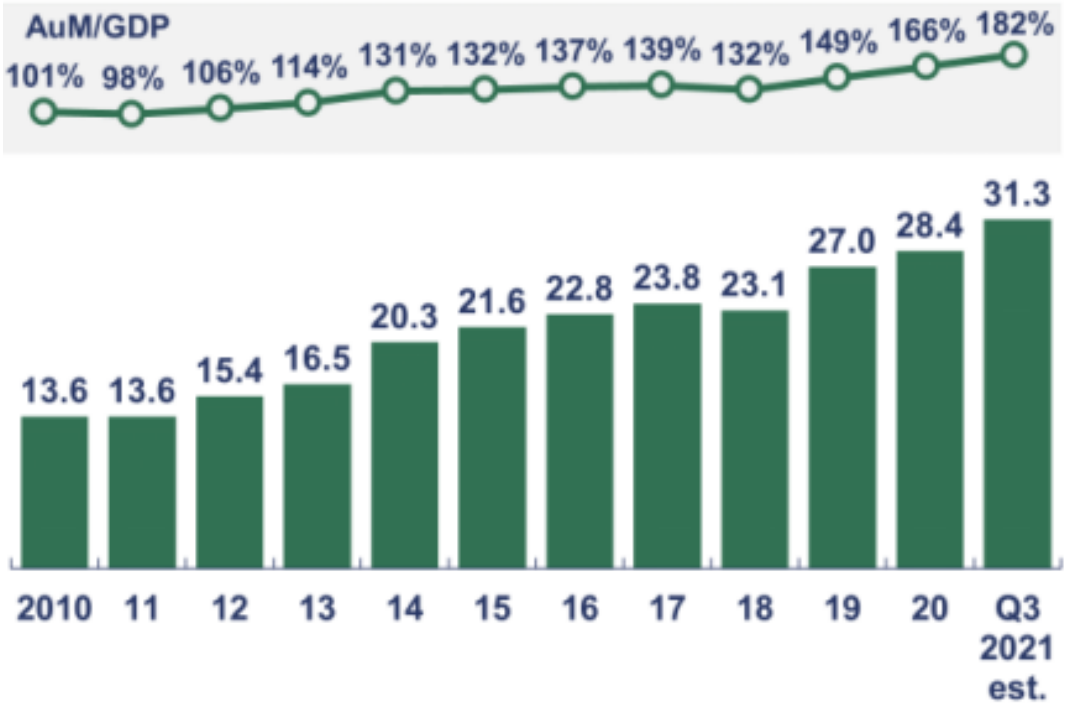
Session 6: Institutional Investors and the Asset Management

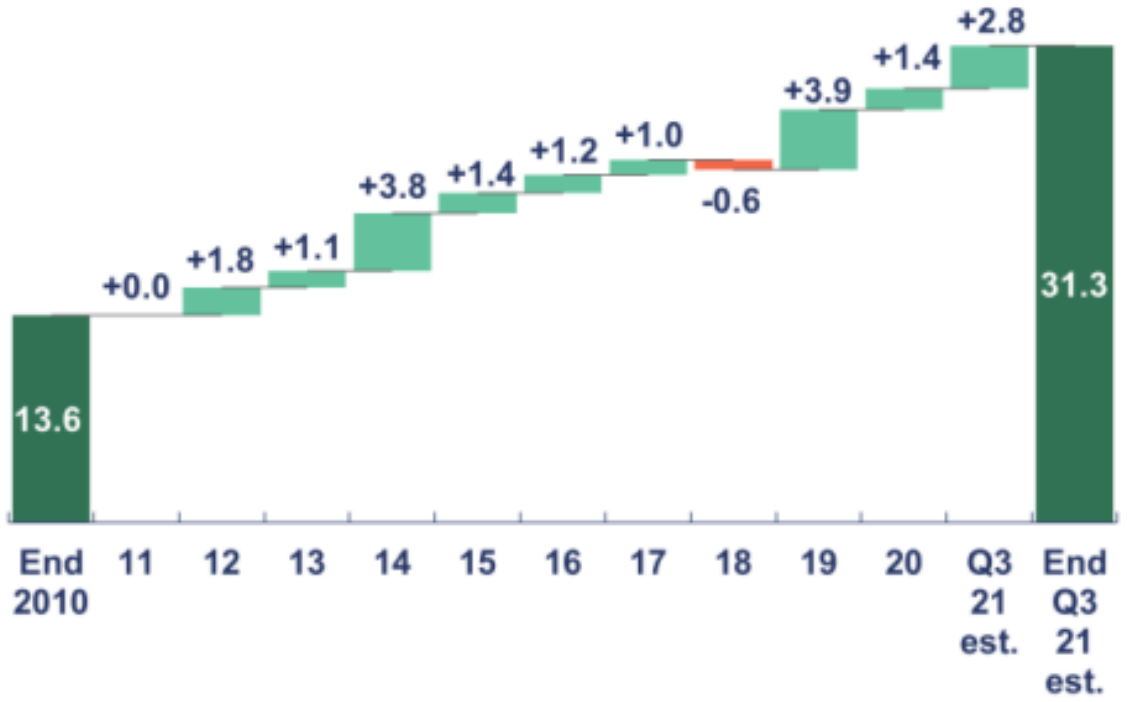
Amine Raboun, Ph.D
Quantitative Researcher & Developer,
Abu Dhabi Investment Authority
Lecturer, Paris Dauphine – PSL University

