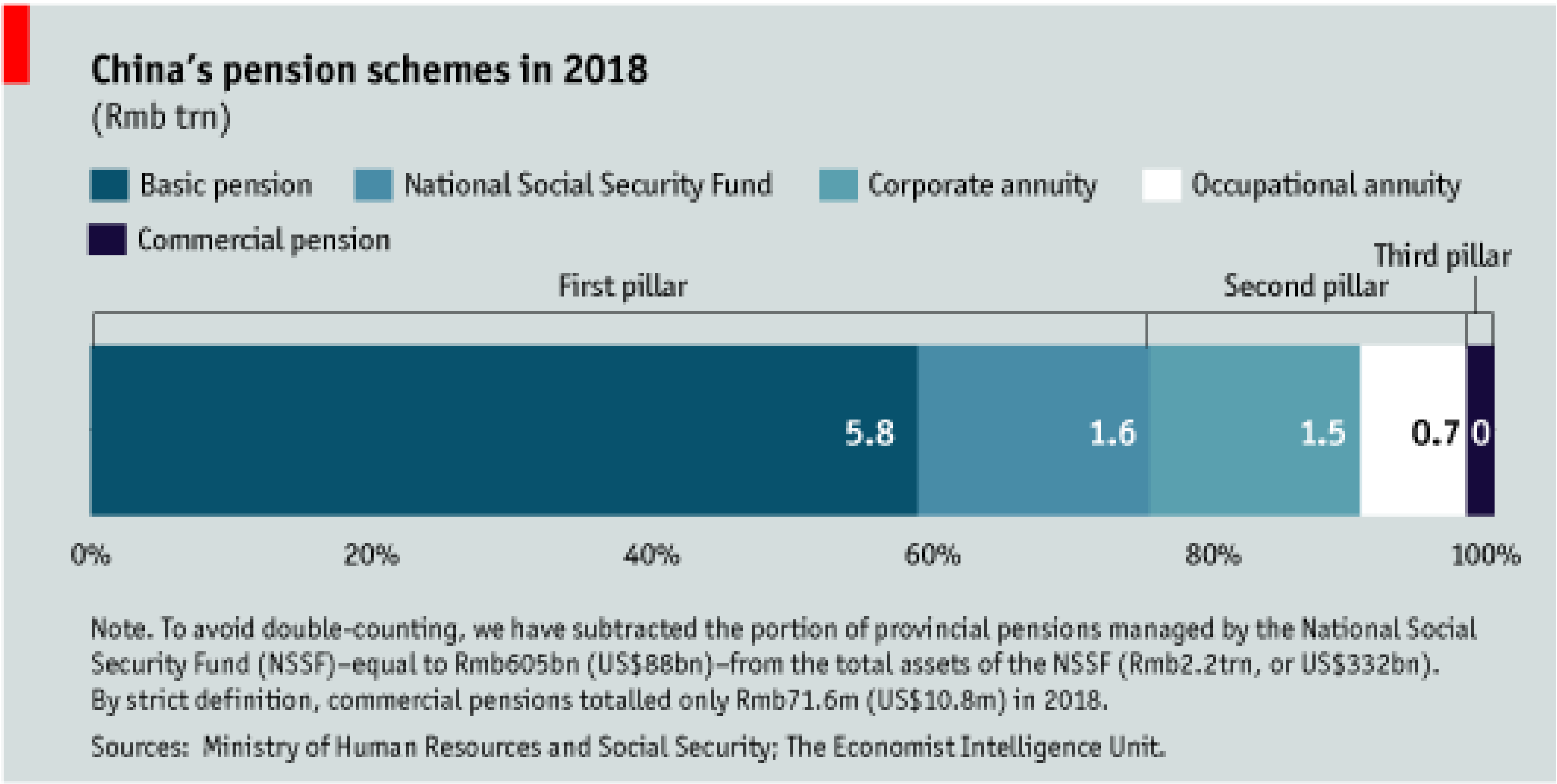


Source: WEF, 2019 report

S&P 1500 Pension Funded Status (Nov 21)

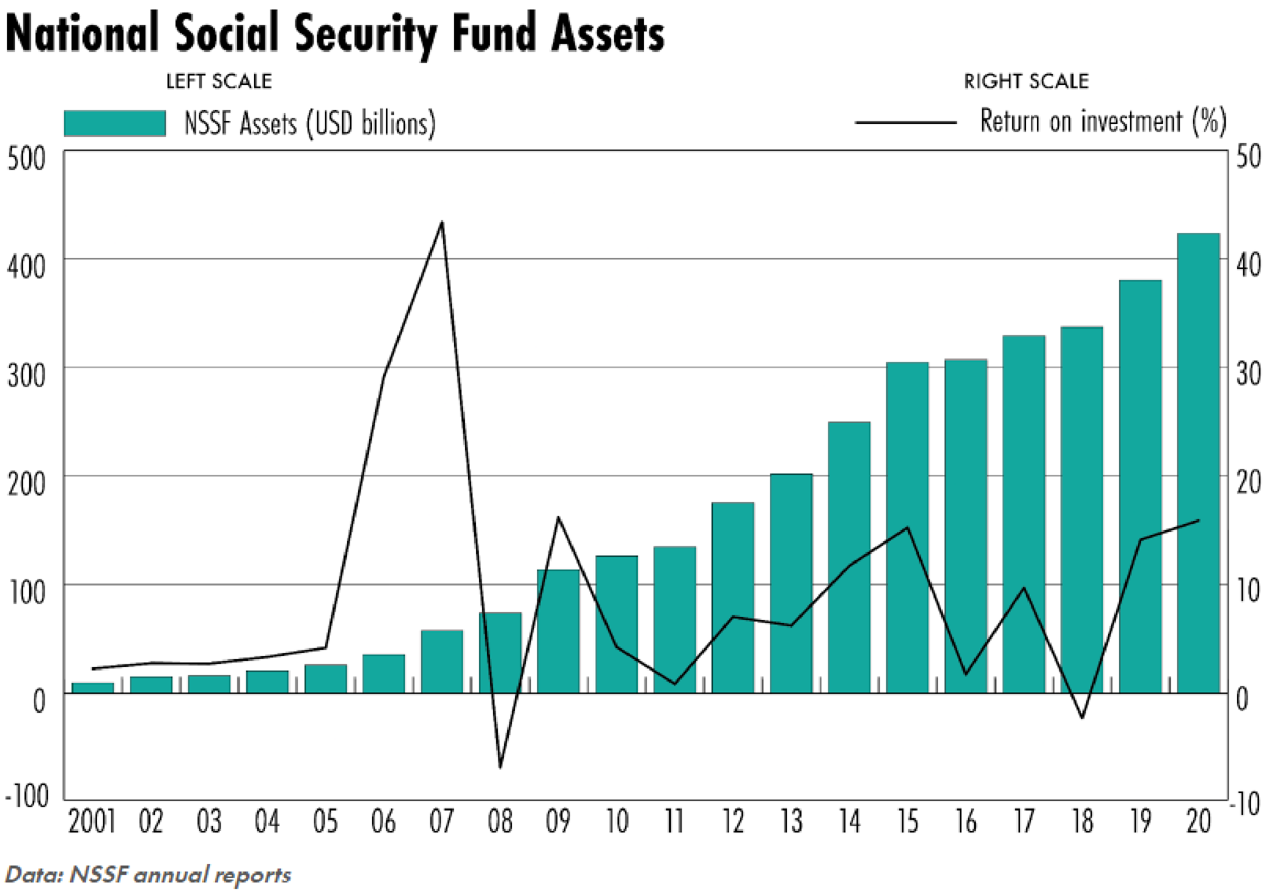


China's Pension Scheme



Source: EIU

NSSF AuM



Source: Wire China Jan 22

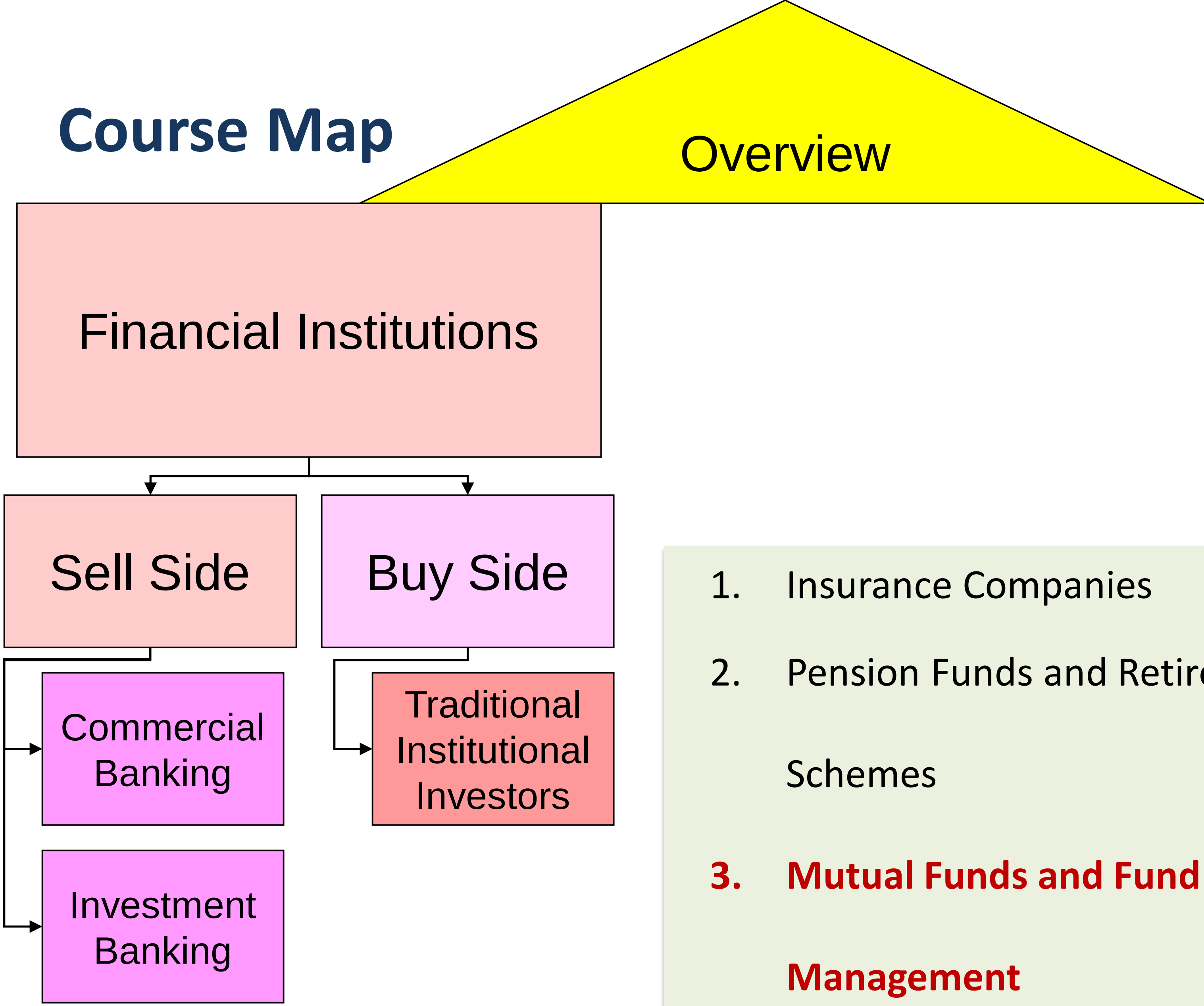
Current issues: Retirement funds and pension funds in Asia: which country has the most advanced system? What is the situation in China? Implications? (Group 14)

- Video
- https://www.youtube.com/watch?v=B4YSxs9b4Mg
- Article
- https://www.humanresourcesonline.net/singapore-hong-kong-and-malaysia-have-the-best-retirement-systems-in-asia-report

Summary

- Key issues affecting the pension and retirement industry

Course Map



1. Insurance Companies
2. Pension Funds and Retirement Schemes
3. **Mutual Funds and Fund Management**

Mutual Funds & Collective Investment Schemes

- Overview
  - Market
  - Pros & Cons of Collective Investment Schemes
- Mutual Funds
  - Growth of mutual funds
  - Mutual funds structure & organization
  - Types of funds
  - Fee structure
  - Regulation
- Mutual funds and asset management in HK and Asia

Five principal benefits of collective investment

- **Liquidity intermediation**: investors can quickly convert investments into cash while still allowing the fund to invest for the long term.
- **Denomination intermediation**: investors can participate in equity and debt offerings that, individually, require more capital than they possess.
- **Diversification**: investors immediately realize the benefits of diversification even for small investments.
- **Cost advantages**: the mutual fund can negotiate lower transaction fees than would be available to the individual investor.
- **Managerial expertise**: many investors prefer to rely on professional money managers to select their investments.

