

The Innovation Drive for Real Estate

8th International Sustainability
Leadership Symposium
27/28 September 2007
Swiss Re, Rüslikon

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Contents

- Selected Innovations
- Some Thoughts about Future Innovations

The Innovation Drive for Real Estate

- In the near past, financial innovation for the real estate asset class started
 - Structured products
 - IPD Deals : Cross Country Swap CH – GB: ZWEX vs. Halifax Index
 - Real-Estate-Index-Linked Mortgages
 - Fonds
 - Real-Estate-Index-Linked Saving
- Which products offer meaningful risk and return profiles from a demographic change view?

Three Cases for Individuals

- Case DINKS
 - Wealthy couple, no children
- Case INVEST
 - Family with children
- Case POOR's
 - Not wealthy people, single or married status, with or without children

Three Cases for Individuals, Motivation

	Bequest Motif	Demographic Threat Threat = Collapse/Changes Pillar I / II Impact on Living Circumstances when Retired if Threat Realizes ...	Real Estate Investment Motivation
DINKS	none	... none	Consume the House
INVEST	yes	... small	Risk & Return Investment
POOR's	yes / none	... large	100% Capital Protection Savings Alternative

DINKS : Reverse Mortgages ~ Consume House

- Home Keeper Mortgage (Fannie Mae)
 - Borrow against value of your home up to a maximum value, receive loan proceeds if you are at least 62 years old
 - Payments: Credit line or annuities or combinations
 - Right to stay in the property as long as you choose if you pay property taxes and insurance
- Two types: Selling the house
 - on the spot;
 - on a future date forward

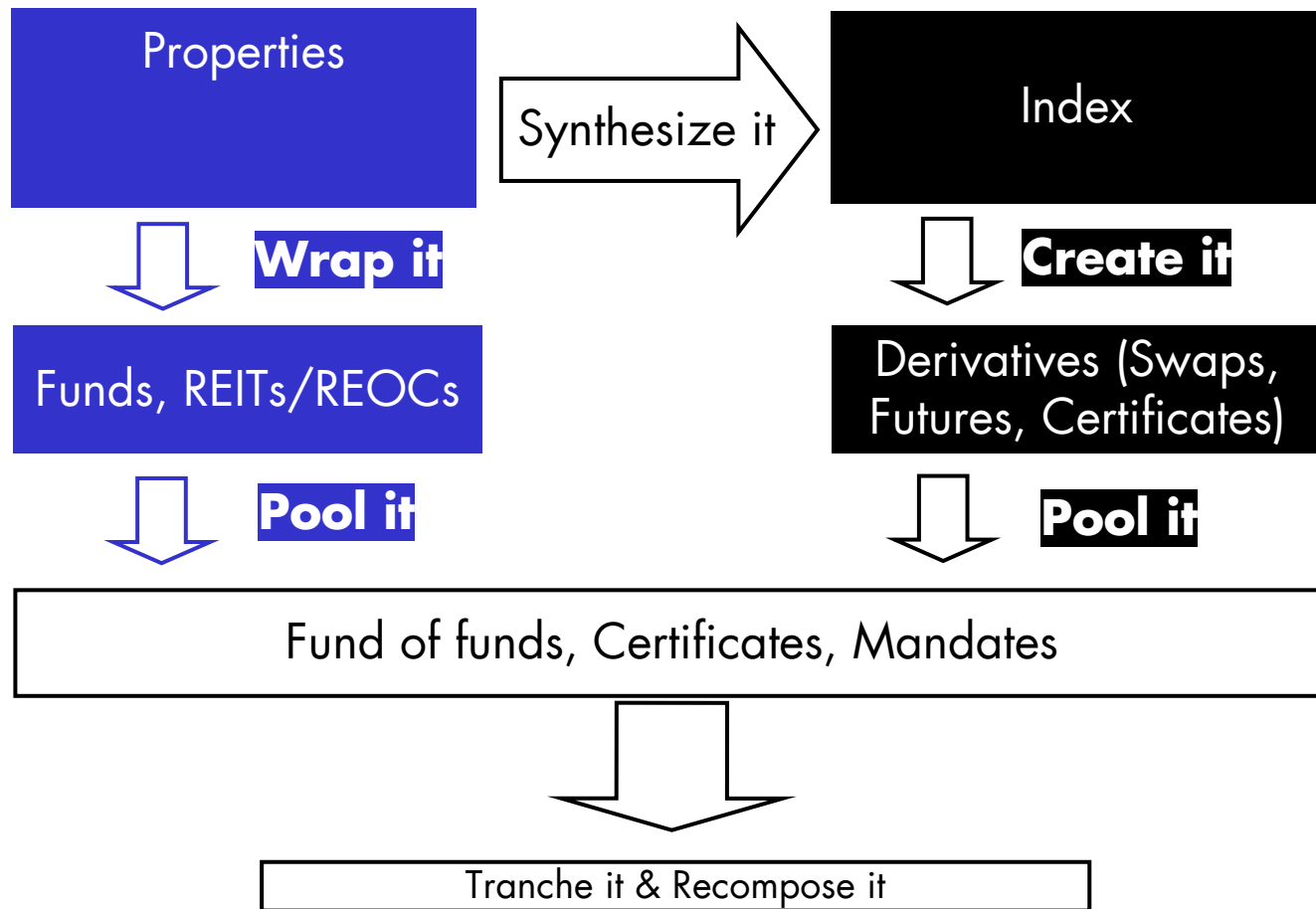
Reverse Mortgage: Does it pay ? Mostly not.