A Huge and Growing Market

European Assets under Management

EUR trillions, percent





Outline: Asset Management

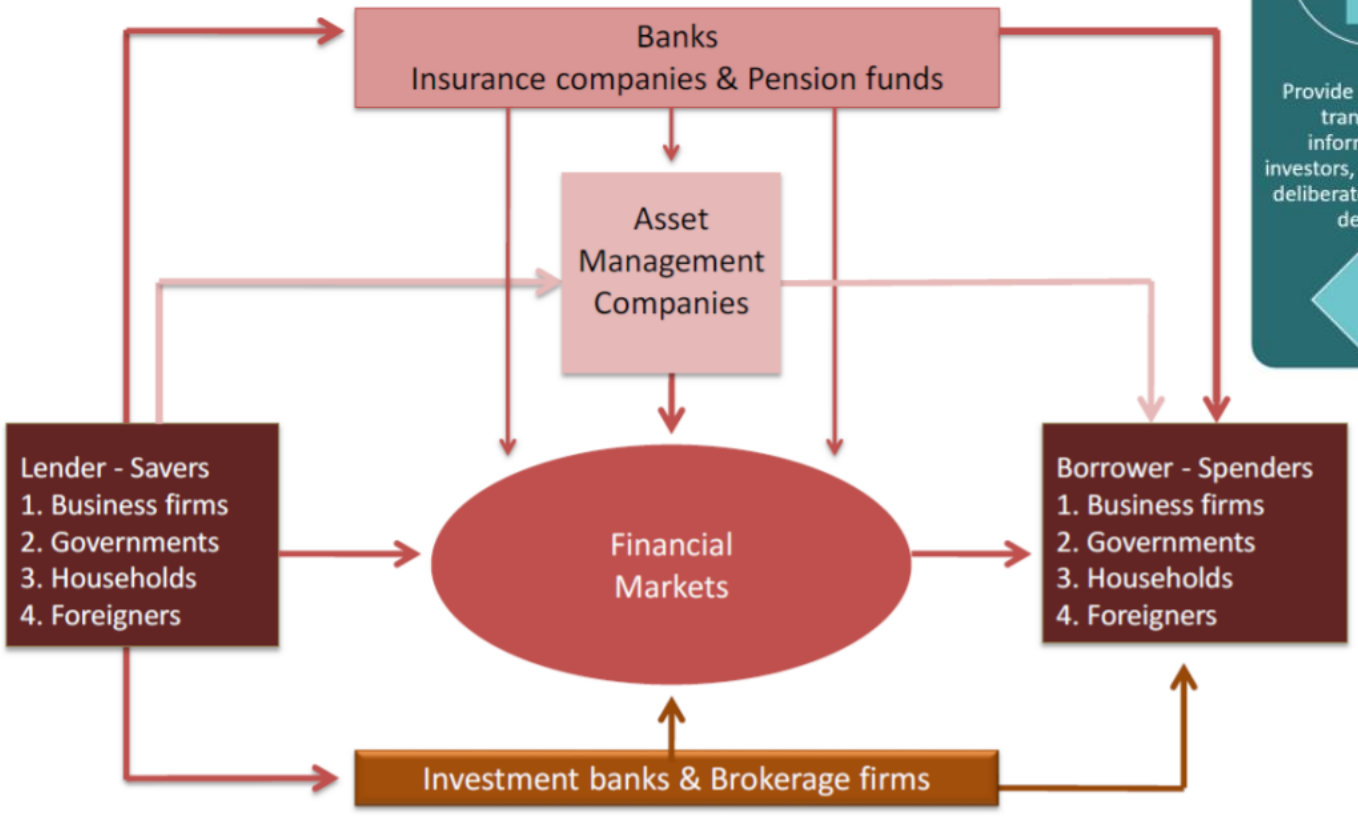
1. The role of Asset Management in the Financial System
   - The Contact Point between Financial System and the Real Economy
   - Intermediation by Asset Managers
2. Overview of the Asset Management Industry
3. Concentration at different levels
   - Concentration of Assets towards a Few Actors
   - Concentration of Assets towards a Few Strategies
4. Recent Trends in Investing
   - ESG a new regulatory requirement
   - Factor Investing
   - Smart Beta

The rôle of Asset Management in the Financial System

The rôle of Asset Management

1. Channeling long-term savings into the economy
2. Helping people provide for their future
3. Offering investment solutions to retail and institutional investors
4. Managing risks
5. Acting in the best interest of investors
6. Representing the largest investors in capital markets
7. Playing a key role in financing the transition to a sustainable economy
8. Engaging with investee companies and holding them to account

Channeling long-term savings into investments



- Long term efficiency: Allocate savings to most porductive investments
- Short term efficiency: Do better than average/ competitors

Financing the transition to a sustainable economy

The European Taxonomy of Sustainalble Activities

To be taxonomy-eligible, an economic activity must go through 4 steps:

1. Contribute substantially to one or more of the 6 environmental objectives
2. Do no significant harm to any other environmental objective
3. Comply with minimum social safeguards (ILO core labour conventions)
4. Comply with the technical screening criteria

Substantial contribution to climate change mitigation

a) generating, storing or using renewable energy or climate-neutral energy (including carbon-neutral energy), including through using innovative technology with a potential for significant future savings or through necessary reinforcement of the grid;

b) switching to use of renewable materials; The first delegated act under the Taxonomy will focus on climate change mitigation and adaptation activities. In later steps, it is planned to address social and ethical aspects.

c) improving energy efficiency;

d) increasing clean or climate-neutral mobility;

e) increasing carbon capture and storage use;

f) phasing out anthropogenic emissions of GHG, including from fossil fuels;

g) establishing energy infrastructure required for enabling decarbonization of energy systems;

h) producing clean and efficient fuels from renewable or carbon-neutral sources.