Source: Mishkin/Eakins

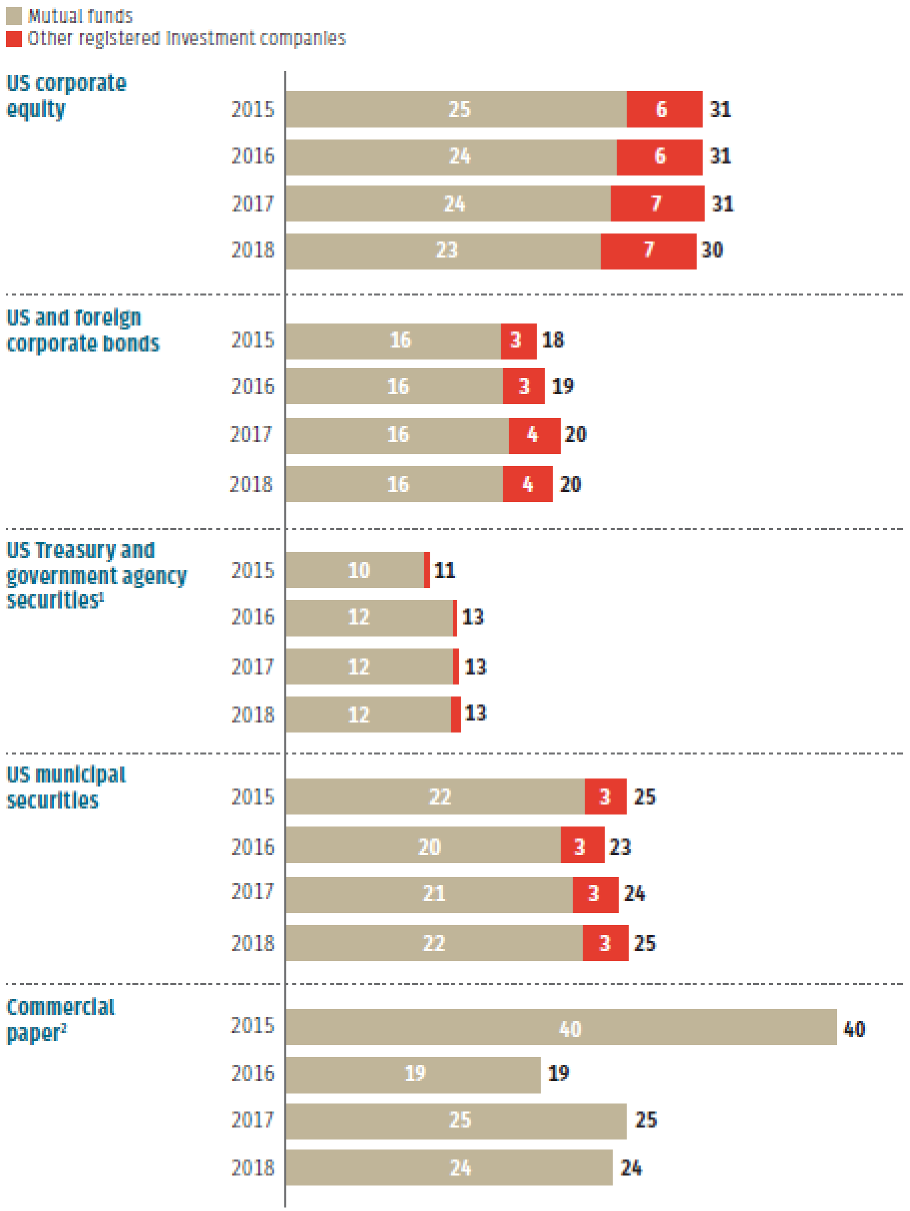
Disadvantages of Collective Investments

- **Costs Despite Negative Returns**: Fees and expenses are due regardless of how the fund performs.
- **Lack of Control**: Investors typically cannot ascertain the exact make-up of a fund's portfolio at any given time, nor can they directly influence which securities the fund manager buys and sells or the timing of those trades.
- **Price Uncertainty**: Unlike common stocks, the price at which you purchase or redeem shares in a mutual fund will typically depend on the fund's NAV, which the fund might not calculate until many hours after you've placed your order. In general, mutual funds must calculate their NAV at least once every business day, typically after the major U.S. exchanges close.

Source: SEC

Investment Companies Channel Investment to securities markets

% of total market securities held by investment companies, year-end 2015–2018



Source: Investment Company Factbook 2019

Summary

- Pros and cons of collective investment

Test Your Understanding

- Investors in mutual funds benefit most from denomination intermediation when they seek to invest in
  - Small Stocks
  - Bonds
- One of the disadvantages of investing through mutual funds is
  - No control over investments
  - Costs irrespective of performance
  - Dependence on other investors behavior
  - All of the above
  - None of the above

Distinguishing Features of Mutual Funds

- Investors purchase mutual fund shares **from the fund itself** (or through a broker for the fund) instead of from other investors on a secondary market, such as the New York Stock Exchange or Nasdaq Stock Market
- The price = the fund's per share **net asset value** (NAV) plus any shareholder **fees** that the fund imposes at the time of purchase (such as sales loads)
- Mutual fund shares are "redeemable," meaning investors can sell their shares back to the fund (or to a broker acting for the fund)
- Mutual funds generally create and sell new shares to accommodate new investors. In other words, they sell their shares on a continuous basis, although some funds stop selling when, for example, they become too large
- The investment portfolios of mutual funds typically are managed by separate entities known as "investment advisers" that are registered with the SEC

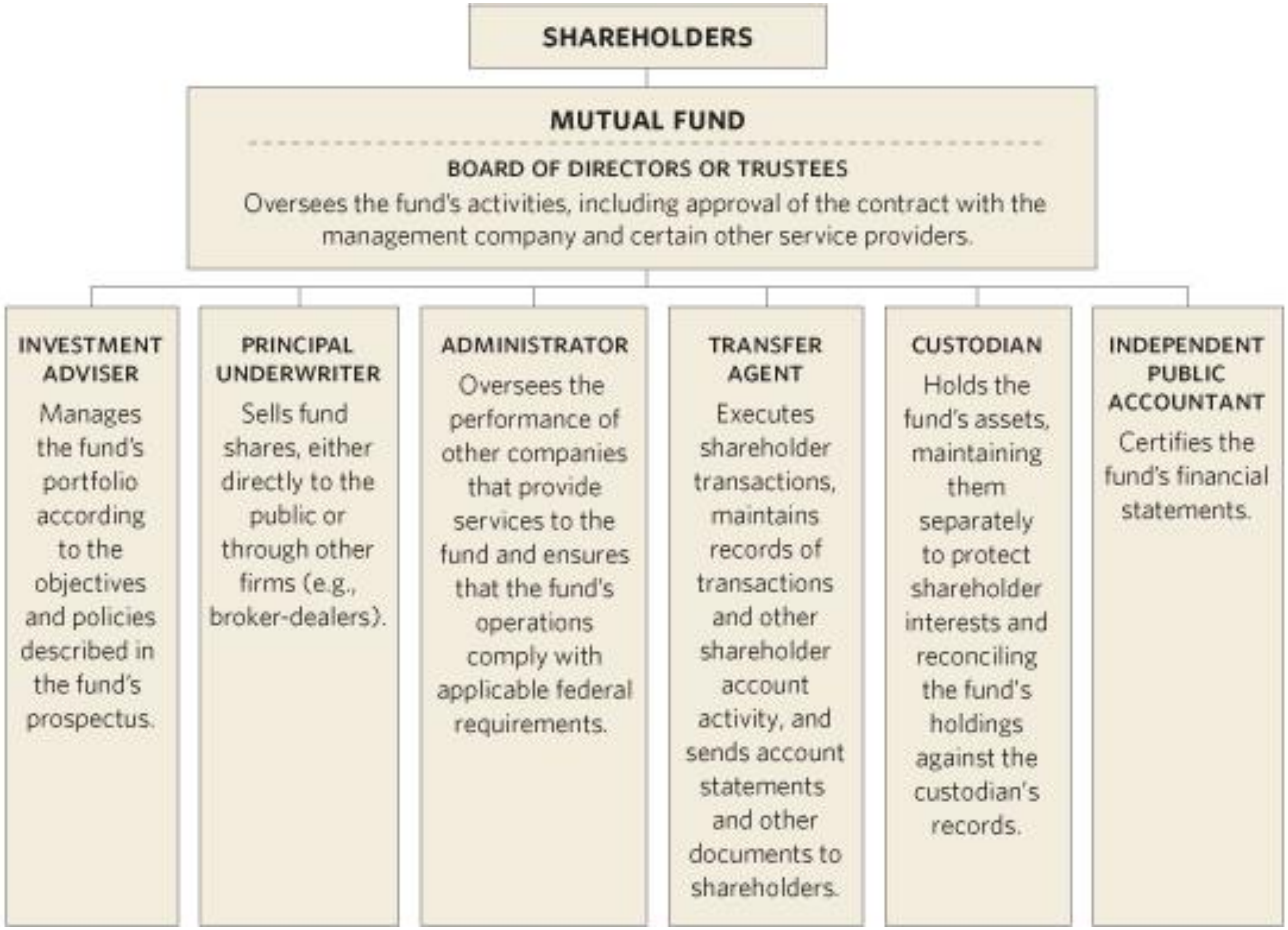
Source: SEC

Mutual Fund Structure

- **Closed-End Fund**: a fixed number of nonredeemable shares are sold through an initial offering and are then traded in the OTC market. Price for the shares is determined by supply and demand forces.
- **Open-End Fund**: investors may buy or redeem shares at any point, where the price is determined by the **net asset value** of the fund.

Source: Mishkin/Eakins

The Organizational Structure of a Mutual Fund



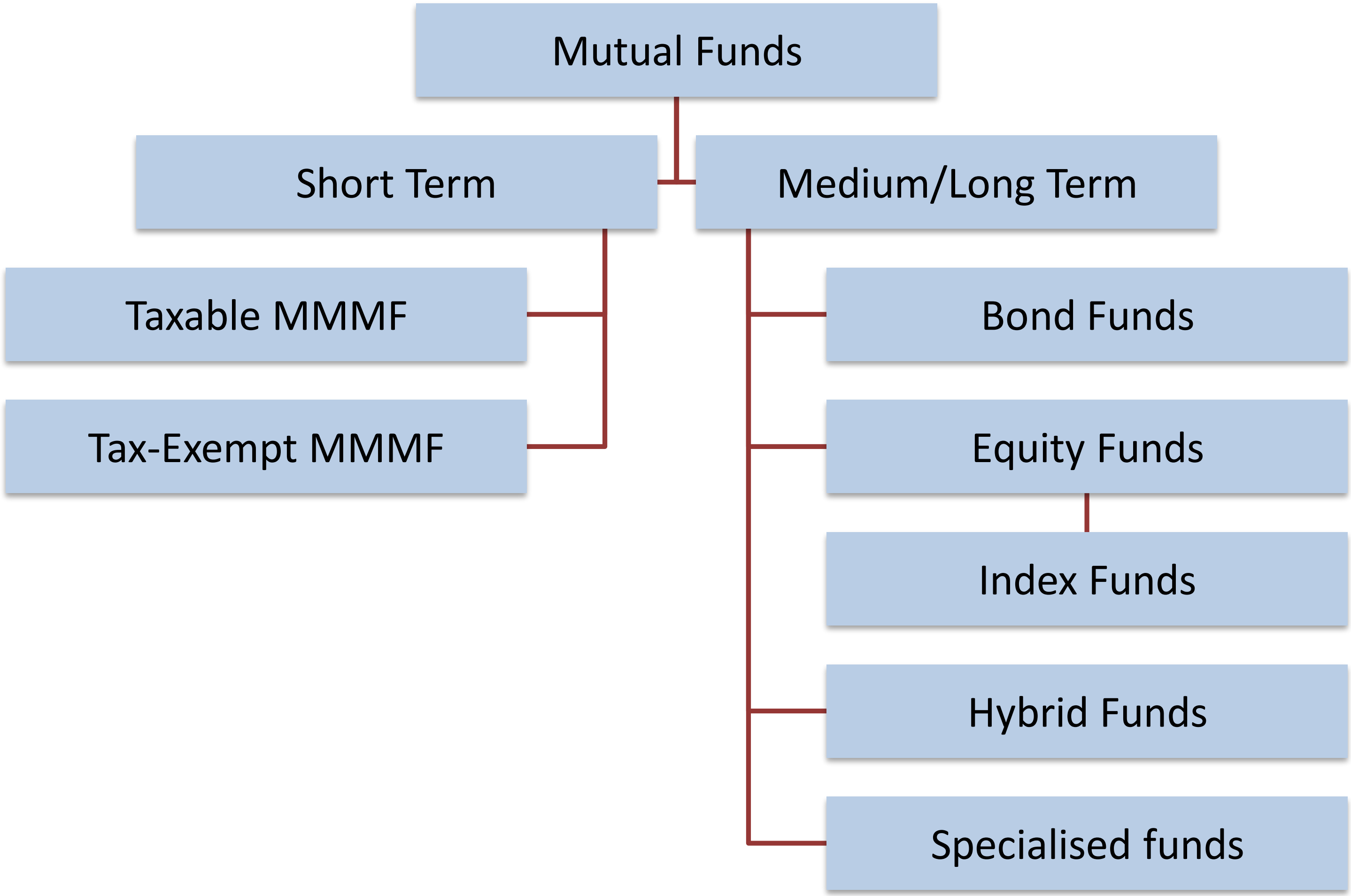
Source: ICI

Unit Trusts vs. Mutual Funds

	Unit Trusts	Mutual Funds
Form of establishment	Trust	Limited liability company
Beneficiary	Unit holder	Shareholder
Governing law	Trust law	Company law
Legal document in which the rules are laid down	Trust deed	Company's articles/bye laws & custodian agreements
Who protects investor interests	Trustee	Custodian (but according to the custodian agreement and articles/bye laws)
Who owns or holds the fund assets	Trustee holds the assets for the benefit of the investors	The mutual fund company owns the assets and investors are shareholders of the company
Who is liable	Trustee	The company has limited liability; directors can be liable