- Value of Property CHF 1'000'000
- Mortgage CHF 500'000 / CHF 0
- Interest Rate Mortgage 4% (constant)
- Residential Rent 5% (constant)
- Tax Rate 20% (constant)
- Renter Female
- Other costs fees not considered (Administration costs, Insurance costs, etc.)

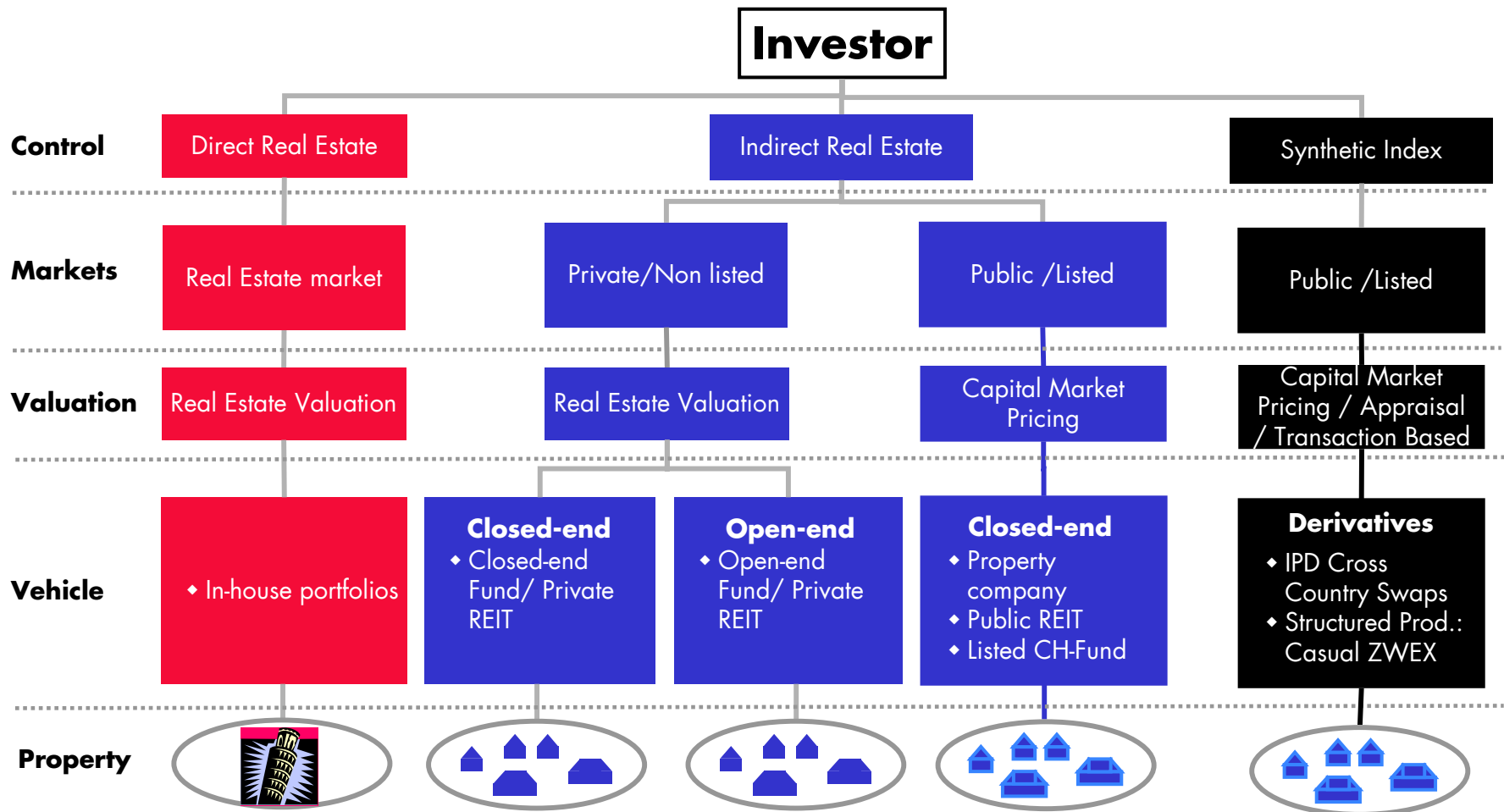
Rent		Without Reverse Mortgage			With Reverse Mortgage			
Age		Interest Rate	Eigenmietwert Steuer notional rental value	Result p.a.	Buy Insurance	Gross Rent p.a.* (before Tax and Residential Rent)	Rent p.a.	Net Rent p.a. (After Tax and Residential Rent)
With 500'000 Mortgage	65	20'000	3'000 $= (5\% * 1'000'000 * 0.7 - 20'000) * 0.2$	-23'000	500'000	22'860	50'000	-28'968
	75					31'348		-21'159
	85					47'748		-6071
Without Mortgage	65	0	7'000 $= (5\% * 1'000'000 * 0.7) * 0.2$	-7000	1'000'000	45'978	50'000	-7700
	75					62'000		7040
	85					95'869		38'199

