Contract Savings for Housing for Kyrgyzstan

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3. Contract Savings for Housing How to Structure the High-LTV Market – Savings or Insurance?



Alternative High-LTV Solutions

CSH reduces the LTV, other things being equal, by providing an additional equity portion, which requires prior savings.

Alternative: **high-LTV insurance**, which must be **highly capitalized** to withstand cyclical housing risks. Historic cases full of **moral hazard**, leading to undercapitalized insurance promises (US GSE, private MI).

Housing Finance Institutional Framework Two Tier System for Purchase/Construction Finance



- Split system creates
 - Safe bonds for institutional investors,
 - Accumulation of savings for individuals.
- Interest rate risk should be separated from credit risk in the Kyrgyzian context
 - Interest rate risk with the second tier,
 - Credit risk with the first tier.
 - First / second mortgage split enhances safety

3. Contract Savings for Housing Contract Savings as a Second Mortgage Product

CSH Product as a Second Mortgage (high-LTV)

3 Years of Savings of KGS 6,000/Month at 3%, 10% Premium

				DEBT SERVIC	Ε			
	Rank Name		Volume	Loan-to	Loan-to-Value		Debt service	Maturity
			*1,000 KGS	Cumulative	Individual		*1,000 KGS	
Loans	1	First M Loan	996	66.4%	66.4%	14.0%	13.5	15.0
	2	CSH Loan	252	83.2%	16.8%	10.0%	3.4	10.0
Savings	Savings	CSH acc S	229	98.5%	15.3%	3%	0.0	
Government	Subsidy	CSH acc P	23	100.0%	1.5%	10%	0.0	
	Equity	Own funds	0	100.0%	0.0%		0.0	
		House Price	1500			13.2%	16.9	14.0

CSH loans are **best suited** for **smaller investments** and **second mortgage lending**.

3. Contract Savings for Housing Basic Contract Savings Mathematics



CSH loans need to be **proportional to accumulated savings and premium**.

A difference can occur e.g. when there are 'good brothers' who do not take a loan.

Minimum savings period of 1.5 (Slovakia) – 3 (Kaz) years, Germany 5 years.

Variants of contracts between shorter and longer contracted savings periods (e.g. Kaz uses 4).

3. Contract Savings for Housing Premium Design

Premium accrues for each savings generation and is disbursed only at the end of the contract.

	S	Р	S+P	Р	S+P	Р	S+P	Yield	with
Year 1	100.0	10.0	110.0		110.0		110.0	6.2%	interest
Year 2			100.0	10.0	110.0		110.0	7.9%	
Year 3					100.0	10.0	110.0	13.0%	
	<u>.</u>						330.0	9.0%	

Premium reduces distance to market conditions, but should not entirely match, let alone exceed, market return

o year savings perio	u							
		CSH deposit rates %						
	9.0	2.0	3.0	4.0	5.0			
	0.0	2.0	3.0	4.0	5.0			
Premium level %	5.0	5.0	6.0	7.0	8.0			
	10.0	8.0	9.0	10.0	11.0			
	15.0	11.0	12.0	13.0	14.0			
	20.0	13.9	14.9	15.9	16.9			
	25.0	16.8	17.9	18.9	19.9			
	30.0	19.7	20.7	21.7	22.7			
June 16 market rates		short	-term	long	-term			

Main function of premium is **incentive to save** long-term in a potentially volatile environment, for 3 years or more, below market, in order to enable below market loans.

3. Contract Savings for Housing Premium Design

Premium per annum and contract is **capped**, so large savings get proportionally lower subsidy.



This means self-targeting to lower-income households.

Taxation of deposit interest?

3. Contract Savings for Housing Basic Contract Savings Mathematics

Feasible Contract Menu Is Limited

Coun	tries	Volumes			Financial Variables				Performance Indicators						
		Savings	Premiums	Loan	Contract		Savings		Loan	Savings	Loan	Savings /	Acc. Savings	Static	NPV-based
		Vol	lume (% or 0	CU)	Sum	Payment	Premium	Interest	Interest	Period,	Years *	Contr Sum	a Premiums	Indicator	Indicator
		Acc S	Acc P	L	С	S(t)	P(t)/S(t)	i(S)	i(L)	t(s)	t(I)	Acc S / C	: Acc S&P / C	Acc S&P / L	% of CS
Generic		500		500	1000							0.50			
Generic		250		750	1000							0.25			
Germany		618	49	742	1360	120	8%	1.0%	3.0%	5	15	0.45	0.49	0.90	1.5%
		010			1000		0/1	,	01070	-		0110	01.10		
Kyrgyzstan	Option	229	23	280	509	72	10%	3.0%	10.0%	3	10	0.45	0.50	0.90	6.4%
Koz 1	Pactau	244	40	225	570	70	20%	2.0%	E 0%	2.25	C	0.42	0 5 1	0.00	11 00/
	Dastau	244 422	49	525	570	72	20%	2.0%	5.0%	5.25	0	0.43	0.51	0.90	11.0%
Kaz Z	Urken	423	85	563	986	72	20%	2.0%	4.5%	5.5	10	0.43	0.51	0.90	6.3%
Kaz 3	Kemel	6/3	135	898	15/1	/2	20%	2.0%	4.0%	8.5	15	0.43	0.51	0.90	-5.0%
Kaz 4	Bolaschak	1270	254	1693	2963	72	20%	2.0%	3.5%	15	25	0.43	0.51	0.90	-44.2%