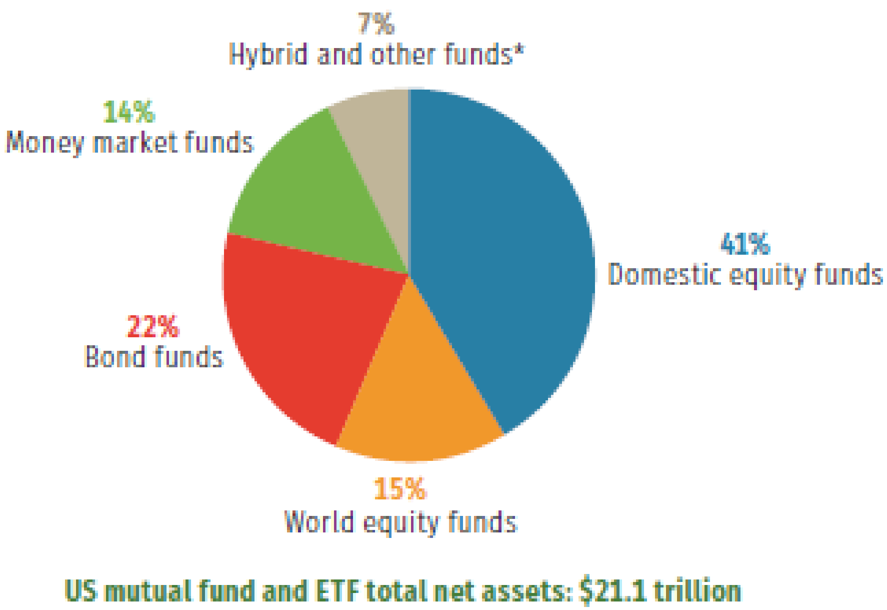
Source: http://www.hkifa.org.hk/eng/download/about_publications/E_FundInv.pdf

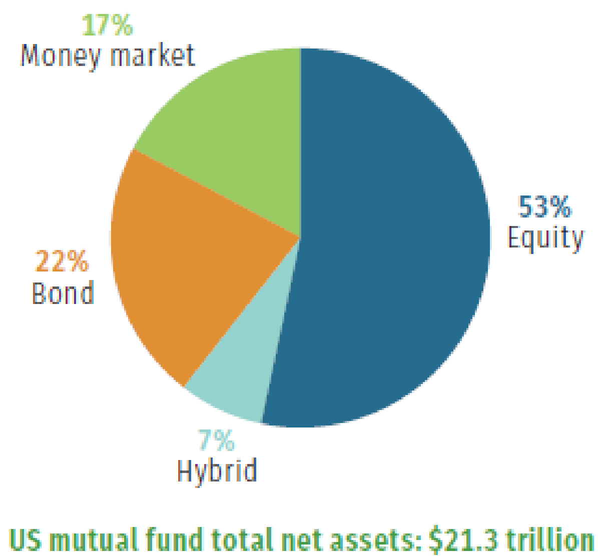
Types of Mutual Funds



In the US, Equity Mutual Funds Held More Than Half of Mutual Fund and ETFs Total Net Assets

Percentage of total net assets, year-end 2019





Source: Investment Company Factbook 2020

Money Market Mutual Funds

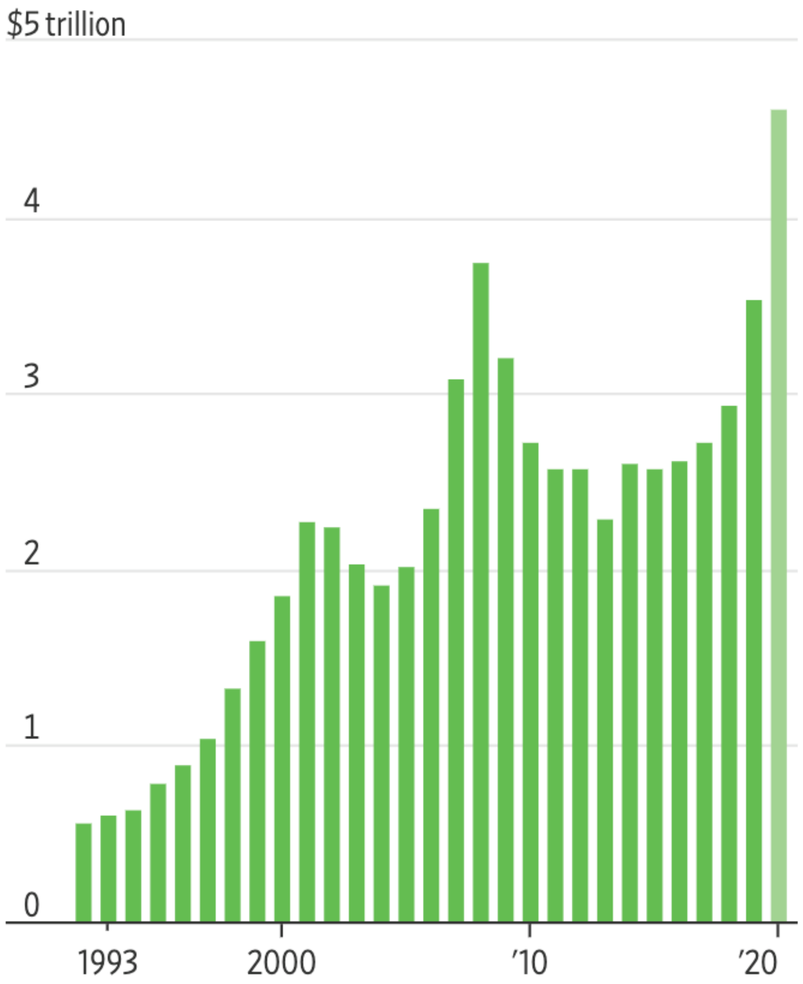
- **Money market funds** are **a type of mutual fund** registered under the Investment Company Act of 1940 and regulated under rule 2a-7 of the Act.
- Money market funds pay dividends that reflect prevailing short-term interest rates, are redeemable on demand, and, unlike other investment companies, **seek to maintain a stable NAV, typically $1.00.** This combination of principal stability, liquidity and payment of short-term yields has made money market funds popular cash management vehicles for both retail and institutional investors.
- There are many kinds of money market funds, including ones that invest primarily in government securities, tax-exempt municipal securities, or corporate debt securities.
  - Money market funds that primarily invest in corporate debt securities are referred to as **prime funds**.

Source: ICI

Assets in MMF

Assets in MM funds recently swelled to about $4.6 trillion, the highest level on record, according to data from Refinitiv Lipper going back to 1992. Assets in money-market funds have grown by about $1 trillion this year, pushing assets in these funds above the prior high of roughly $3.8 trillion reached during the last financial crisis.

Assets in money-market funds

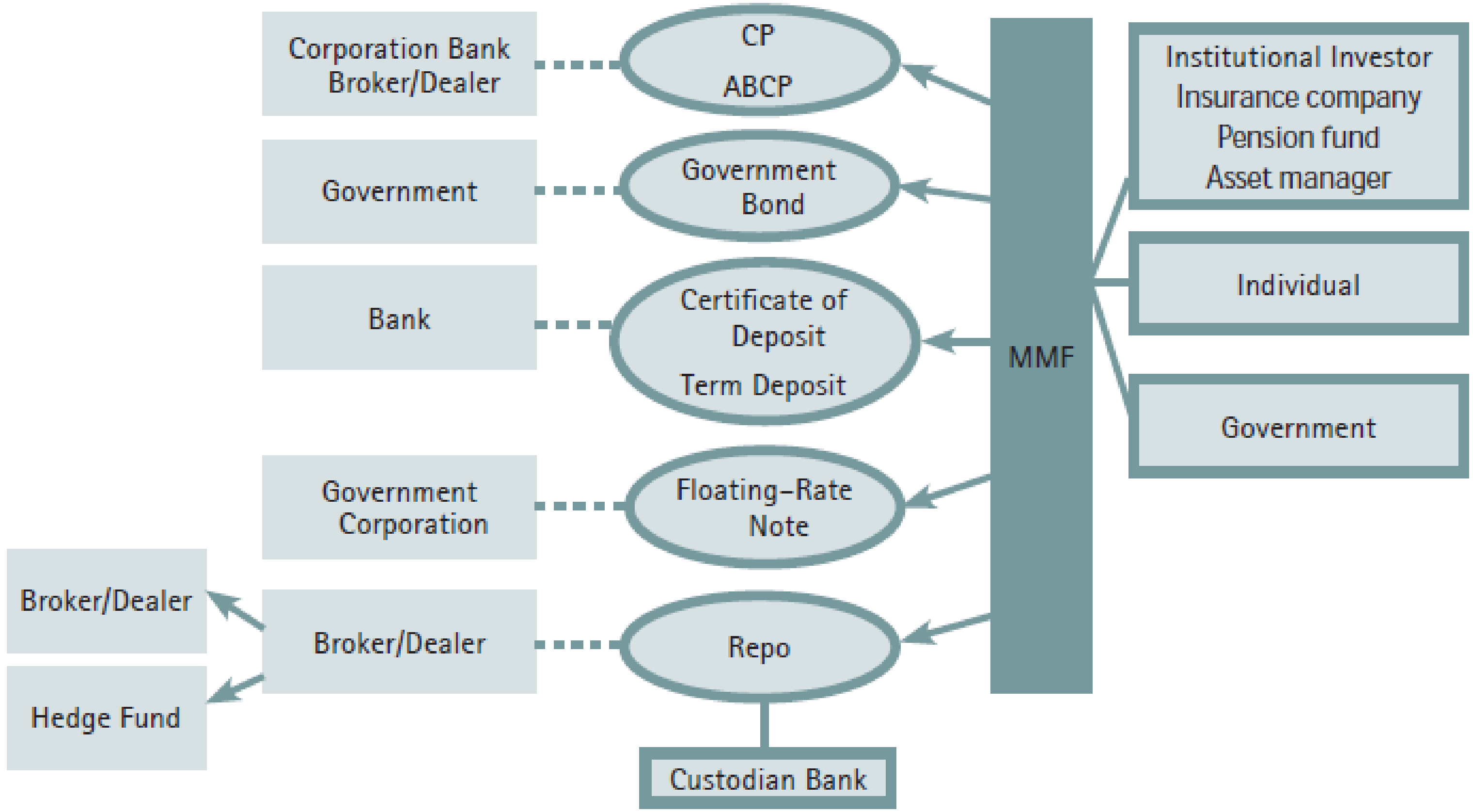


Note: Figures for 2020 are through June 10.
Source: Refinitiv Lipper

MMF vs. MMDA

- A **money market fund** is a type of mutual fund. It is not guaranteed or FDIC insured. When you buy shares in a money market fund, you should receive a prospectus.
- A **money market deposit account** is a bank deposit. It is guaranteed and FDIC insured. When you deposit money in a money market deposit account, you should receive a Truth in Savings form.

The Basic Functioning of a MMF in the United States



Source: IIF report on Shadow Banking

Breaking the buck – what is safe?

"It used to be O.K. to have money in a CD, but now you have to worry, 'Is my bank going to go under?' " he added. "You used to be able to buy a guaranteed annuity from an insurance company, but now you have to worry, 'Is my insurance company going to go under?' Or, you can have auction-rate preferred securities, but now there is no market."

Source: New York Times 17 September 2008: "Money Market Funds Enter a World of Risk "

Fallout at a Money Market Fund

When shares in the Reserve Primary money market fund fell to 97 cents on the dollar invested on Tuesday, investors rushed to redeem them. The fund had been heavily invested in Lehman Brothers, which filed for bankruptcy protection on Monday.

Largest U.S. money market funds

		ASSETS IN BILLIONS	
RANK	FUND FAMILY	TOTAL ASSETS AS OF TUESDAY SEPT. 16	CHANGE SINCE FRIDAY, SEPT. 12
1	Fidelity	$425.7	–$3.5
2	JPMorgan	273.1	2.6
3	BlackRock	268.2	– 8.5
4	Federated	234.1	0.7
5	Dreyfus	216.7	9.3
6	Schwab	197.0	1.5
7	Vanguard	190.7	– 0.4
8	Goldman Sachs	180.9	– 3.8
9	Columbia Management	146.2	0.8
10	Legg Mason	114.3	1.6
11	Morgan Stanley	110.9	– 7.5
12	Wells Fargo	108.6	1.5
13	AIM	70.9	– 1.6
14	Deutsche	62.9	– 1.7
15	UBS	62.3	– 0.5
16	Northern	61.4	1.2
17	First American	58.6	– 0.3
18	**Reserve**	**57.7**	**–24.8**
19	Evergreen	56.1	– 1.0
20	SSgA	42.0	– 0.1

Source: iMoneyNet

THE NEW YORK TIMES

MMF Regulations - 2010

- Money market funds are strictly regulated by the **SEC**, both as mutual funds generally and pursuant to **Rule 2a-7 under the Investment Company Act of 1940.**
- **Rule 2a-7** includes several conditions that limit risk in a money market fund's portfolio by governing the credit quality, liquidity, diversification, and maturity of money market fund investments.
- The Securities and Exchange Commission (SEC) in **January 2010** approved **amendments to Rule 2a-7** under the Investment Company Act of 1940. The amendments tighten fund liquidity requirements, impose stricter quality requirements, address reliance on rating agencies, impose stricter maturity limits, require enhanced disclosure of portfolio holdings and address issues that arise when a money market fund experiences market challenges.
- Funds that meet Rule 2a-7's risk-limiting provisions are allowed to value their securities at **amortized cost**, rather than at market value. This allows the fund to value its shares **at a fixed price (usually $1.00)** under a wide range of market conditions.