*Source: CS Insurance Lab

INVEST : Two Types of Investment Vehicles



INVEST : Investment Universe



INVEST : Comparing Investment Types

✓ advantage ✗ disadvantage

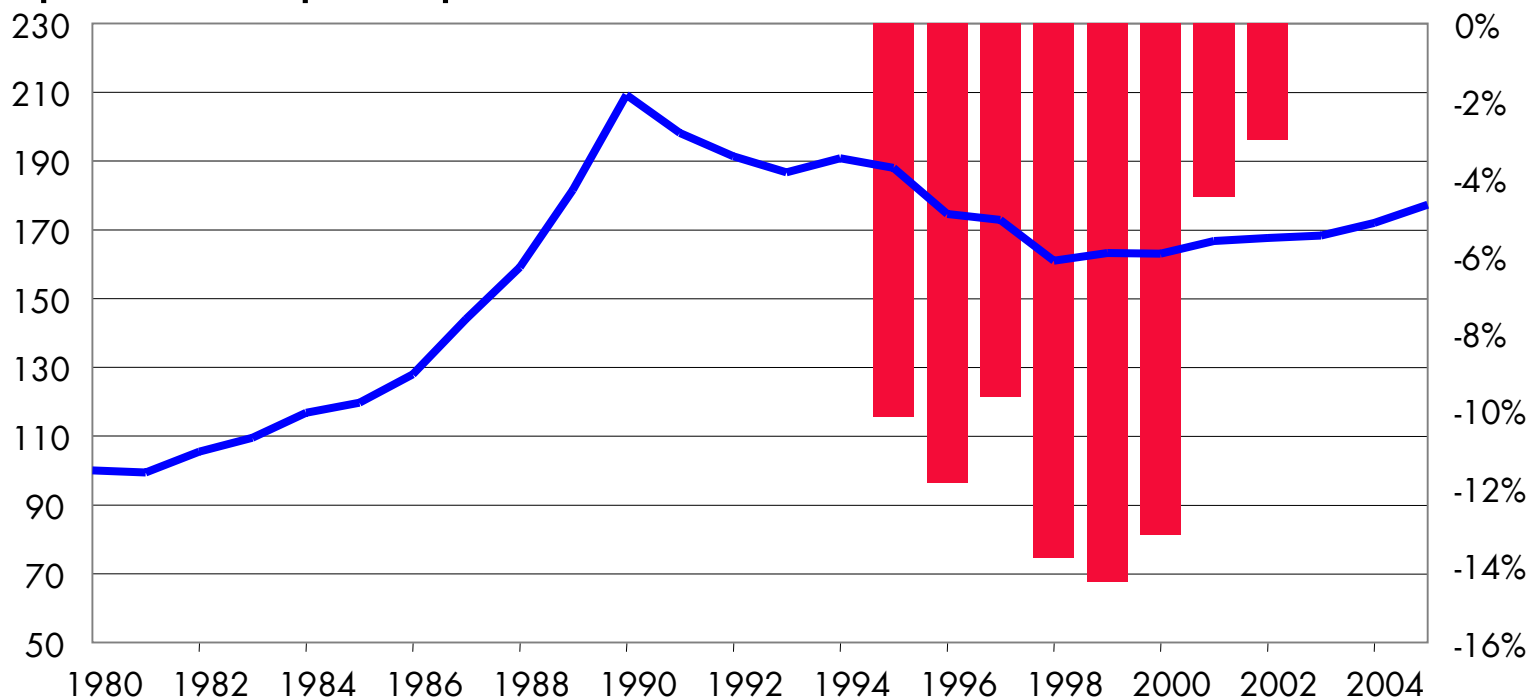
	Direct	Indirect	Derivatives
Diversification benefits	(✓)	✓	✓
Transaction costs	✗	(✓)	✓
Administration costs	✗	✓	✓
Property taxes	✗	(✓)	✓
Implementation speed	✗	✓	✓
Hedging / Short selling	✗	✗	(✓)
Premium over NAV	✓	✗	(✓)
Cherry Picking	✓	(✓)	✗
Lex Koller	✗	(✓)	✓
Maturity	✓	✓	✗
Risk Carrier	Single Object	Several Objects, Management	Index of Objects
Risk	Concentrated, Object	Market & Business	Market Risk
Return	Stockpicking	Flawed Market Risk	Market Risk