Climate Change Mitigation

Climate Change Adaptation

Sustainable Use and Protection of Water and Marine Ressources

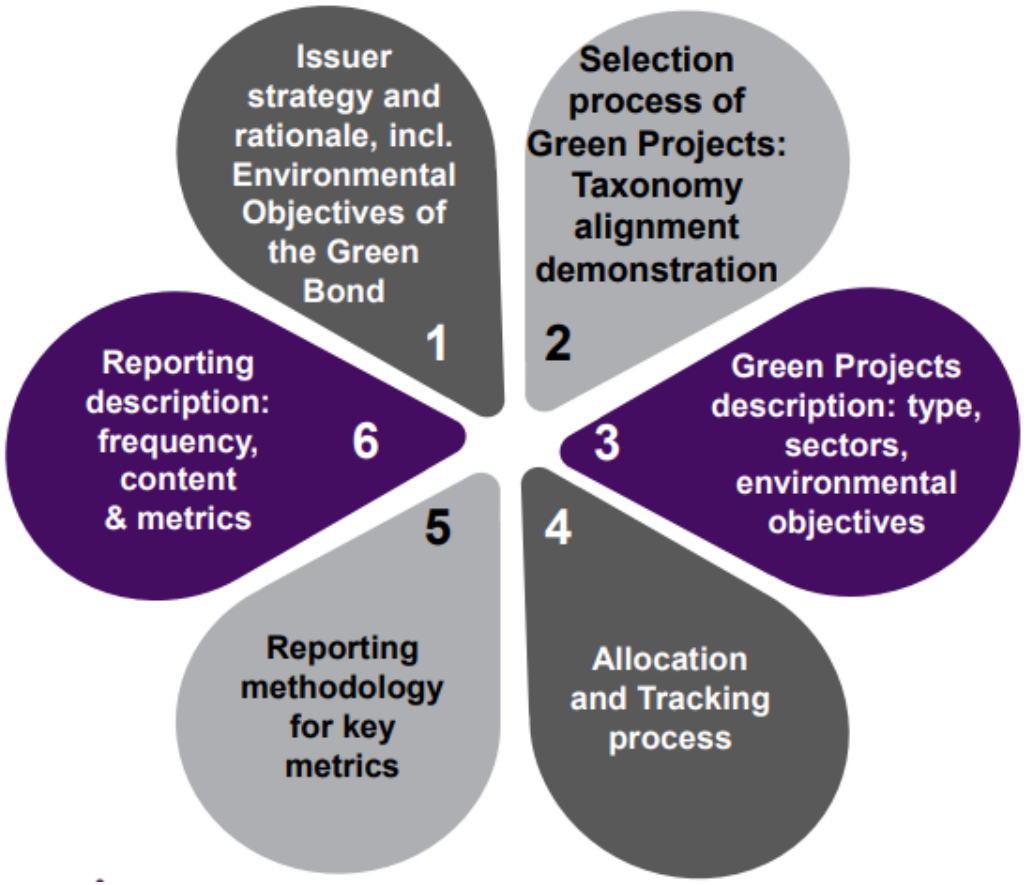
Transition to a Circular Economy and Recycling

Pollution Prevention and Control

Protection of Healthy Ecosystems

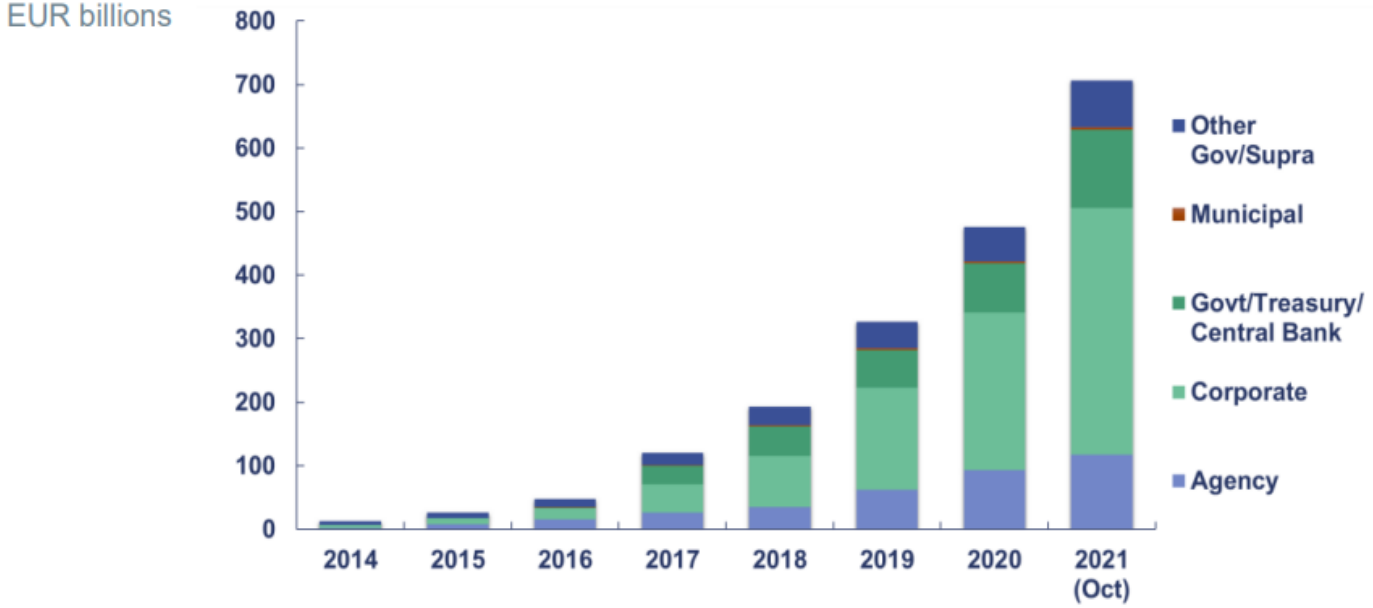
Financing the sustainable economy

EU Taxonomy: Green bond Framework



- Sustainable (ESG) bonds are designed to exclusively finance or re-finance green and, or social projects.
- The sustainable bond market has seen exponential growth during the last decade.
- The fiscal policy response to the Covid-19 pandemic led to a significant rise in the issuance of green bonds

Total Sustainable Bond Issuance in Europe per Issuer Type



Source: AFME and Refinitiv Eikon

Engaging with investee companies and holding them to account

Stewardship: Regular engagement with publicly listed investee companies in order to deliver long-term value creation for shareholders in the company. Asset managers have two main tools to achieve their stewardship goals:

- Engagement: asset managers engage with company management or board members to raise any concerns, encourage good practices, and to understand the extent to which management is delivering sustainable returns for shareholders.
- Proxy voting: asset managers participate in general meetings and take part in the votes on behalf of their clients

APG expects the companies it invests in to clearly demonstrate, in the annual report, how directors' remuneration is managed, what the targets are and what performance must be achieved before any remuneration or bonus is paid. Along with other investors, in 2020 APG successfully voted against the remuneration policy of a Dutch company on four occasions.

The **Vanguard funds** voted against the re-election of two directors and against the company's 2020 remuneration report at the 2021 annual meetings for Boohoo plc, a UK online fashion retailer. Where supply-chain risks are material to a company, Vanguard expects boards to oversee and govern those risks effectively and disclose them to shareholders. In its research, Vanguard reviewed investigative reports from July 2020 that uncovered that workers at one of Boohoo's UK-based suppliers were being paid less than the minimum wage and enduring poor working conditions, which were exacerbated by the pandemic. These findings highlighted the board's failure to monitor and govern material risks in the company's supply chain.