Source: ICI

Regulation of MMMF

- **Credit Quality**: At least 97 % of a money market fund's assets must be invested in securities that receive the highest short-term rating or securities of comparable quality (known as "First Tier Securities").
- **Liquidity**: all taxable funds must maintain 10 % of assets in "daily liquid assets," which means cash, U.S. Treasuries, or securities that mature or are subject to a demand feature within one business day. All funds also must have 30 % of assets in "weekly liquid assets," which means cash, U.S. Treasuries, other government securities with remaining maturities of 60 days or less, or securities that mature or are subject to a demand feature within five business days.
- **Diversification:** money market funds may not invest more than 5 % of assets in the securities of any single issuer. The limit is set at 0.5 % if the issuer has received ratings in the second highest short-term rating category .
- **Maturity:** Money market funds cannot acquire a portfolio security with a remaining maturity of greater than 397 days . Money market funds are required to maintain a dollar-weighted average maturity of 60 days or less and a weighted average life maturity of 120 days or less without consideration of interest rate reset dates on variable-or floating-rate securities.

Source: ICI

2014 amendments (effective 2016)

- The new rules :
  - require a **floating net asset value (NAV)** for **institutional prime money market funds**, which allows the daily share prices of these funds to fluctuate along with changes in the market-based value of fund assets These funds no longer will be allowed to use the special pricing and valuation conventions that used to permit them to maintain a constant share price of $1.00.
  - provide non-government money market fund boards new tools **– liquidity fees and redemption gates** – to address runs.

Current issues about money market funds

- Regulators worry about the impact of MMF in the financial system particularly whether the funds present systemic risk
- The European crisis has caused many funds to pull out of the European market, severely impacting Eurozone banks funding capacity
- Funds have suffered from low interest rate environment with investors pulling money out of the funds;
- NIRP affected the business model

MMMF US regulations

Existing money market funds rule in the US
Effective as of October 2016

	US Treasury MMF	US Government MMF	MMFs	municipal MMFs
NAV per share	Stable			Floating
NAV rounding	Fund collar – 50bp rounding 2 decimals			N/A 4 decimals
Accounting method	Amortized Cost			Marked to market / model
Liquidity (daily / weekly)	n/a	10% / 30%		
Mandatory fees and gates	Voluntarily basis provided previously disclosed to investors		When weekly liquidity <10%	
Discretionary fees and gates	Voluntarily basis provided previously disclosed to investors		When liquidity <30%	
WAM / WAL	60 days / 120 days			
Max. maturity	397 days			
Diversification	99,5% in public debt instruments		5% issuer/ Max 10% (for a prime) and 15% (for a municipal) of AUM could be subject to guarantees or demand features from a single institution.	
Sponsor support	Yes			

Source: Moody's Investors Service, Securities and Exchange

MMMF EU Regulations

Existing money market funds rule in the European Union
Effective as of July 2018 (for new funds) and January 2019 (for existing funds)

	Public Debt CNAV	LVNAV	Short-Term VNAV	Standard VNAV
NAV per share	Stable		Floating	
NAV rounding	Fund collar – 50bp rounding 2 decimals	Fund collar – 20bp rounding 2 decimals	N/A 4 decimals	
Accounting method	Amortized cost	Amortized cost for securities <75 days Marked to market / model >75 days	Marked to market / model	
Liquidity (daily / weekly)	10% / 30%		7.5% / 15%	
Mandatory fees and gates	When weekly liquidity <10%		N/A	
Discretionary fees and gates	When liquidity <30% and net daily redemptions >10%		UCITS provisions	
WAM / WAL	60 days / 120 days			6 months / 12 months
Max. maturity	397 days			2 years
Diversification	99,5% in public debt instruments	5% issuer / 10% credit institution		
Sponsor support	No			

Source: Moody's Investors Service, Official Journal of the European Union

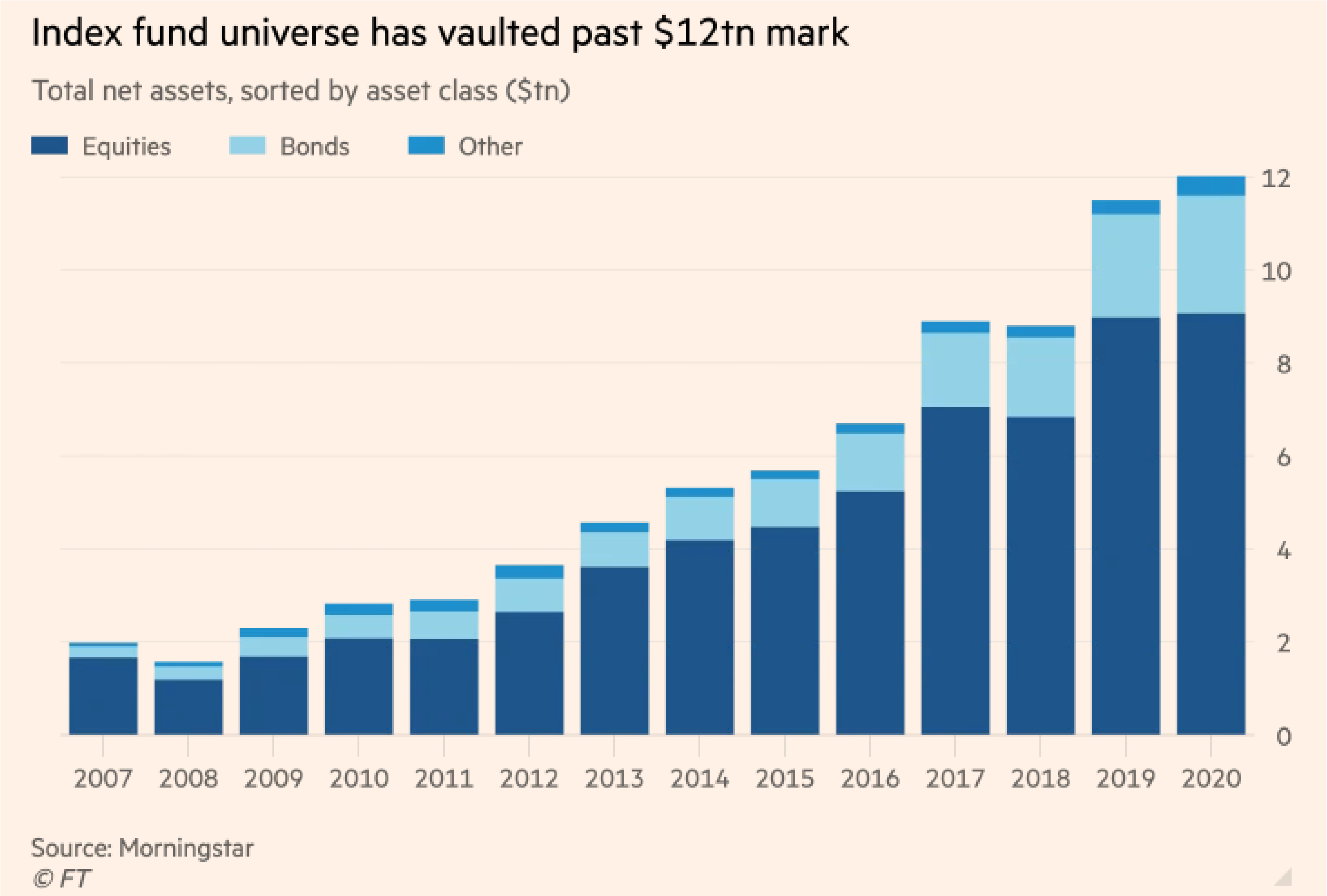
Summary

- Mutual Funds
  - Features
  - Structure
  - Organisation
- Money Market Funds
  - Definitions
  - Regulations
  - Understanding the Reserve Fund crisis and consequences

Index Funds and the shift to passive investing

- Index Funds
  - Seek to replicate the performance of a given benchmark (index). For example, an S&P 500 index fund would hold the equities comprising the S&P 500.
  - Offers benefits of traditional mutual funds without the fees of the professional money manager.

Index Funds



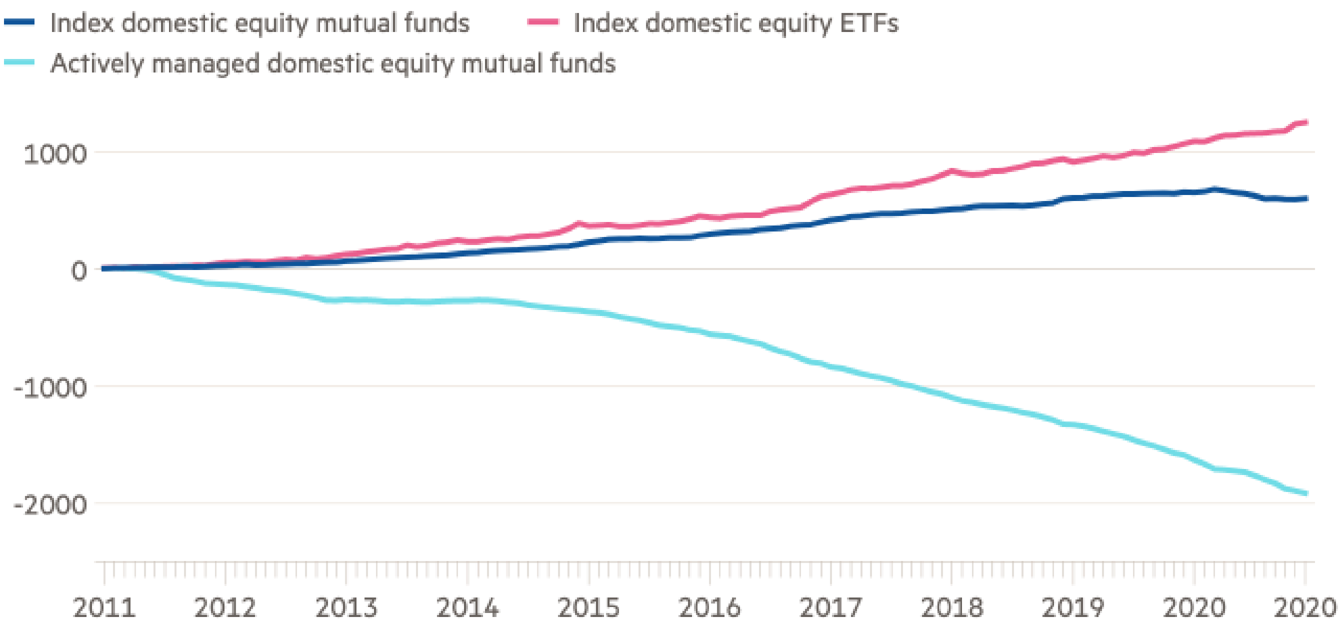
Source: FT 28 Dec 2020

HKUST BUSINESS SCHOOL 香港科大商學院

Shift to passive investing continues

Scepticism about active management has led to money leaving many mutual funds

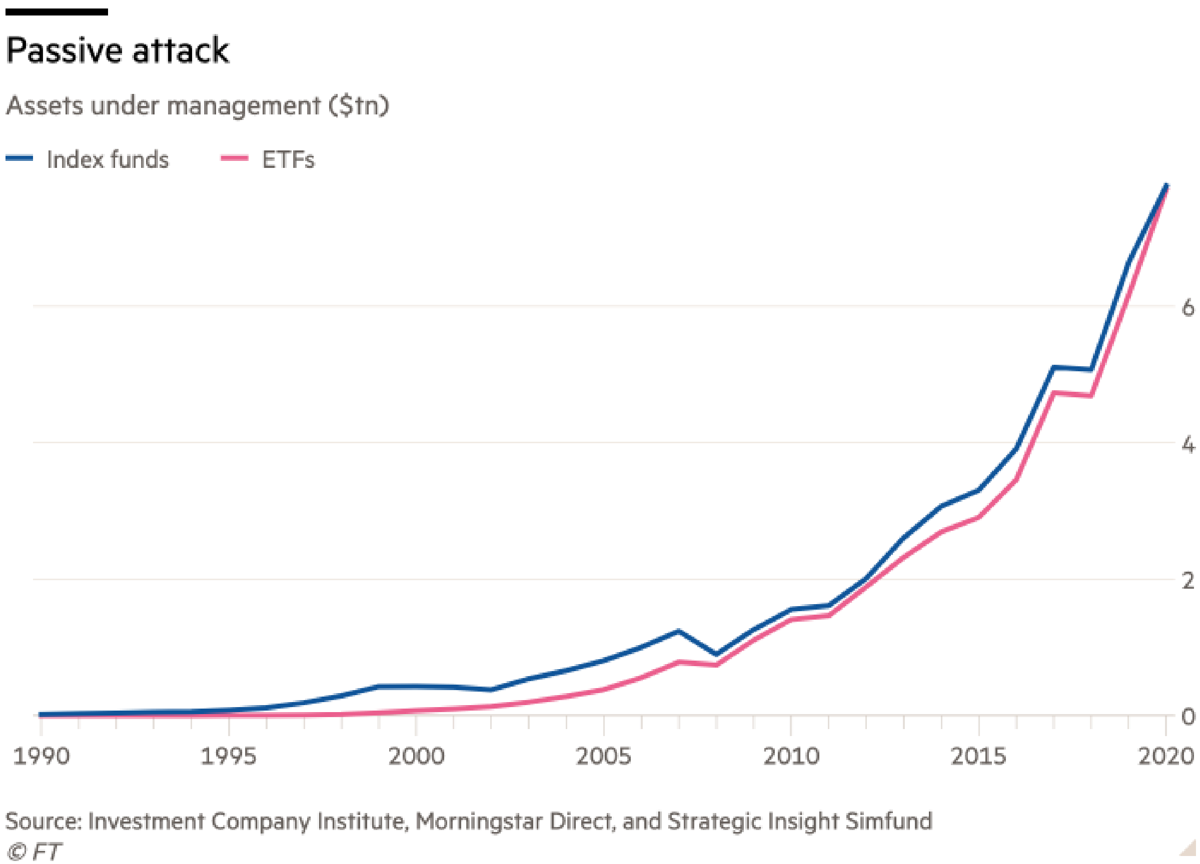
Cumulative flows since 2011 ($bn)



