AP2 strategic allocation and implementation **FFN PORTEFØLJESEMINAR 2022**

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Outline

Asset allocation The impact of higher rates and inflation Implementation Sustainability



Second Swedish National Pension Fund

- Buffer fund in public income pension system (4+1 funds)
- SEK 441 bill. AUM
- Global investor
- 13 Asset Classes
- 68 staff





Not fully unconstrained

- Min 20% in liquid assets with low risk
 - Investment grade bonds
- Max 40% illiquid assets
- Max 40% currency risk





"The AP-funds shall manage their assets so as to be of maximum benefit in insuring public income pensions"

SFS 2018-2013, my translation

Find portfolio that covaries with pension system balance sheet so as to minimize reduction of pensions

Structure Vector Autoregressive Model

Demographics



Portfolio Choice Monte Carlo Simulation and Optimization

Generate Scenarios

Estimate VAR

Find optimal portfolio

Goal function: Minimize risk of reduced pension benefits

Expected returns

- Consistent long term set of joint expectations
- Expected economic growth \rightarrow real risk free rate \tilde{r}_f
- Expected return asset $E[r_i] = \tilde{r}_f + p + \tilde{i}$
 - Expected risk premium p
 - Expected inflation *i*

Expected return fixed income

- Nominal interest rates (and inflation) explicitly modeled
- Return fixed income function of evolution of interest rates
- Interest rates revert to equilibrium levels relative to $ilde{r}_f$
- AP2: lower allocation to developed market government bonds

Small number of model assets

Currencies not included

• Find additional assets that improve portfolio return to risk, cet. par.

• Assume $E[r_{fx}] = 0$ • Find currency hedge ratio that minimizes risk

Diversifying Asssets Equities and bonds

- Emerging market equities
- Emerging market government bonds
- Chinese equities and bonds

Diversifying Asssets Non-conventional systematic risks

- Non-conventional systematic risks
 - Cat bonds
 - Systematic arbitrage
 - Currency carry
 - Dividend futures
- Non-normal distributions

Diversifying Assets Diversifying real estate portfolio

- Geographic diversification
 - Joint ventures in US, Europe
 - Funds in Asia
- Forestry and agriculture



Implementation



Active vs. passive

- Empirical support for risk factor tilting, e.g. "value", "size"
- Passive alternatives may not exist (e.g. private assets)
- Equilibrium of active
- "Skill exists"
 - Mutual funds, hedge funds, private equity and venture capital
 - Institutional investors outperform retail, large outperform small •
- AP2: most mandates active

Private vs. Public

- Private equity, real estate, infrastructure
- Compensation for risk (beta > 1)
- Illiquidity premium
- Access and cost
- AP2:
 - Should seek the illiquidity premium
 - Not all private assets



Internal vs. external management

- Internal management (almost) fixed cost cheaper with size •
- Feasible to hire the skill set needed?
- Quantitative methods and availability of data lower barriers to entry
- AP2: ~80% assets managed internally

Hedge funds My possibly somewhat unconventional view

- Either
 - Expensive wrapper of conventional assets
 - Exposures to (priced) unconventional systematic risks del
 - True uncorrelated alpha 👍, but
 - Expensive
 - Hard to find
 - Size problem
- AP2: not for us, except exposure to unconventional systematic risks







Crypto currencies (and assets) Also my view

- No claim on future cash flows
- Very volatile no store of value, not unit of account
- Inefficient medium of exchange
- "Bigger fool" assets
- Blockchain useful in some areas
 - E.g. logistics

Sustainable investments

Sustainable investments A.k.a. ESG investments

- Very big shift in investor behavior last decade
- "Old consensus" view:

Markets are efficient - ESG consideration come at the expense of return

A current view ESG

- (Some) ESG factors not correctly priced
 - "ESG Value"
 - Predictors of higher return
 - This may change
- - "ESG Values"
 - Predictors of lower return



(Some) investors have non-monetary preferences for (some) ESG factors

ESG Climate

- Very large systemic risk
 - Policy risk
 - Resilience risk
- Transition vs. Paris-aligned assets
- Potentially large demand for private capital



AP2 ESG and climate

- Predictive ESG factors in benchmarks and active models
- Climate
 - Lower expected future growth rate in ALM model
 - No systematic effect for event risk
 - Lower policy risk on individual asset level
 - Paris-aligned benchmarks equities and corporate bonds
 - Building investments in sustainable infrastructure



ANDRA AP-FONDEN'S STRATEGIC PORTFOLIO 2021 (% OF THE FUND'S CAPITAL)



- Swedish equities, **9,0%**
- Equities developed markets, 22,0%
- Equities emerging markets, **10,5%**
- Fixed-income securities, **20,5%**
- Fixed-income securities
- Fixed-income securities emerging markets, 7,5%

- Real estate, **15,0%**
- Private equity, 6,5%
- Sustainable infrastructure, 0,5%
- Private debt, 0,5%
- Alternative risk premiums, 1,5%
- China A-shares, 2,5%
- Chinese government bonds, 1,0%