- Static evaluation indicator relates amount of savings delivered and loan requested (Kazakhstan).
- On a present value basis, the advantage from receiving a below-market loan should be proportional to the disadvantage of saving below market.
- **Results depend** highly on **discount factors** chosen. High **volatility increases contract value**.

3. Contract Savings for Housing Risks of Unregulated Products



- Loan-to-savings multiplier of 5-7 (Case: Iran)
- Initial liquidity surplus, yet cannot fill large subsequent liquidity gap
- Does not reach "Steady-State", i.e. accumulated savings << loans
- **Result is** likely central bank/government **bailout**
- Even multiplier of 2-3 is dangerous, creates unhedged open interest forward position

3. Contract Savings for Housing At Least Product Needs to Be Regulated



Stabilization:

- Loan-to-savings multiplier of 1-1.5
- Minimum number of good brothers (who save only)
- Good brothers ought to be eligible for premium
- Reaches steady state where (simplified, excluding interest & other investment)

New savings

- + loan principal repayments
- = loan disbursements.

3. Contract Savings for Housing Initial Liquidity Surplus Invested in Securities

Zhilstroysberbank securities vs. loan porfolio



3. Contract Savings for Housing Prohbition by the German Banking Act

Section 3 Prohibited business

(1) The following are prohibited:

- 1 conducting deposit business if the majority of the depositors are persons employed by the undertaking (company savings banks) and no other banking business is conducted which exceeds the scale of such deposit business;
- 2 accepting sums of money if the majority of the investors have a legal claim to be granted loans or supplied with items on credit out of these sums of money (specialpurpose savings undertakings); this does not apply to building and loan associations (*Bausparkassen*);
- Loan offer is only attractive if fixed and below market
- The lender thus sells an unhedged interest rate forward rate agreement to the saver
- **Possibly** enhanced by **leverage** (high loan/savings multiplier)
- Safe only when securing permanent new savings inflows under below market conditions

3. Contract Savings for Housing Aggregate Demand Fluctuations and Flight to Safety



Require Good Asset-Liability Management and Technical Reserves

In the 1970s, high rate volatility and rate levels drove loan demand \rightarrow technical reserves introduced

In the 2000s, savers flight from volatile stock / bond market into safety of contract savings (2001, 2008)

3. Contract Savings for Housing German Bausparkassen Pricing Policies





As interest rates decline, so do spreads.

Selling point in Germany is loan rates, not deposit rates.

(contrast e.g. to Austria, which historically has boosted deposit returns through higher premium levels)

3. Contract Savings for Housing Austrian Bausparkassen Crisis 1998

Impact of Market Rate Decline Can be Drastic



- 1998: market rates dropped below Bauspar loan rates
 →large number of prepayments.
- Product converted from fixed-rate to floating-rate with caps (i.e. semi-open system), both savings and loans.
- Bausparkassen were allowed to offer both Bauspar and mortgage loans, issue both Bauspar deposits and covered bonds / MBS.
- Still there are **tight limits to covered bond issuance** (overcollateralization).

3. Contract Savings for Housing Comparison of Issuer Regulations

- Special bank: Germany, Austria, Czech Republic, Hungary. Closed systems = high liquidity risk. Full separation of collective funds and liquidity risk management needed.
- Universal bank: France, Maghreb countries. Open systems = low liquidity risk. Usually licensing.
- **Special funds:** Latin America and Asia, frequently as monopolistic public provident funds collecting wage taxes (often lottery effects).
- Housing banks (special regulation): Iran.

3. Contract Savings for Housing Are Special Banks Needed Economically?

Option	Character	Advantage	Disadvantage	Applicable situation
Universal bank	Open funding	All housing loan products Flexible funding options	No special product focus No special target group	Small market
	Universal	(subsidy independent)	focus	Low inflation
	bank license	No minimum scale	Inefficient servicer	
		requirement		
		No additional regulatory/		
		supervisory costs Efficient originator		
Building	Open funding	All housing loan products	Speciality requires	Mid-sized
society		Special product focus	minimum scale	market
	Special bank	Special target group focus	Special regulatory/	
	license	Flexible funding options	supervisory costs	Low inflation
		(subsidy independent)		
		Efficient servicer and		
		originator		
Specialized	Closed	Applicable in high inflation	Small loan sizes only	Large market
CSH	funding	context	Inflexible funding	
institution		Special savings	(subsidy dependent)	All inflation
	Special bank	mobilization focus	Speciality requires	scenarios
	license	Special housing lending	minimum scale	
		focus	High special regulatory/	
			supervisory costs	
			Inefficient originator and	
			servicer	

Generally, open systems more suitable for universal banks (France).