Data includes reinvested dividends
Source: Investment Company Institute
© FT

Source: FT 5 May 21

Global passive assets hit $15tn as ETF boom heats up



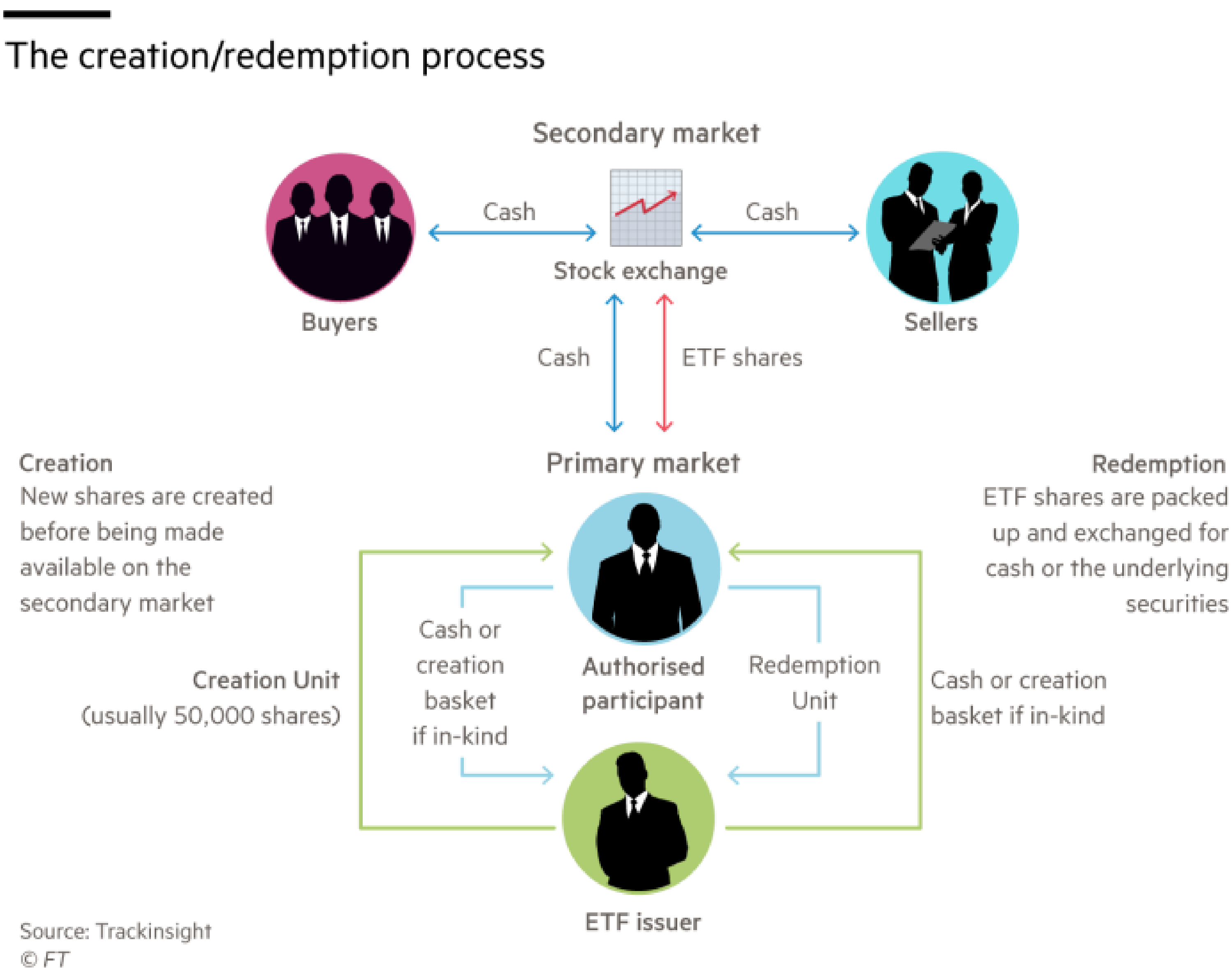
Exchange Traded Funds (ETFs)

- ETFs are investment funds generally designed to track a particular index (generally stock index e.g. Footsie)
- Investors buy shares in the ETF
  - Open-ended → fund grows and shrinks with purchase/sale
  - ETF shares are traded on the stock exchange
    - shares bought/sold through brokers – investors pay commissions on the trades
  - No premium/discount
    - shares reflect the value of the investment in the fund
    - there is a small spread (bid/offer prices)
    - an annual management charge is deducted from the fund
  - No stamp duty on purchases (unlike other shares)

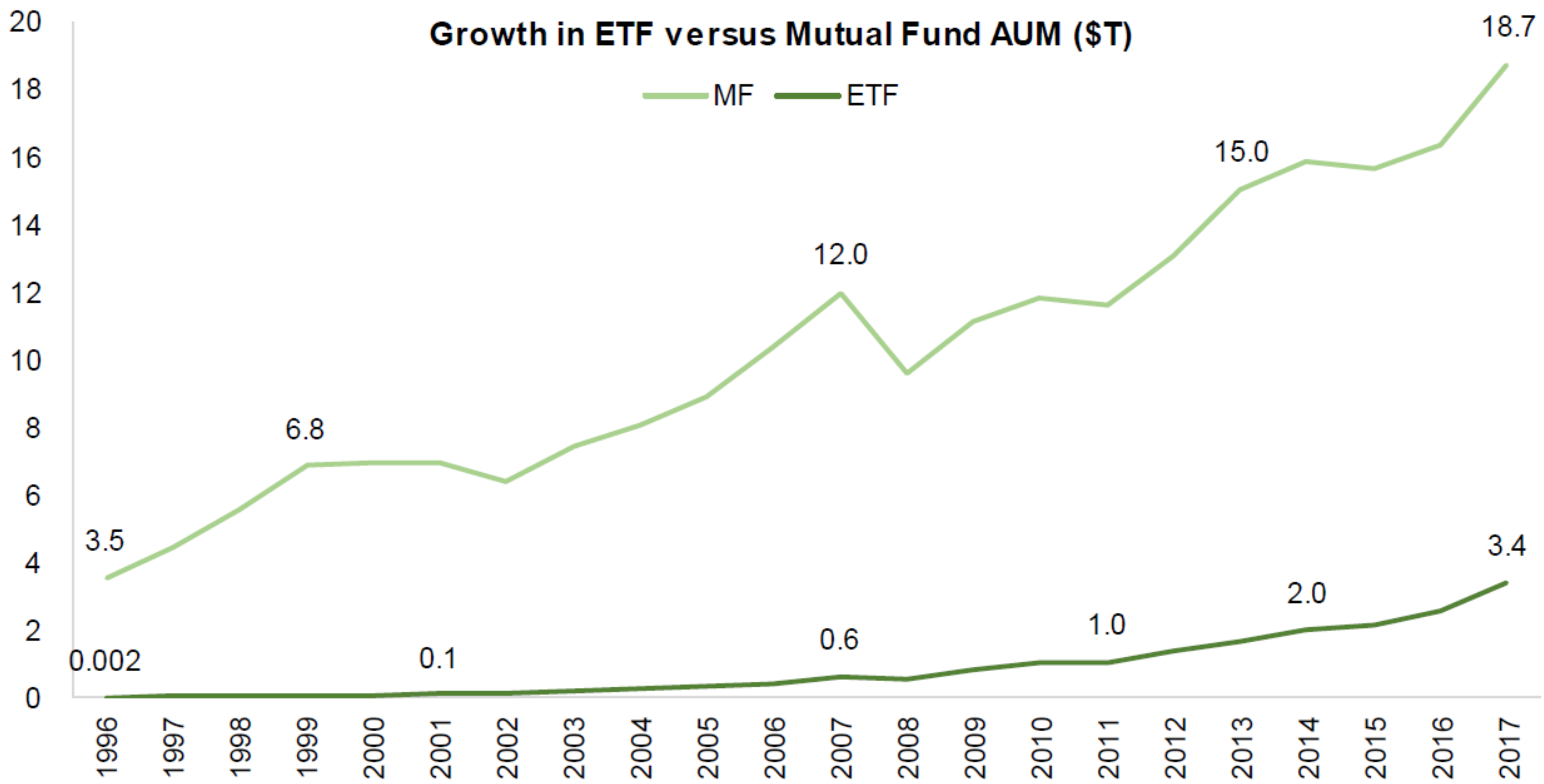
ETFs in the US: "Exchange-traded funds" (ETFs) are a type of investment company that aims to achieve the same return as a particular market index. They can be either open-end companies or UITs. But ETFs **are not** considered to be, and are not permitted to call themselves, **mutual funds.**

Source: SIIUK

ETF

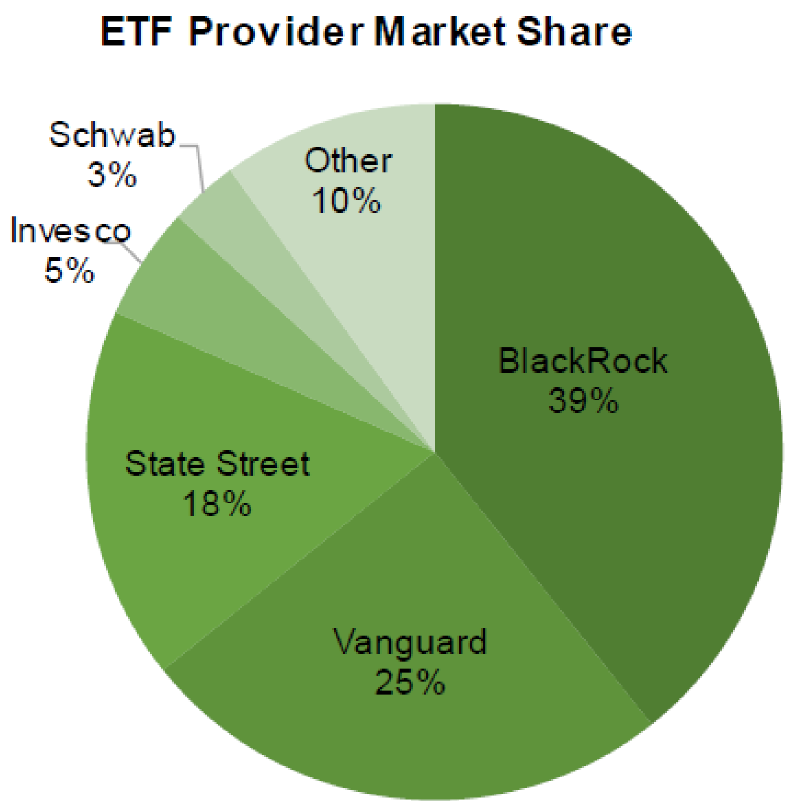

The creation/redemption process
Secondary market
Cash
Cash
Stock exchange
Buyers
Sellers
Cash
ETF shares
Primary market
Creation
New shares are created before being made available on the secondary market
Redemption
ETF shares are packed up and exchanged for cash or the underlying securities
Cash or creation basket if in-kind
Authorised participant
Redemption Unit
Creation Unit
(usually 50,000 shares)
Cash or creation basket if in-kind
ETF issuer
Source: Trackinsight
© FT

ETFs v. MFs
1996-2017



Source: SIFMA and ICI

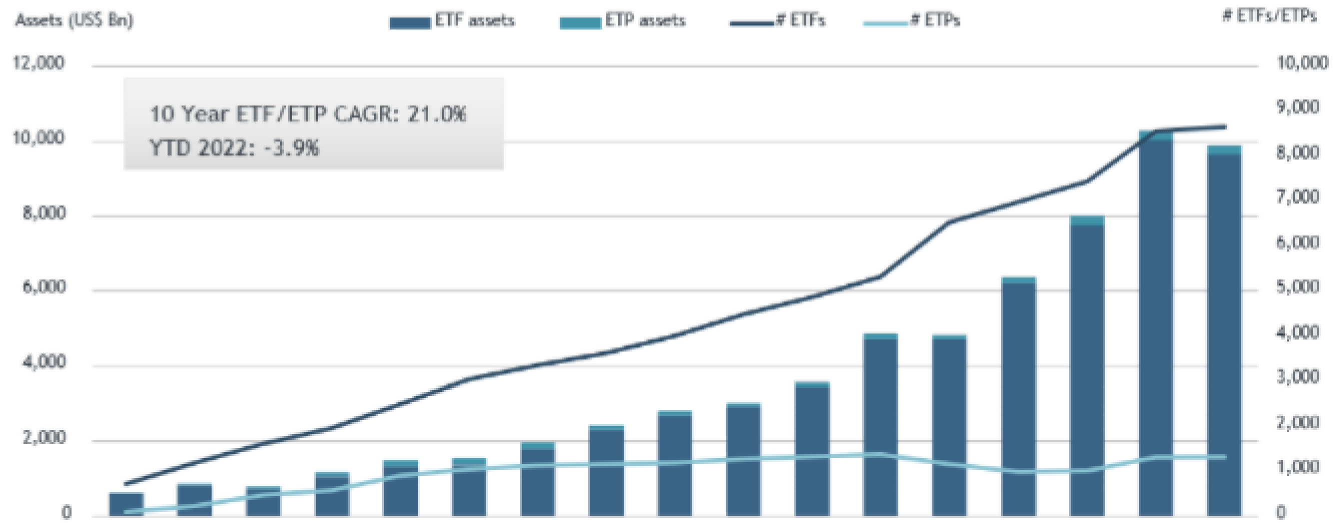
Top 10 ETF Managers



Source: etf.com, SIFMA estimates (as of June 2018)

ETF and ETP AuM as of Jan 2022

Global ETF and ETP assets as of the end of January 2022



Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Jan-22
# ETFs	729	1,196	1,622	1,974	2,503	3,044	3,359	3,625	4,010	4,486	4,869	5,320	6,531	6,983	7,435	8,550	8,644
# ETFs/ETPs	829	1,426	2,096	2,554	3,416	4,101	4,493	4,788	5,209	5,765	6,204	6,701	7,702	7,974	8,450	9,875	9,977
ETF assets	579	806	716	1,041	1,313	1,355	1,771	2,284	2,674	2,898	3,423	4,690	4,683	6,194	7,736	10,021	9,625
ETF/ETP assets	603	856	774	1,157	1,478	1,526	1,951	2,402	2,787	2,997	3,552	4,839	4,815	6,363	7,991	10,268	9,872

Source: ETFGI data sourced from ETF/ETP sponsors, exchanges, regulatory filings, Thomson Reuters/Lipper, Bloomberg, publicly available sources and data generated in-house.Note: This report is based on the most recent data available at the time of publication. Asset and flow data may change slightly as additional data becomes available.