Intermediation by Asset Managers

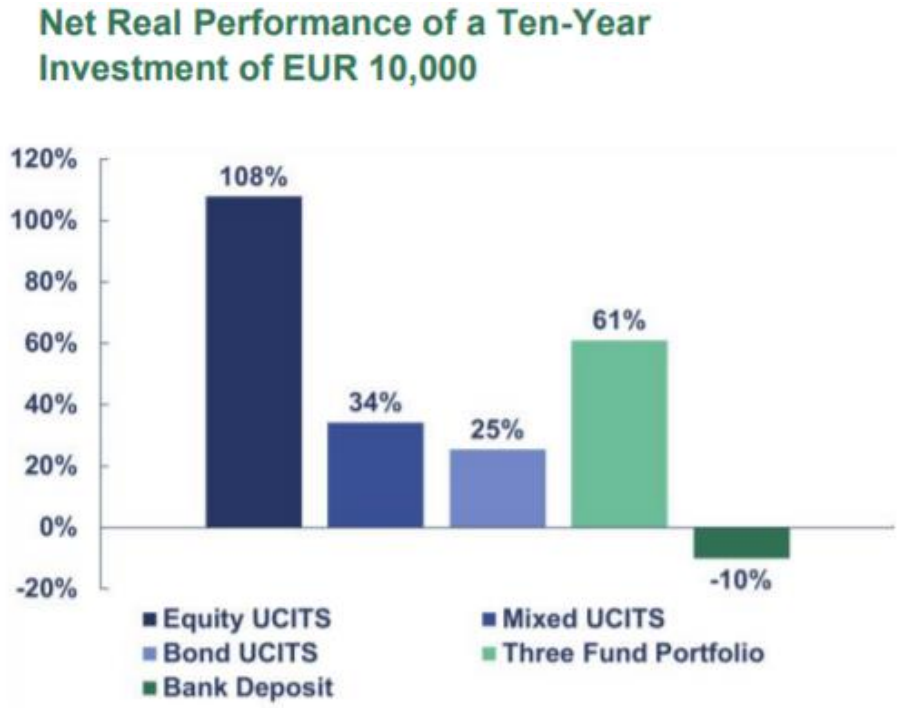
Serving the need of Asset Owners

Lower investment risk: By achieving the right level of diversification and providing access to a broad range of asset classes. The purpose is to screen out poor investment opportunities and detect those that are potentially advantageous thanks to quality research they have access to.

Liquidity provision: Closely monitor the evolution of inflows and outflows and market dynamics to anticipate the risk of rapid and large net outflows. They also have established risk management policies to ensure that they are able to meet their liquidity provision obligation when difficulties in financial markets occur.

Lower costs: Asset managers benefit from economies of scale that households and other investors don't have. For instance, the ability to trade in large blocks of securities allows them to minimize transaction costs.

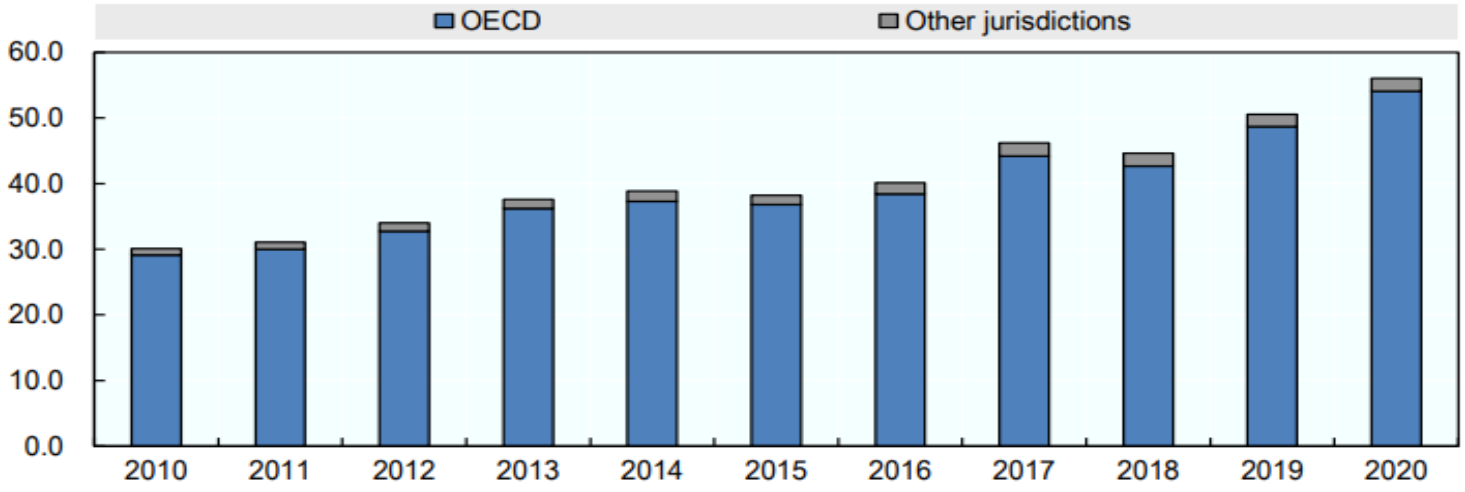
Generating returns: By channeling savings into investment, asset managers help asset owners achieve positive real returns on their savings.