INVEST : Many Opportunities, but ...

- ... some investments are considered to be illiquid (direct ones, derivatives with present market maturity)
- ... Markowitz applies only if market conditions are normal. Else real estate risk might be more than simple 'statistical correlation risk':
 - Real estate risk ...
 - ... might be contagious to other asset classes in your portfolio (Japanese Stocks 90's);
 - ... might show inertia, i.e. long time to rebound (Switzerland 90's);

INVEST : Product Index-Linked Mortgage

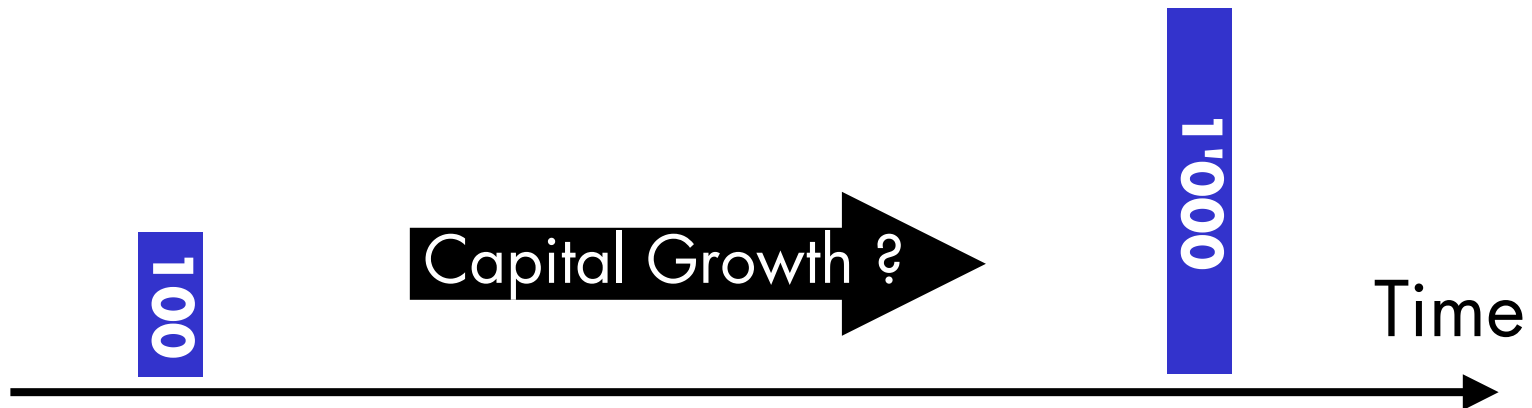
- Fix 5y maturity mortgage + put option; underlying ZWEX
- Price = 'ordinary' price + 0.4-0.6% for the put
- Impact : Capital protection