Key Issues with ETFs

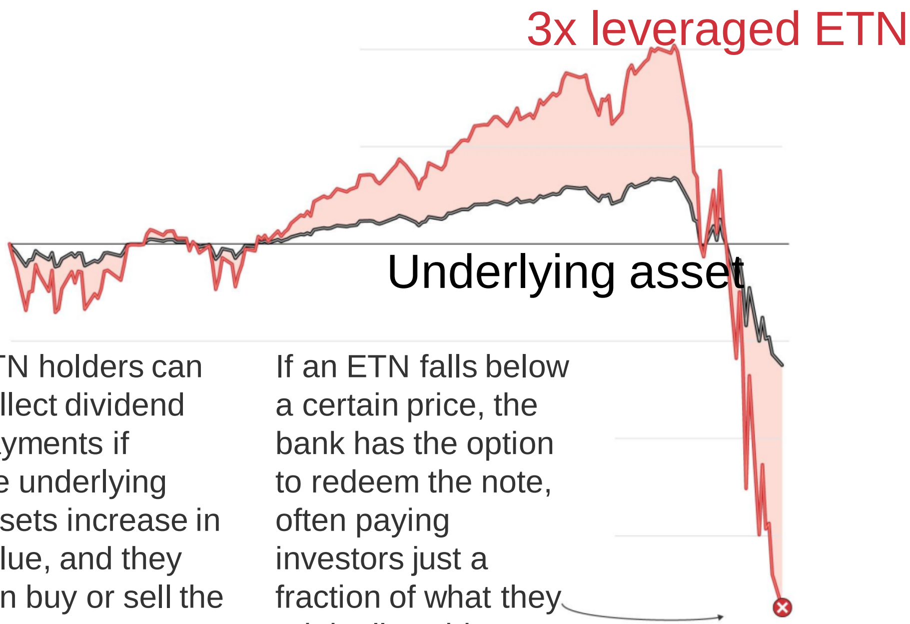
- Because shares in ETFs are traded like stocks, the prices reflect supply/demand not just the underlying value of the funds assets
- Just like stocks, it is possible to buy options on ETFs or go short ETFs
- As a result, in days of volatile trading, the share price of an ETF can diverge from the price of the assets it is tracking
- ETF investors who sell in volatile markets may get significantly less than the assets are worth
- Problems with synthetic ETFs where investors take risk on the ETF provider

Source: AWSJ, 19 March 2007 "Fast money folks embrace ETFs adding risk for smaller investors"

Leveraged ETNs

Investing on Steroids
Leveraged exchange-traded notes are complex financial instruments that use debt to amplify returns, which also increases risk.

When a bank issues a typical ETN, the security tracks the value of an underlying asset, such as crude oil or the S&P 500. As markets move, the value of the ETN changes in tandem.



With a leveraged ETN, the bank purchases derivatives, often options, with borrowed money to increase the ETN's returns. An ETN with three-times leverage would triple any gains—but also triple losses.

ETN holders can collect dividend payments if the underlying assets increase in value, and they can buy or sell the notes on an exchange

If an ETN falls below a certain price, the bank has the option to redeem the note, often paying investors just a fraction of what they originally paid

Source: WSJ June 2020

Summary

- Index Funds
- ETFs
  - Understanding key issues

Current issues: ETF (Exchange Traded Funds) development in HK - why so few? (Group 12)

- Video
- https://www.youtube.com/watch?v=NFJXDBJAEEo
- Article
- https://www.funds-europe.com/november-2020/exchange-traded-funds-mapping-hong-kong-s-etf-market

Mutual Fund Prospectuses and Objectives

- In the US, SEC regulations require mutual fund managers to specify the investment objectives of their funds in a prospectus
- A mutual fund's **statutory prospectus** describes the fund's investment goals and objectives, fees and expenses, investment strategies and risks, and informs investors how to buy and sell shares.
- mutual funds and ETFs may elect to provide investors with a short "**summary prospectus**" containing certain key information instead of the full statutory prospectus. If funds use a summary prospectus, the full statutory prospectus and additional information must be available on the Internet and in paper upon request.
- As of 1998, SEC requires key sections of a fund prospectus to be written in 'plain' English

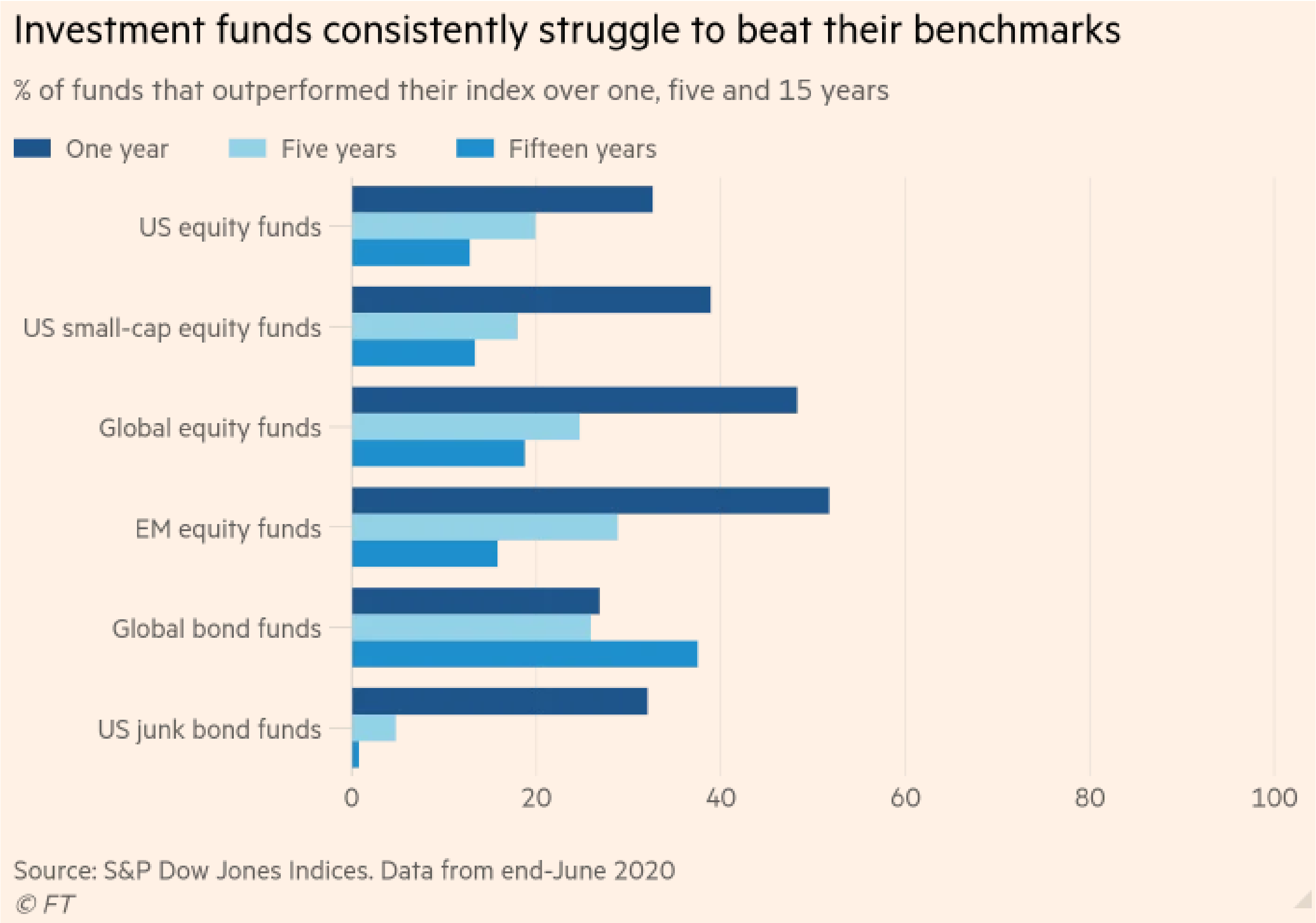
Performance of Mutual Funds

- The definition of risk is different for a mutual fund manager than it is for investors
  - For a fund manager, risk is defined as deviation from the index
  - For an investor, risk is defined as losing money
- Problem arises from diverging interests:
  - There is no incentive for a fund manager to deviate from the herd
    - Chances of winning vs. losing their job
  - Performance is measured against an index not in absolute returns

Active fails

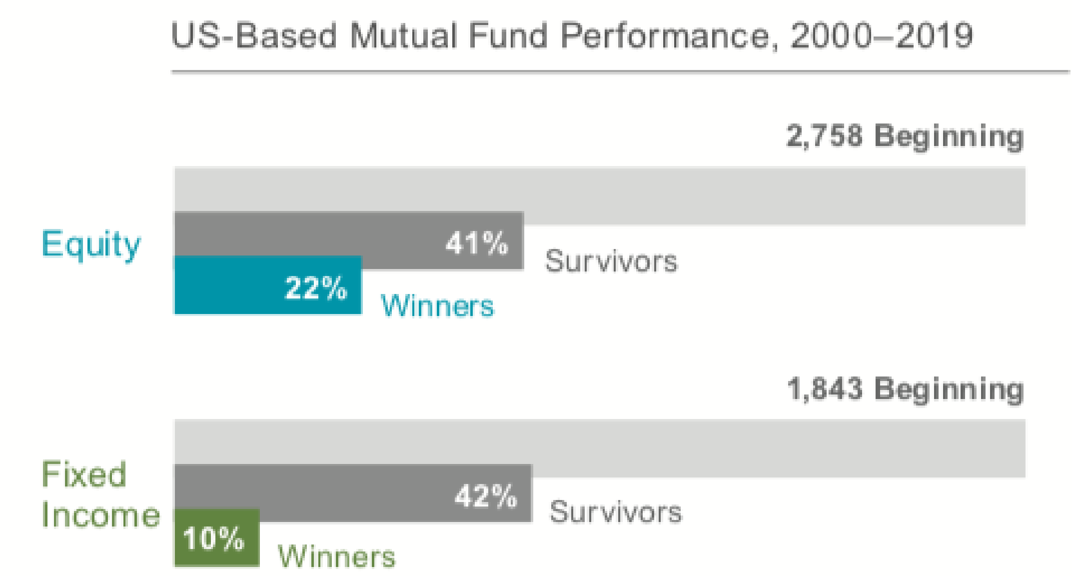
Source: FT 17 July 2016 "Actively failing"

Index outperformance is hard to maintain



Source: FT 11 November 2020

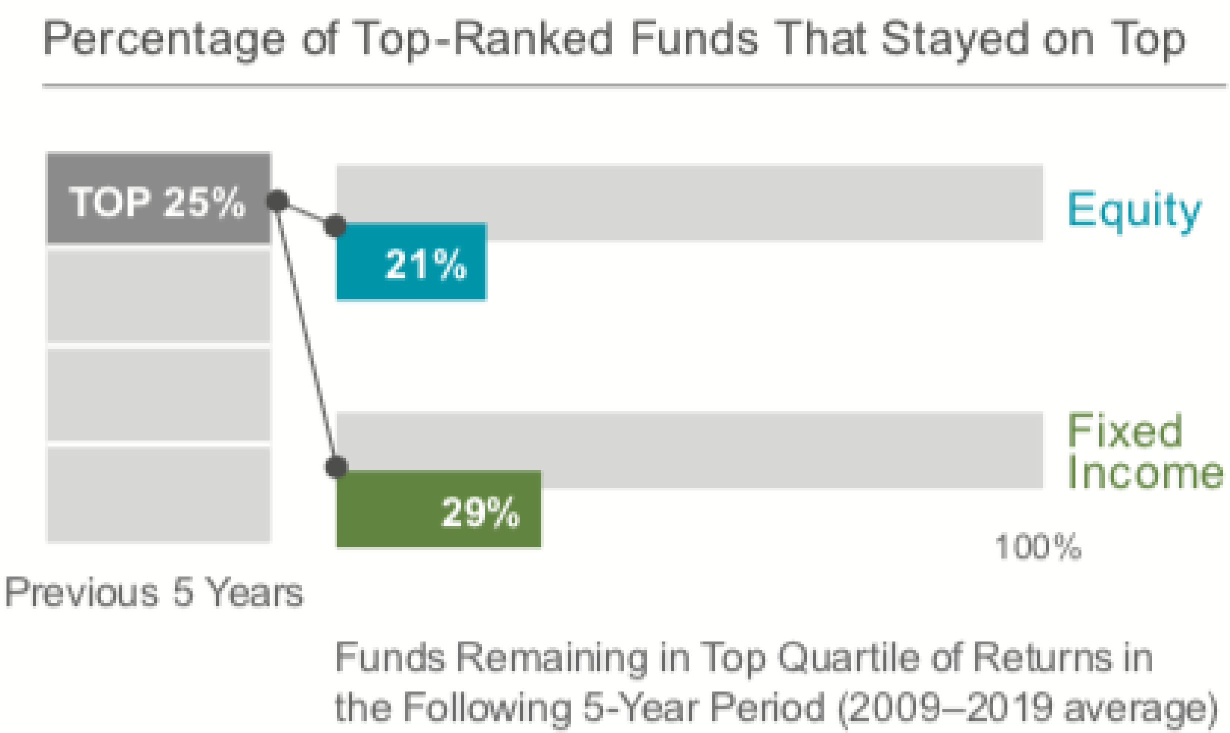
Performance of US stock mutual funds



Surprisingly, the vast majority of active managers did not even survive! They performed so poorly they went out of business or merged with other funds. Only 41% of stock mutual funds and 42% of bond mutual funds were still around after 20 years. Of the survivors, only 22% of stock funds and 10% of bond funds beat their index. The vast majority -- 78% and 90%, respectively, did worse