Overview of the Asset Management Industry

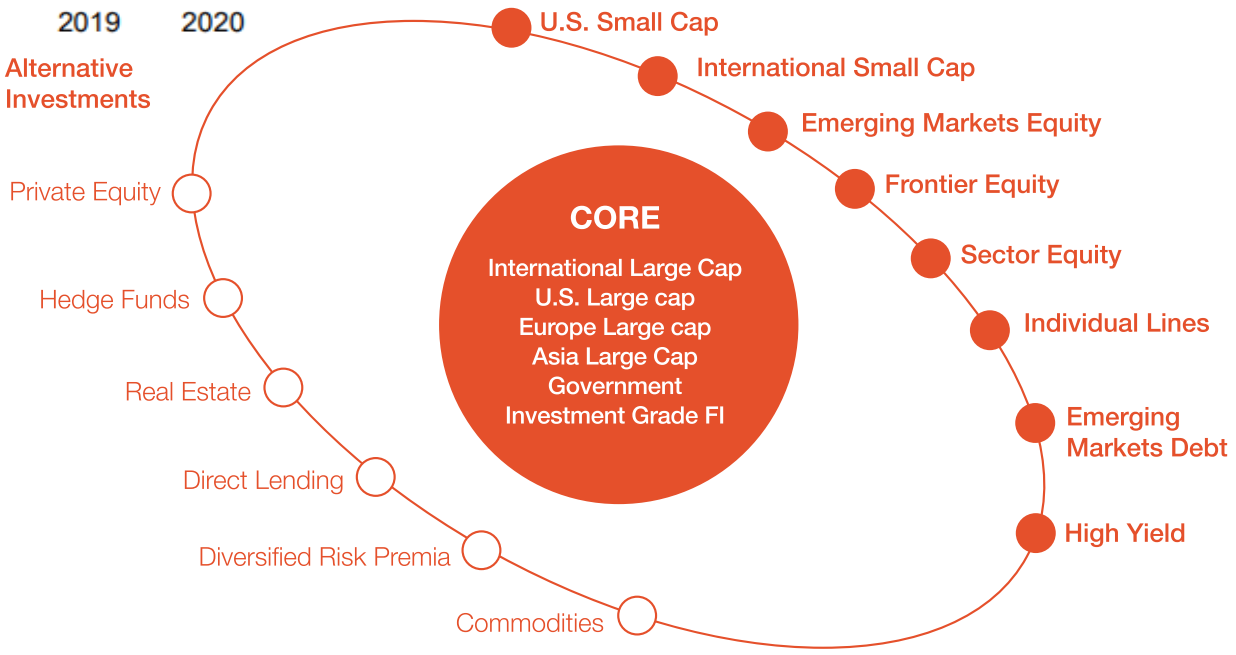
Overview of the Asset Management Industry

Pension Funds: Typical example of long-term investors



Partially due to the baby boom, the pension funds have experienced steady growth in AUM in the last decade

- **Core strategies** with exposure to asset classes that are broadly representative for the market
- **Satellite strategies** that have the potential to deliver higher returns from less representative parts of the investment universe.



Overview of the Asset Management Industry

Mutual Funds at the service of Pension Funds

Pay-As-You-Go Pension System: Redistribution system. Current workers contributions are redistributed in the form of pension to current retirees. Because of aging population this scheme of pension is very criticized

Risk shifting from Employers to Employees:

- **Defined benefit:** The employer guarantees the level of benefits agreed, based on the employee's salary and seniority. These plans can be managed internally or delegated to mutual funds. However, companies no longer want to bear such immense risk

- **Defined contribution:** The employer agrees to pay regular contributions to a management organization, which, together with the income generated by their investment, will be paid out in the form of an annuity to retired employees. The employer does not provide any guarantee on the level of annuities paid.

The principal agent problem: How does one explain the difference between the few basis points of compensation for an ETF and the 2/20 compensation system for active funds?

Bengt Holmstrom and Paul Milgrom in the late 1980s coined the expression: Principal Agent. If the reward is fixed only, the agent can receive it without any effort. Variable only won't work, as the manager have fixed costs to pay. How to set the variable part ? The asset owner would like to have observables to index the reward. But doing so, the managers will work to satisfy these indicators and not fructify the money of the asset owner

Overview of the Asset Management Industry

Hedge Funds (or Alternative Investments)

Well connected to the system: Majority of hedge funds are, or were, subsidiaries of intermediaries, including investment banks and mutual funds. This allows them to make use of other financial institutions; they often need to short certain risk factors or hedge non-linear securities

- As their name suggest, they provide strategies hedged from market variations. Thus, in the CAPM terminology, providing alpha and neutralizing the Beta (in all its shapes)
- Identify persistent statistical relationships between financial instruments (Peer trading, statistical arbitrage..)
- Use alternative set of data to research the real economy live time evolution NOWCASTING. Satellite images, credit card bills, mobiles trackers, factory production, patents, etc.)
- Research based on high-level experts (either scientific and field experts) to identify the future trends in the industries (Pharmaceutical Research)

Manager	Location	Year Es-tablished	AuM (bn $)
Bridgewater Associates	US	1975	161.9
ASR Capital Management	US	1998	106.2
Man Group	UK	1983	57.9
J.P.Morgan Asset Management	US	1974	49.0
Renaissance Technologies	US	1982	47.9
Millennium Management	US	1989	34.3
Standard Life Investments	UK	1998	33.2
Och-Ziff Caital Management	US	1994	31.8
Elliott Management	US	1977	31.4
Two Sigma Investments	US	2002	30.4
Baupost Group	US	1982	30.0
Winton Capital Management	UK	1997	29.3
Marshall Wace	UK	1997	28.4
Davidson Kempner Capital	US	1990	27.9
Adage Capital Management	US	2001	27.7
BlackRock Alternative Investors	US	2005	27.6
Citadel Advisors	US	1990	27.0
D.E. Shaw & Co	US	1988	26.0
Farallon Capital Management	US	1986	23.8
GAM	UK	1983	20.7

Overview of the Asset Management Industry

The rest of the industry

Endowment Funds: The endowment logic consists of generating enough real returns to meet the organization's yearly expenses while preserving the real value of the principal. This means that the returns generated must cover annual withdrawals and increase the principal to offset inflation.

Sovereign Funds: Most of them, such as the Norwegian fund or the Abu Dhabi Investment Authority, derive their allocations from surplus revenues from the oil sector. Sovereign funds are similar to endowments in that they aim to provide dividend-like income to their host countries. They are very long-term investors and can therefore theoretically bear more risk than other types of investment structures

Insurance Companies: Their core business is not related to money allocation but risk transfer and management. Hence, by selling insurance contracts, they take on their clients' risk in exchange for a premium plus fees and margins. They also need to either transfer such risk to another counterparty with the exact opposite risk or to dilute it on the financial markets.