Put Option — ZWEX
Payoff Paolo Vanini

Poor's : Real-Estate-Index-Linked Savings

- General Idea



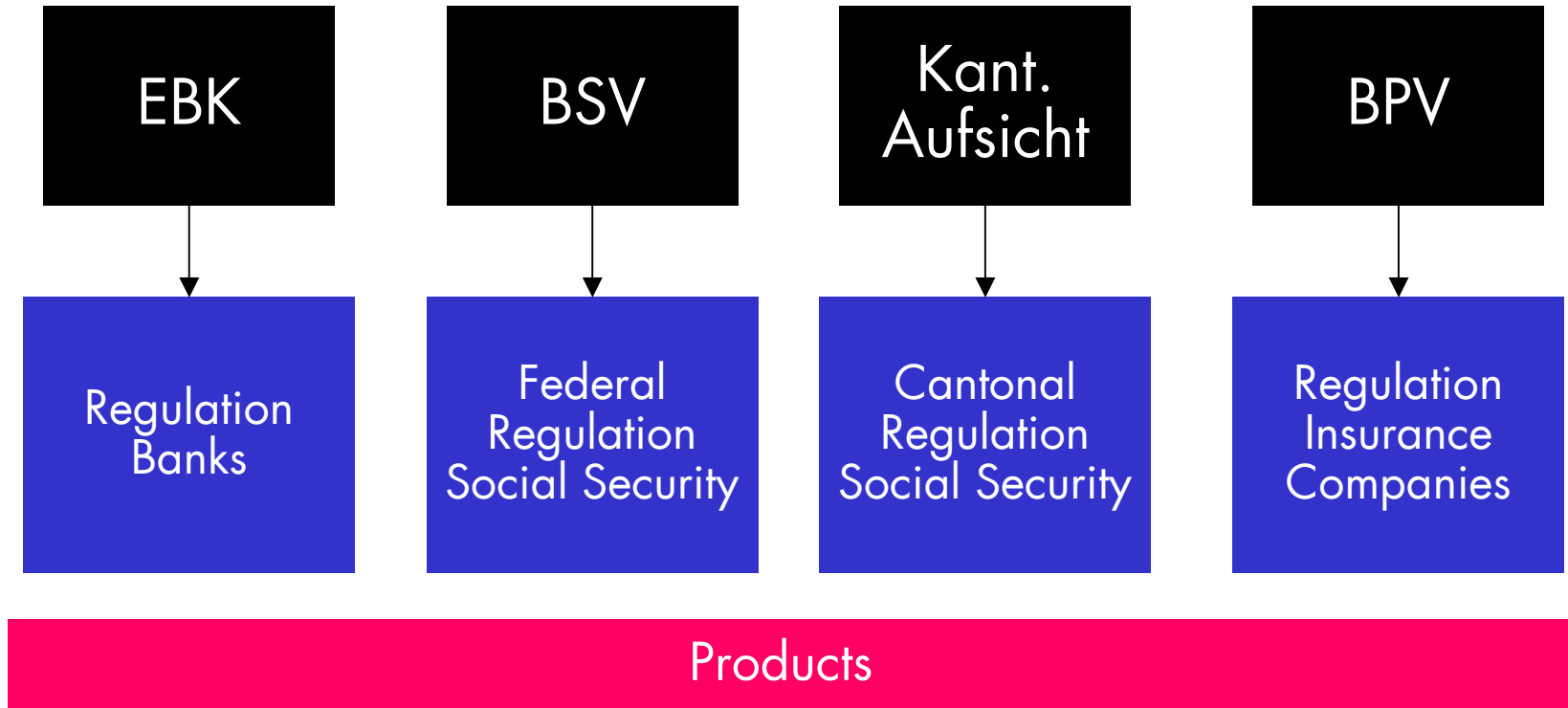
Poor's : Real-Estate-Index-Linked Savings

- Classical – Bausparen (Germany)
 - If interest rates fall,
 - House prices rise,the family's dream shrinks
- But if underlying value is a house price index and not interest rate, then this is not possible
- Poor's
 - Offer real-estate-index linked savings as a structured product
 - Diversify saving activities: Interest rates and real estate as underlying values