Performance of US stock mutual funds

Only 21% and 29% of stock and bond funds who out-performed managed to stay on top during the following five years. You'd expect similar results if you picked funds out of a hat



Mutual Fund Costs

- When you buy shares, you pay the current NAV per share plus any fee the fund assesses at the time of purchase, such as a purchase sales load or other type of purchase fee
- When you sell your shares, the fund will pay you the NAV minus any fee the fund assesses at the time of redemption, such as a deferred (or back-end) sales load or redemption fee
- Investors incur fees and/or expenses
  - Upfront and back-end fees
    - Load funds (class A shares) charge an upfront fee for buying the shares
    - No-load funds do not charge this fee
    - Deferred load (class B shares) funds charge a fee when the shares are redeemed
    - If the particular fund charges no front or back end fees, it is referred to as class C shares
  - Fund Operating Expenses

Calculating a Mutual Fund's Net Asset Value (NAV)

NAV is the current market value of all the fund's assets, minus liabilities (e.g., fund expenses), divided by the total number of outstanding shares

Calculation of NAV on an Open-End Mutual Fund

$$NAV = \frac{Total\ market\ value\ of\ assets\ - liabilities}{Number\ of\ mutual\ fund\ shares\ outstanding}$$

Fee Structure of Investment Funds

Other fees charges by mutual funds include:

- Contingent deferred sales charge: A back end fee that may disappear altogether after a specific period
- Redemption fee: Another name for a back end load
- Exchange fee: A fee (usually low) for transferring money between funds in the same family
- Account maintenance fee: Charges if the account balance is too low.
- 12b-1 fee: Fee to pay marketing, advertising,
  and commissions

Source: Mishkin/Eakins

Funds Total Expense Ratio (TER)

"The established metric is the **total expense ratio** (TER), which includes charges such as the annual management fee, administration and legal fees and distribution fees. It does **not** include dealing costs, entry or exit fees (front-end and back-end loads) or performance fees."

Bond and equity funds : all sectors

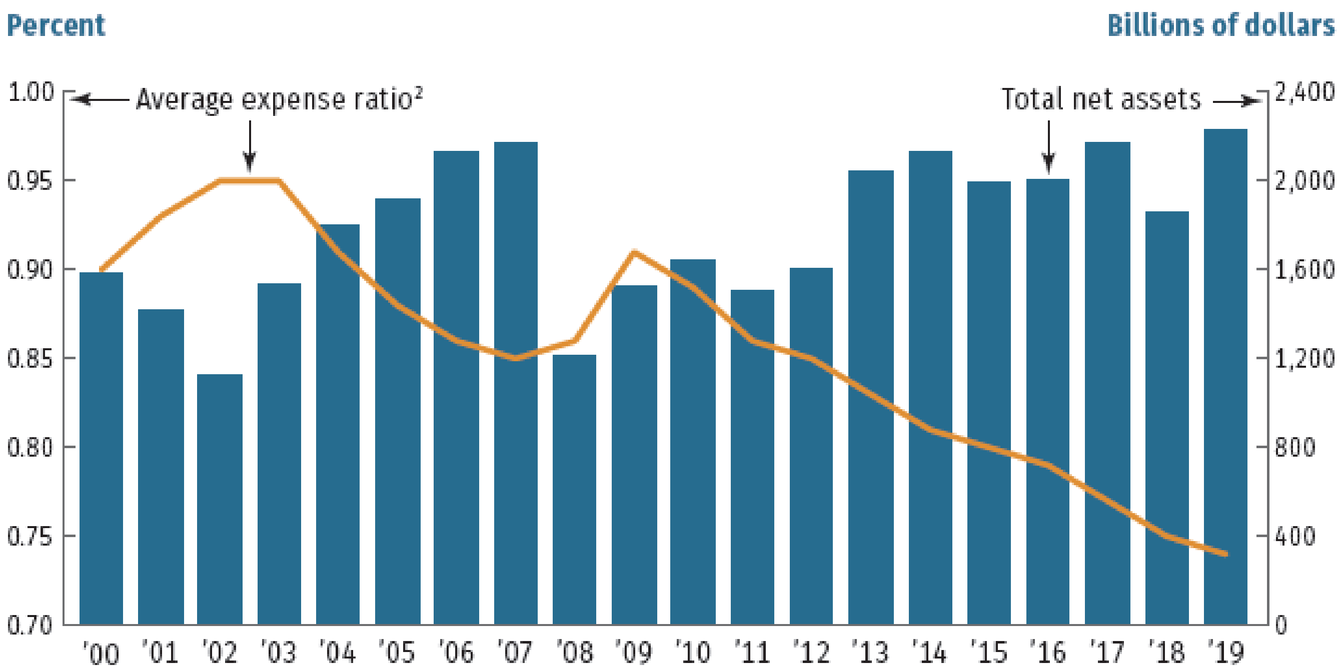
	Asset-weighted TER		Simple average TER		Median TER		Average size ($m)	
	Bond	Equity	Bond	Equity	Bond	Equity	Bond	Equity
Crossborder	1.18%	1.89%	1.24%	1.98%	1.16%	1.93%	476.7	424.4
Germany	0.79%	1.44%	0.88%	1.57%	0.86%	1.57%	272.1	354.3
UK	1.12%	1.63%	1.20%	1.66%	1.17%	1.65%	387.7	356.6
US	0.62%	0.91%	0.83%	1.32%	0.83%	1.31%	961.9	1,410.3

Source:Thomson Reuters

Source: "Call to reveal true fund costs to investors'", FT 01.11.2009

Mutual Fund Expense Ratios Tend to Fall as Fund Assets Rise

Share classes of actively managed domestic equity mutual funds continuously in existence since 2000



[1] Calculations are based on a fixed sample of share classes. Data exclude mutual funds available as investment choices in variable annuities and index mutual funds.

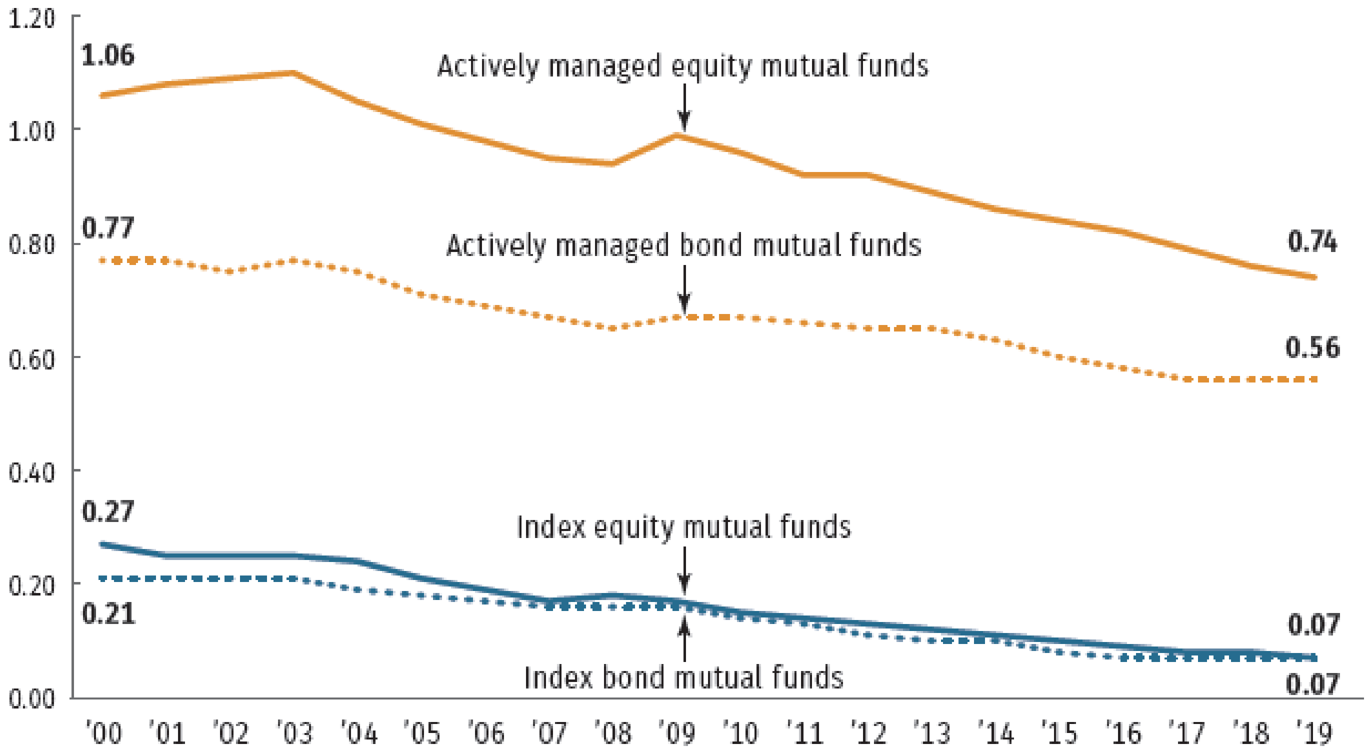
[2] Expense ratios are measured as asset-weighted averages.

Sources: Investment Company Institute, Lipper, and Morningstar. See *ICI Research Perspective*, "Trends in the Expenses and Fees of Funds, 2019."

ICI Fact Book 2020

Expense Ratio of Actively Managed and Index Mutual Funds Have Fallen

Percent, 2000-2019

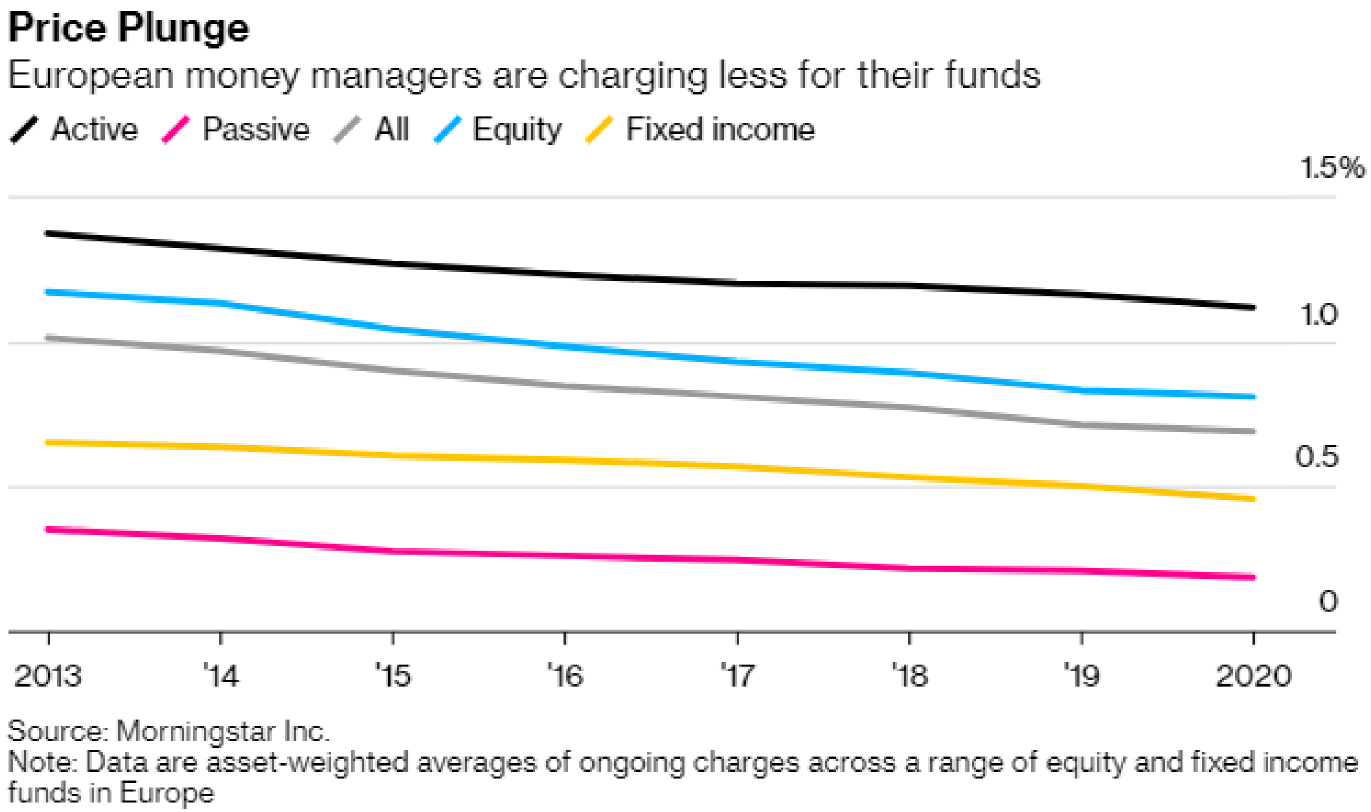


Note: Expense ratios are measured as asset-weighted averages. Data exclude mutual funds available as investment choices in variable annuities.