Wealth Management: High net worth individuals (HNWI), have so much savings that commercial and investment banks started to provide them with specific investment vehicles. These individuals have no urgency for outflows, or these are highly predictive, hence they can afford to invest in illiquid assets like endowment funds do

Winners Take it All !
Concentration at different levels

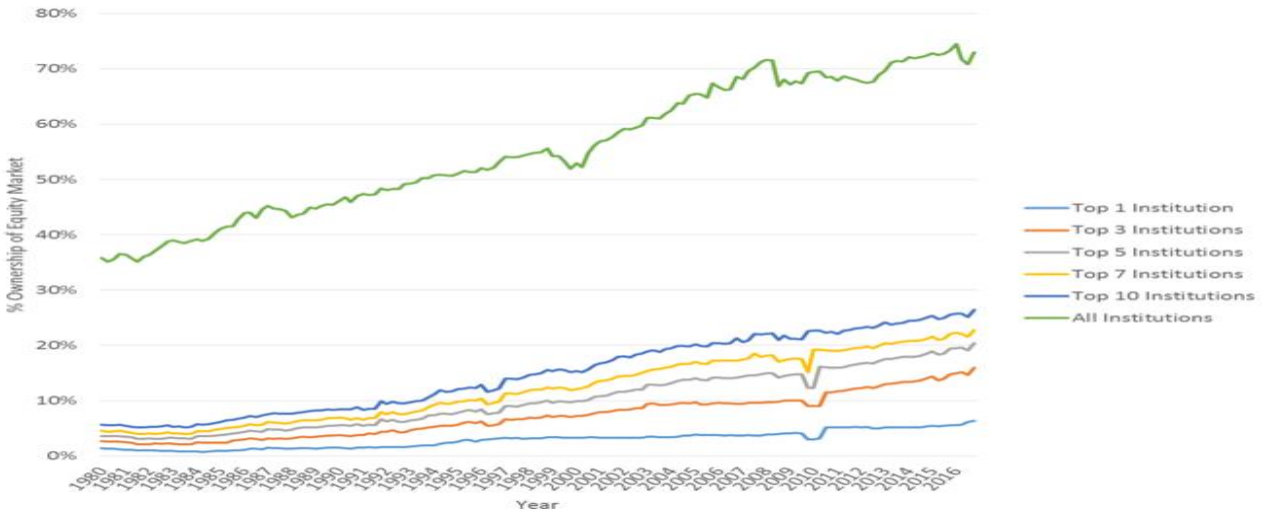
Concentration of Power Within a Handful of Asset Managing Companies

Giant asset managers are building on their client base to become “one-stop shops” offering a wide range of investment vehicles, going from ETFs to hedge funds.

Investment diversity in terms horizons and themes is necessary to cover all possible sources of information. Otherwise, all flows will be on the same side (buying or selling), and the price will be pushed artificially.

Concentration for economies of scale: The cost for data, the hiring of field experts and data-scientists to exploit them is recouped

Figure 1 Time series of large institutions' ownership



THE TOP TEN ASSET MANAGERS IN THE US, BY MUTUAL FUNDS NET FLOWS

Vanguard collects twice the market total!

ASSET MANAGER	2016 NET FLOWS ($BILLIONS)	CUMULATIVE SHARE OF TOTAL MARKET NET FLOWS (%)	CUMULATIVE SHARE OF NET FLOWS OF PLAYERS WITH POSITIVE NET FLOWS (%)	PASSIVE SHARE OF TOTAL FLOWS PER FIRM (%)
Vanguard	276	197	50	93
BlackRock	95	265	67	118
Dimensional Fund Advisors	18	277	70	2
SSGA	16	289	73	99
Charles Schwab	13	298	75	114
TIAA-CREF	11	306	77	59
Invesco	10	313	79	100
Edward Jones	8	319	80	0
Robert W. Baird	8	325	82	0
DoubleLine	8	330	83	0
TOTAL MARKET	140			
	2015 ratios (%)	251	75	
	2014 ratios (%)	121	68	

Blackrock and Vangard got 265% of positive Net flows in 2016. Apart these two firms, all smaller asset managers suffered from outflows. Thus, getting smaller every year

Winners take it all. From the new-comer perspective, the bigger the fund the more trust-worthy in managing his savings.

Passive Investing Takes Over Active Allocation

The global financial crisis (2008 - 2009) was the tipping point for the shift from active to passive management.

Prior to 2010, the doxa was that rewarding strategies uncorrelated to the market factor would either fail to cover their costs or would correct themselves once invested by a sufficient number of participants (giving rise to alpha decay).

More recent academic output suggested that it is not always the case, which opened up older hedge fund strategies to the public domain, being repackaged in ready to use investment tools like ETFs.

Products		2004	2007	2012	2020
Global	AUM ($ trillion)	37.3	59.4	63.9	101.7
of which	**mutual funds**	16.1	25.4	27.0	41.2
	active investments	15.1	23.3	23.6	30.8
	passive investments	1.0	2.0	3.4	10.5
of which	**mandates**	18.7	28.8	30.4	47.5
	active investments	17.6	26.5	26.6	35.3
	passive investments	1.2	2.3	3.9	12.2
of which	**alternatives**	1.2	2.3	3.9	12.2
Percent	passive	6%	7%	11%	22%
	active	88%	84%	79%	65%

Crowdedness And Transaction Costs

The crowding of the trading flow can influence the transaction costs. if on a given day, all market participants are buying, the the square root component of the sum of the trades of all the participants is paid by each of them.

Concentration is beneficial in this case. If all trades are managed by the same dealing desk , he can have a fine tooned exécution algorithm

The advantage of offering a wide range of investment vehicles is that it increases the probability of crossing the buys and sells within the same asset management firm, marking the price outside the firm (to avoid advantaging one vehicle over another in the transaction), achieving lower information leakage and lower cost (free from market-impact).