Poor's : Product

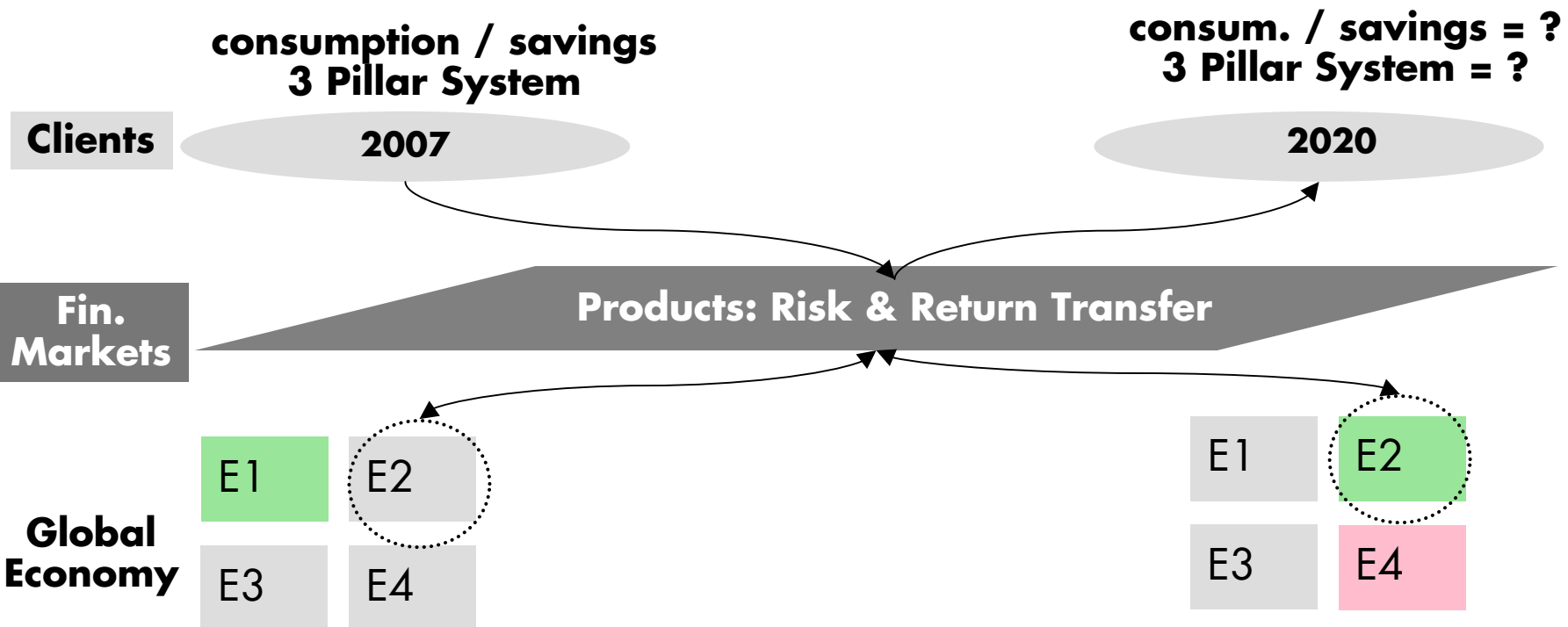
- Maturity 5 Jahre
- Underlying Value ZWEX® Index
- Minimum Repayment (I.e. 100% Capital Protection) 107.5%
- Min. Return p.a. 1.5% p.a.
- Max. Return p.a. 4.5% p.a.
- Partizipation Rate 100%

Main obstacle for innovation



Future of Innovations

- Goal: Structured payoffs with maturity of say 10y or even longer which capture future goals of the clients and which are feasible from a bank's side (hedge)



Future of Innovations : Challenges

- Understand the global economic changes
 - Role of climatic change ? → impact on real estate market ?
 - Demography worldwide and economic growth → impact on real estate market ?
 - How does a general equilibrium model looks like and what are the predictions: Real estate -, equity -, interest rate returns, consumption levels, risk premia
- Specific Swiss questions
 - Is the assumption of an increasing live expectancy reasonable ? → impact on real estate market ?
 - Which price for solidarity is the population willing to pay in the social security system ? Stability of I and II Pillar
- Design meaningful payoffs for the clients and develop liquid marketes

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