Sources: Investment Company Institute, Lipper, and Morningstar. See *ICI Research Perspective*, "Trends in the Expenses and Fees of Funds, 2019."

ICI Fact Book 2020

Fund fees in decline



Source: Bloomberg

Returns from Mutual Funds

- You can earn money from your investment in three ways:
  - **Dividend Payments** — A fund may earn income in the form of dividends and interest on the securities in its portfolio. The fund then pays its shareholders nearly all of the income (minus disclosed expenses) it has earned in the form of dividends.
  - **Capital Gains Distributions** — The price of the securities a fund owns may increase. When a fund sells a security that has increased in price, the fund has a capital gain. At the end of the year, most funds distribute these capital gains (minus any capital losses) to investors
  - **Increased NAV** — If the market value of a fund's portfolio increases after deduction of expenses and liabilities, then the value (NAV) of the fund and its shares increases. The higher NAV reflects the higher value of your investment.
- With respect to dividend payments and capital gains distributions, funds usually will give you a choice: the fund can send you a check or other form of payment, or you can have your dividends or distributions reinvested in the fund to buy more shares (often without paying an additional sales load).

Source: SEC

Summary

- Mutual Funds (ct'd):
  - Disclosure requirements
  - Performance (absolute v. relative returns)
  - Costs , expenses and TER
  - NAV
  - returns

Test Your Understanding

- One key issue for investors in collective investment funds is the costs involved. One of the metrics used to compare funds is the TER (Total Expense Ratio). Which of the following costs is <u>not</u> included in the TER?
  - Annual management fee
  - Dealing costs
  - Administration and legal fees
  - Distribution fees
- In the US “breaking the buck” refers to a situation where:
  - the Euro spot price (EUR/USD) falls below 1 US
  - a Money Market Mutual Fund (MMMF)’s NAV (Net Asset Value) goes below $1
  - the NAV of a mutual fund exceeds $1 per share

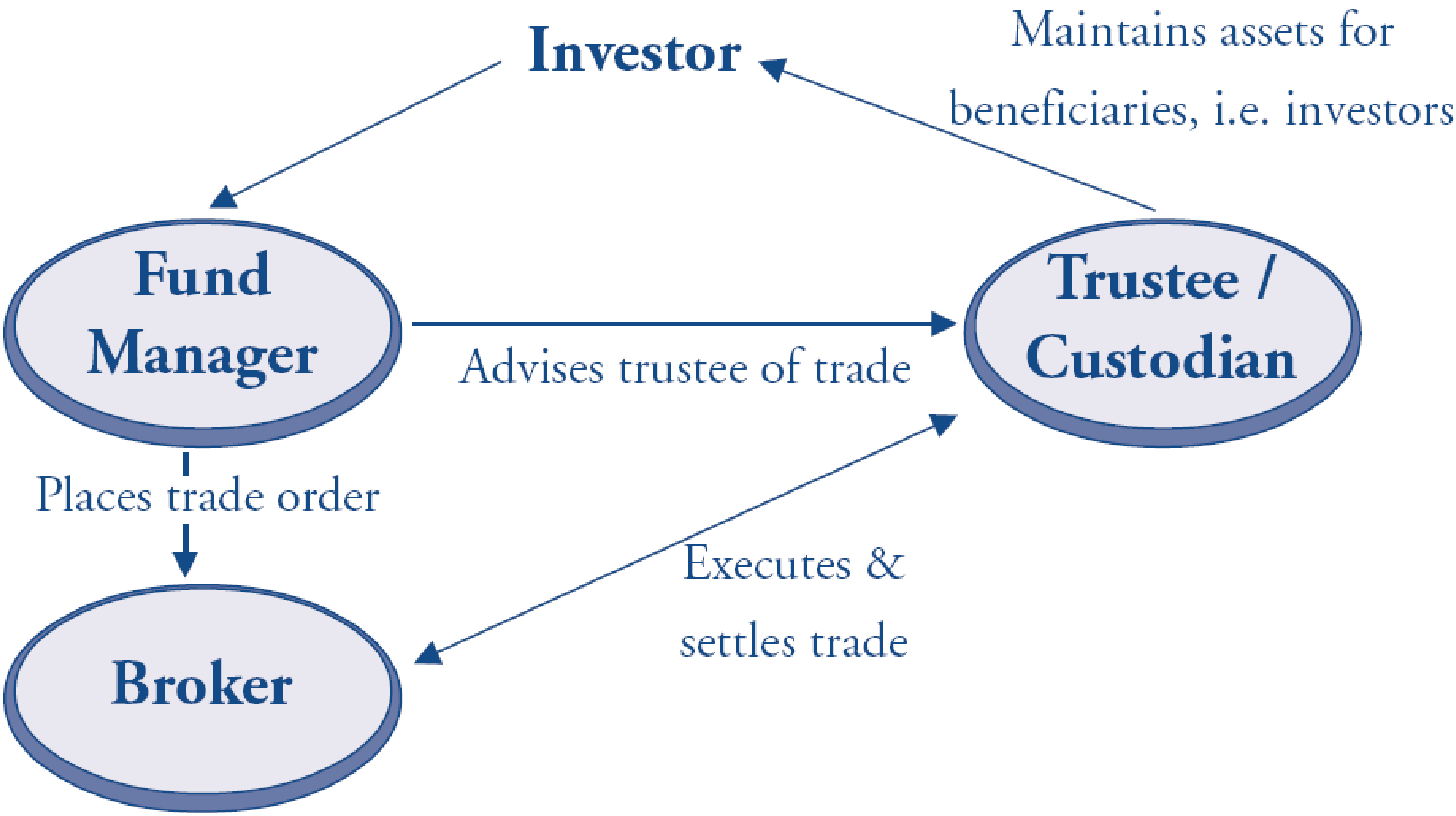
Collective Investments Schemes in Hong Kong

- **Regulation**: Protection of Investors Ordinance; Regulator: the **SFC**; SFC's Code on Unit Trusts & Mutual Funds details the requirements applicable to such schemes in Hong Kong
- **Licensing and registration**: only entities registered with the SFC can distribute mutual funds and unit trusts in HK ; licenses are required to distribute funds (registered dealer or advisor)
- The SFC reviews and authorizes offering documents of retail investment products, pursuant to the SFO or the Companies Ordinance.
- Information requirements include: prospectus, audited annual report, unaudited semi-annual report and other pertinent information; after investments, regular statements (monthly/quarterly) have to be provided to investors including valuation as well as number of units

Collective Investments Schemes in Hong Kong

- The SFC does **not approve** retail investment products: it reviews and **authorizes offering documents** of retail investment products
- Assessment of whether a recommendation is **suitable** for an individual investor must be done by the selling intermediary at the **point of sale**, taking into consideration the investor's personal circumstances including his or her investment objectives and risk appetite.
- SFC Authorized Retail Funds Include Unit Trusts & Mutual Funds

Operation of Mutual Funds and Unit Trusts in HK



Source: HKIFA

Fee Structure for Funds in HK

Type of Fees / Type of Funds	Initial charge	Annual management fee	Redemption charges/ Performance fee
Money Market Bond Equity Warrants	0%-2% 3%-5% 5%-6% 5%-7%	0.25%-1% 0.5%-1.5% 1%-2% 1.5%-2.5%	Varies: the more sophisticated the instrument, the higher the fee levied
Note:	Already included in the offer price	Allocated from the fund on a daily basis. Will not constitute as an out-of-pocket expense for investors.	Only very few companies or fund types charge these fees.

Source: HKIFA

Current issues:Mutual Funds in Asia: industry development and main issues. Practical examples in HK?(Group 11)

- Video

1. https://www.youtube.com/watch?v=DRnRlltpbvY
2. https://www.youtube.com/watch?v=Vg-ws5oMR5U

- Article
- https://www.investopedia.com/ask/answers/10/mutual-funds-advantages-disadvantages.asp

Mutual Fund Fees in Asia (2019)

Asset-weighted median fees charged in Asian jurisdictions

	*Domestic allocation	**External allocati on	Domestic equ ity	External equ ity	Domestic F I	External FI
Hong Kong	1.35%	1.62%	1.50%	1.89%	1.00%	1.41%
Singapore	1.45%	1.54%	1.71%	1.89%	0.84%	1.41%
Taiwan	1.42%	1.54%	2.05%	1.89%	1.67%	1.41%
Thailand	1.19%	1.19%	1.74%	1.74%	0.44%	0.44%

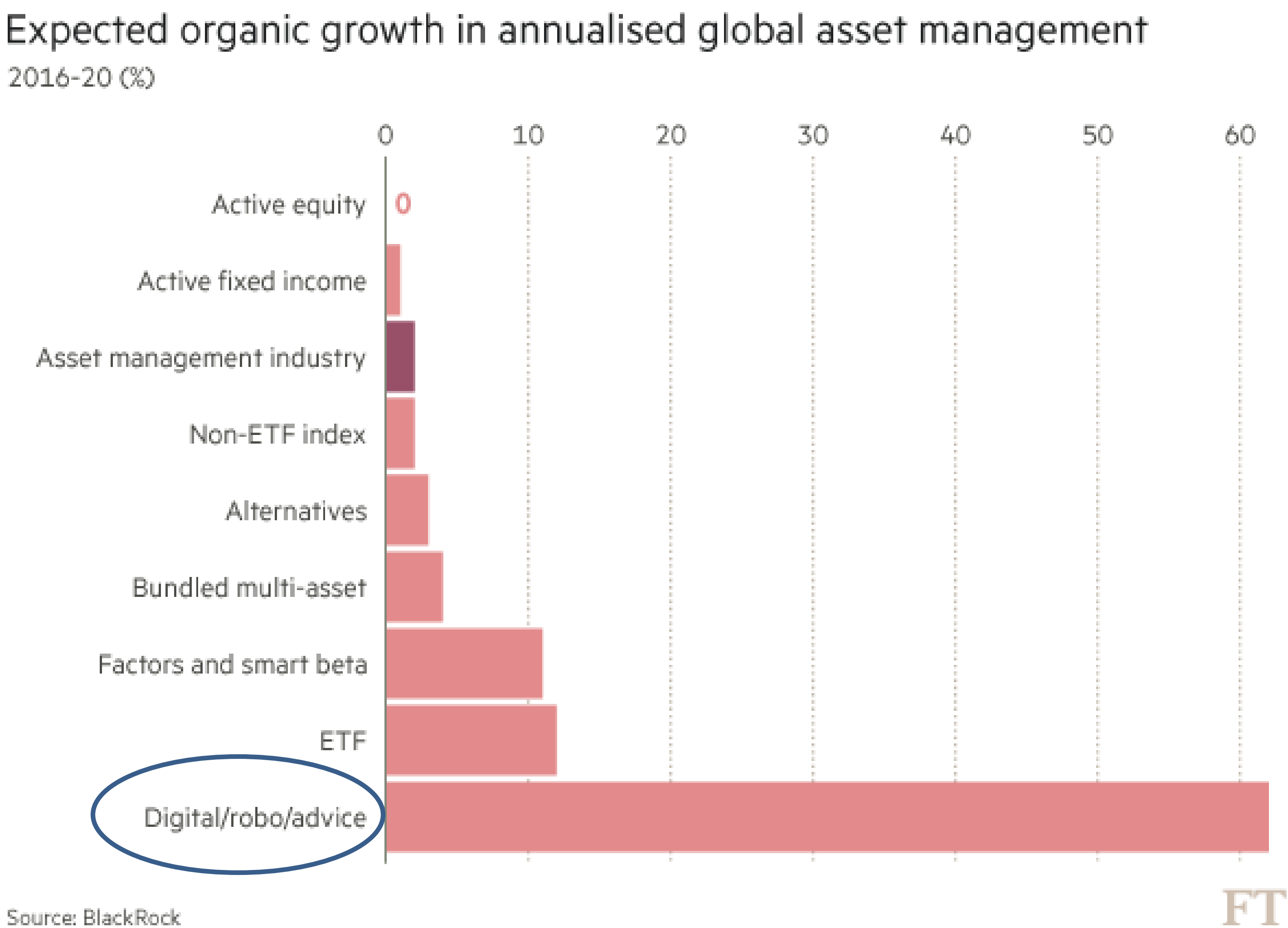
Source: Morningstar. *Domestic = locally domiciled; **External = available-for-sale.

Source: Morningstar

Current issues in mutual funds and asset management

- Regulators focus on "shadow banking" possible systemic role
  - The floating v. stable NAV debate
  - Capital reserve requirement
- Growth of ETFs
  - ETFs v. ETPs – the issue of counterparty risk
  - Collateral requirements
- Performance and returns
  - The active v. passive debate
  - The great rebalancing?

Growth in asset management



Source: FT 17 July 2016 "Actively failing"

Summary

- collective investments schemes in HK
  - Regulation
  - Suitability standard (v. fiduciary duty)
- Regulatory concerns in asset management

Test Your Understanding

- In Hong Kong, the SFC is responsible for
  - Approving retail investment products
  - Authorizing offering documents of retail investment products
  - Assessing whether a product is suitable for individual investors
- why does the SFC (and other regulators) worry about the rapid growth of synthetic ETFs?
  - They don’t understand the products
  - They worry that investors don’t realize they are taking counterparty exposure
  - They worry about systemic risk