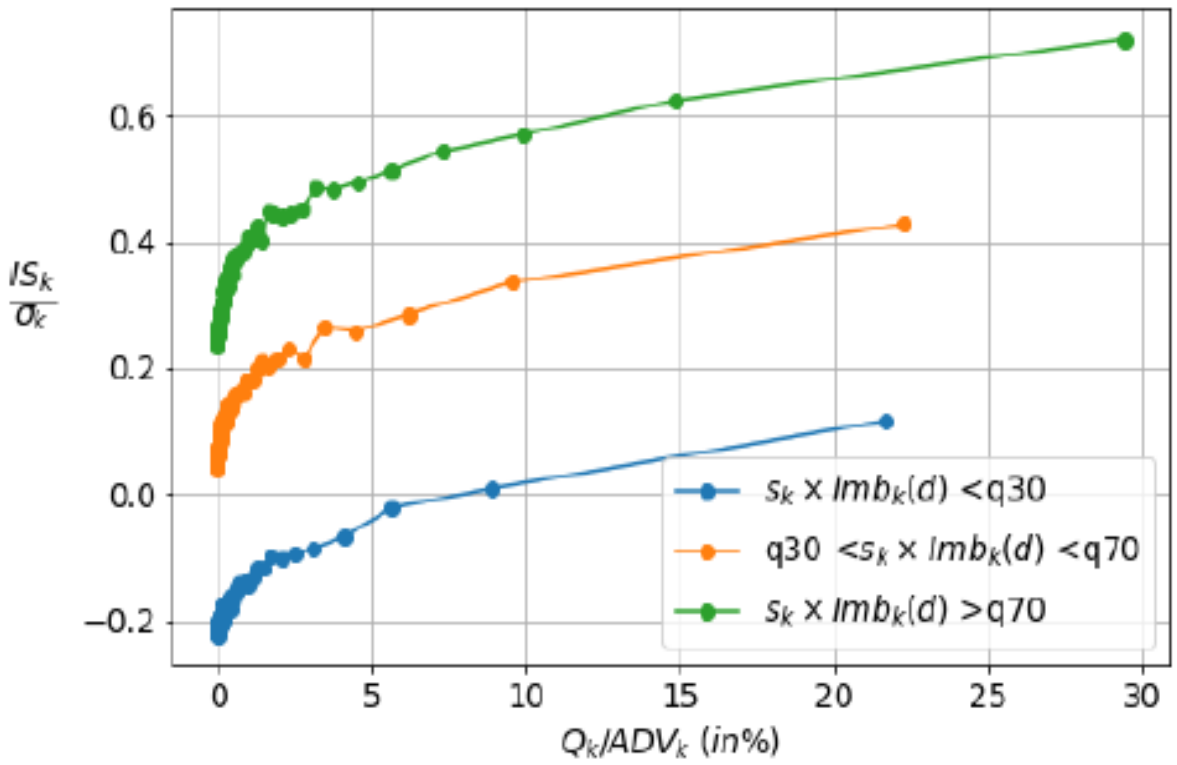


Figure IV.3: Effect of the market pressure on trading costs

Recent Trends

What Explains Asset Returns ?

Factor models

Macroeconomic factors :

- related to the context of utilisation rather in the econometric technique
- realizations of F_t are assumed to be observed : macroeconomic time-series mainly
- estimation involve classical econometric tools

Statistical factors :

- factors as by-product of the statistical study of the covariance matrix of returns
- factors emerge directly from the observation of past returns of assets
- neither the betas, neither the factors are observed.
- Both emerge due to assumptions on R or on the covariance structure.

Fundamental factors :

- focus on ex-ante information, on characteristics like sector, country, industry, or financialstatements (income, revenues, assets, etc).
- stocks characteristics help to build the risk drivers (6= two other models).
- One type of model assumes that the betas are observed…
- … the other use characteristics to estimate first factors, before estimating betas.
- Factors remain initially unobserved.

What Explains Asset Returns ?

$$R_{\{i,t\}} = \alpha_i + \beta_i^T F_t + \epsilon_{\{i,t\}}$$

$F_t = (F_{1,t}\ , \ldots, F_{K,t})$ are the K factors. F_t may be time dependent but **not asset-dependent**.

Macroeconomic Factors

Examples : interest rates, market risk, industrial production, money growth, inflation measures, commodities' prices, housing or unemployment data, etc.

Goal : assess the impact of shocks on those variables on assets' returns.

Tool : linear regression (OLS).

Statistical Factors

Only the asset returns are used and the factors and the loadings are inferred directly from the data.

"Factor Analysis" or PCA : we only deal with PCA here.

Advantage : needs only returns.

Drawback : they are only the reflection of phenomenon observed *in the past*. If no stationarity when compared to the resilience of the factor, no use for them.

Recent trends in investing

Fundamental factors :

Small Size: Small (large) capitalization is over (under)-weighed compared to the benchmark. Small-capitalization premium is usually linked to an illiquidity premium since small stocks are costlier to trade.

Quality/profitability: Captures excess returns of stocks that are characterized by low debt, stable earnings growth, and significant investment returns.

Low volatility: seeks to benefit from the performance of stocks with lower risk, while maintaining a high return.
Momentum: "Buy the winners (well performed recently) and sell the losers (the largest driver of stock returns between 2010 and 2020)".
Value: Buy undervalued stocks and sell overvalued ones. The Price over Earnings ratio is a closely watched indicator
Dividend Yield: Related to quality and value factors, since companies capable of paying large dividends are often the more profitable ones

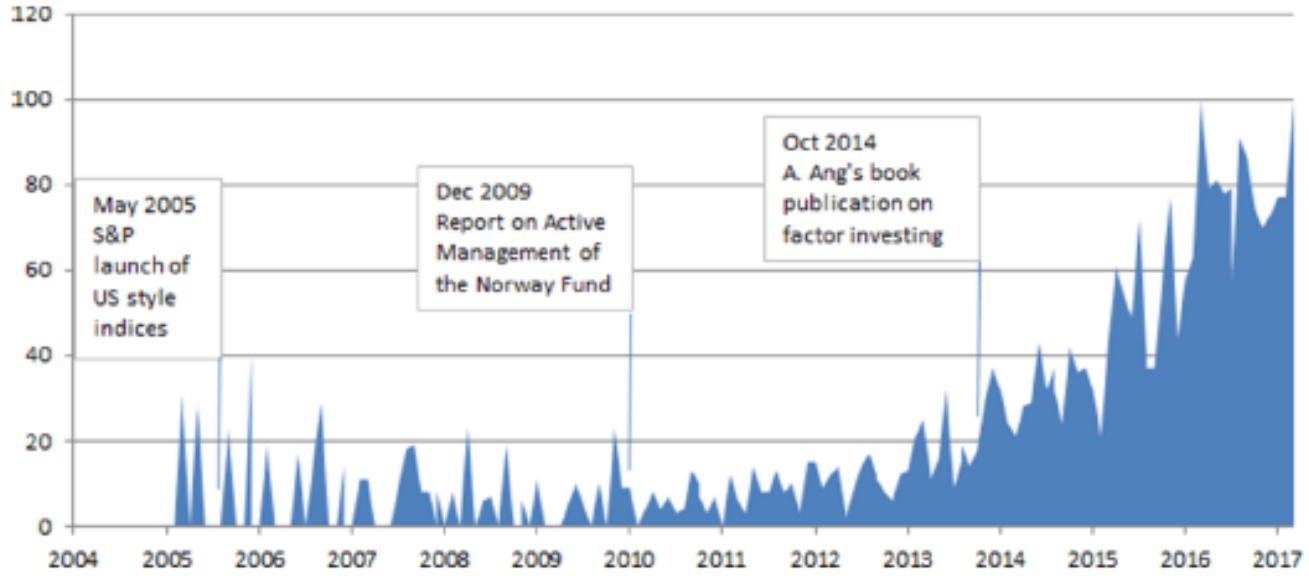


Figure IV.4: Google Trend for "Factor Investing", Worldwide, Displays the search interest of the term relative to the highest point on the chart

Recent trends in investing

Smart Beta Strategies

Usually, optimization-based portfolio. Constitue good practice for real-life traded portfolios to combine with other investing signals. The main challenge is to estimate the variance-covariance matrix of asset returns

Minimum Variance: minimizes the volatility while still being fully invested. Suffers from concentration on a few low-risk sectors or stocks with low returns, exposed to the size factor and has high turnover, liquidity risk. To never consider alone

$$\min_{W1=1} W^T \Omega W$$

Maximum Diversification: don't invest jointly in highly correlated assets. Less risky than market portfolios

$$\max_{W1=1} \frac{W^T \Sigma_D}{W^T \Omega W}, \qquad where\ \Sigma_D\ the\ diagonal\ matrix\ of\ assets\ volatilities$$

Risk Parity: Aims at attributing the same risk budget to each component of the portfolio.

Hierarchical Risk Parity: A new optimization technique developed by Markos Lopez Deprado that leverages on the similarities between stocks and avoid the inversion of the variance-covariance matrix

Recent trends in investing

ESG Investing

Strategies used:

❖ **Negative/exclusionary screening:** Exclusion of securities of certain sectors or companies involved in controversial activities

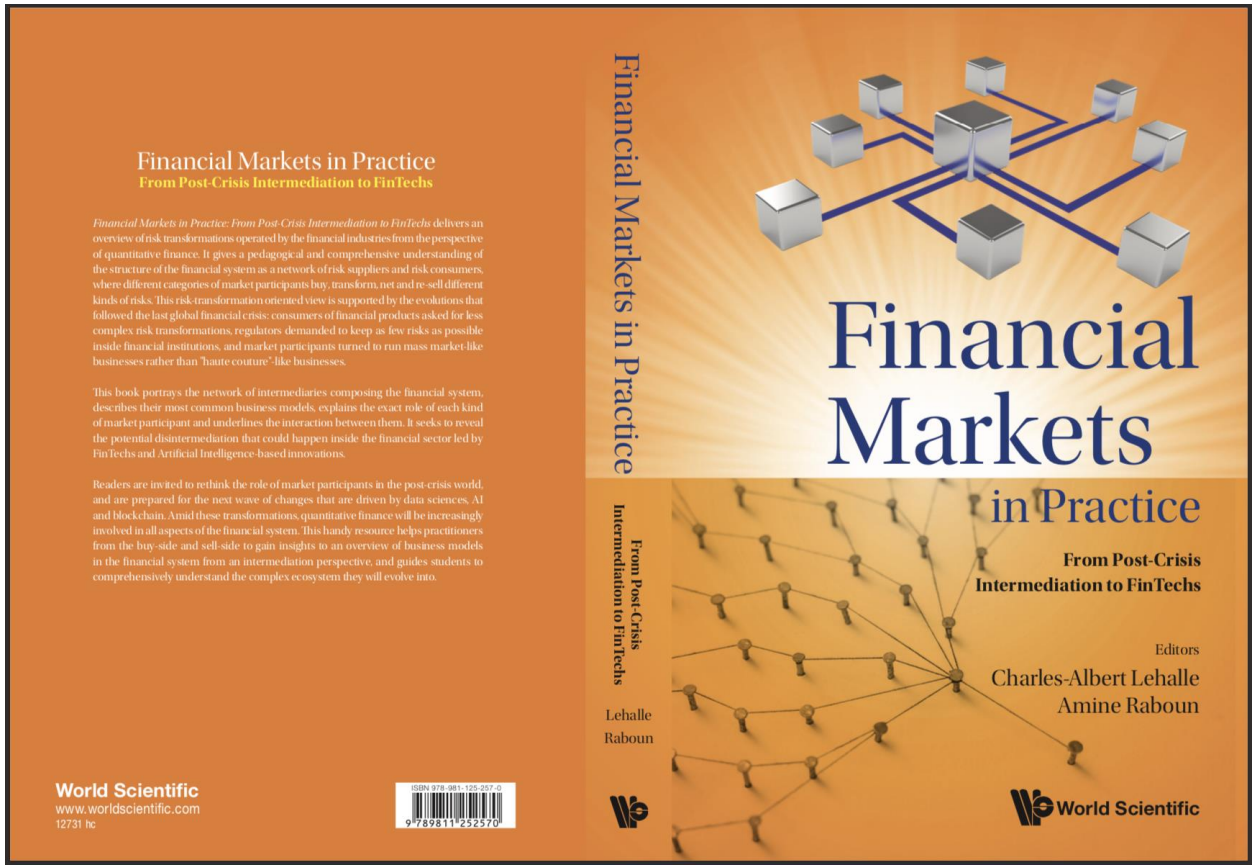
❖ **Positive/best-in-class screening** privileges the best performers within a sector or a geographical zone in terms of ESG.

❖**Impact investing.** Targeted investments aimed at solving social or environmental problems. Investments in particular projects designed to achieve specific goals

PAB (Paris Aligned Benchmark)/CTB (Climate Transition Benchmark) combines all the approaches

	EU Climate Transition	EU Paris-Aligned
Do not Significantly harm principle	Controversial Weapons Societal norms violatros	Controversial Weapons Societal norms violatros Activity Exclusions (Coal, Oil, Gas…)
Carbon Intensity reduction vs universe	30%	50%
Exposure to High Impact sectors	Minimum exposure to sectors highly exposed to climate change issues	
Year-on-year self-decarbonization of the benchmark	At least 7%: in line with or beyond the decarbonization trajectory from the IPCC's 1.5°C scenario	

To go further



To go further:

Financial Markets in Practice:

From Post Crisis Intermediation to FinTechs

by Charles-Albert Lehalle
and Amine Raboun