Closed systems are very rarely run by universal banks.

Closed systems need firewalls, licensing due to high risks.

Mixing of funds difficult for closed systems (Austria).

3. Contract Savings for Housing Alternative: Highly Regulated Universal Bank w Ring-Fenced Portfolio

Universal bank ring-fencing conditions

- Conditions determined by special law
- Special licensing
- Minimum solvency/rating
- Special financial education of staff and managers
- Tight ring-fencing of assets/liabilities, reserves and cash flow to protect savers collective
- **Insurance type risk-specific** (asset-liability management) regulation determining contract design, projections/simulations, technical reserve levels.

Ultimately tantamount to creating special bank, number of potential issuers will remain limited.

3. Contract Savings for Housing Universal Bank Regulation – Trust Fund or Segregation Privilege

Segregability of assets

from bank balance sheet (super-seniority).

Comparable to covered bonds / Pfandbriefe (special insolvency privilege).

Alternative is US-style **trust fund**.

In **both cases, special supervision** by trustee or auditor.

Assets	-	Liabilities
CSH Loans Bridge Loans CSH Liquid Investments	CSH FUND	CSH Deposits CSH Technical Reserves CSH Profit Account
Other Liquid Investments Other Investments Other Lending Fixed Assets	OTHER ASSETS	Deposits Bonds Other Reserves Capital

CSH Manager Balance Sheet

Bridge loan = advance/interim loan.

3. Contract Savings for Housing Universal Bank Regulation – Clean Cash Flow Ring-Fence

CSH Manager Cash Flows

Cash Inflow	I	Cash Outflow
CSH New Deposits CSH Loan Amortization Bridge Loan Amortization CSH Deposit Interest Liquid Investment Principal	CSH FUND	CSH Deposit Withdrawals CSH Loan Disbursements CSH Technical Reserves (net) New Liquid Investments Investment Management Fee
Liquid Investment Interest		CSH Profit Share
CSH Loan Interest	СЅН	CSH Deposit Interest
Bridge Loan Interest	MANAGER	Credit Risk Provisions
CSH Fee Revenues		Distribution Costs
Investment Management Fee		Servicing Costs
Non-CSH Cash Inflow		Non-CSH Cash Outflow

To avoid excess profit allocation to owners, as in CZ/SLK:

CSH fund pays manager an investment fee and a profit share.

In exchange receives an interest in non-CSH investments.

Under special bank, profits are entirely internalized with the fund manager.

3. Contract Savings for Housing **ALM Rules**

Structure of Simulation Models



Abbildung 2.6: Vereinfachtes Modellkonzept

Loan demand model

interest rate model and new savings reaction

Models

Report

model

Important: classify savers in groups with predictable savings/loan demand



Abbildung 2.5: Anteil einzelner Vario-Varianten am Gesamtneugeschäft des Vario-Tarifs in Abhängigkeit von den Sparbriefzinsen

3. Contract Savings for Housing Percentage of Loan Takers and Market Rates – Example Germany



Abbildung 2.3: Darlehensverzichtsanteil in Abhängigkeit von den Hypothekenzinsen

3. Contract Savings for Housing Loan Demand – Example Armenia

Dependency of New Loan Demand (Fixed Rate) on Interest Rate Environment



3. Contract Savings for Housing Other Implementation Law Content

Para 4 Minimum Requirements for Bauspar Tariffs (tariff = contract)

Para 5 Grants of Anticipatory or Intermediate Loans and Other Building Loans from Allocation of Funds

Para 6 Applications for the Approval of Tariffs and Portfolio Transfers

Para 7 Transfer to the Bauspar Technical Reserve Fund

Para 8 Use of the Bauspar Technical Reserve Fund

Para 9 Large Scale Bauspar Contracts

Para 10 Commercial Financing

Para 11 Loans to Associated Companies

Para 12 Loans based on Letter of Commitment, Loans without Collateral

3. Contract Savings for Housing Selected Consumer Protection Issues

- With fixed spreads, CSH institutions make their profits to a large degree on **fees**. **Similar to insurance** and similar consumer protection issues.
- Fees are anticipated to the savings phase to avoid their inclusion into the loan effective interest rate (annual percentage rate of charge, APRC).
- Loan **effective interest rates may be distorted** since they do not account for savings below market rates. APRC concept should require full discounting of all savings and loan payments, i.e. Include both savings and loan phase.
- Loans are **always prepayable without costs**, since a fast reflow of funds is good for the collective.

3. Contract Savings for Housing Premiums: Self-Financing or Government-Financing?

Potentially highly profitable operation can return fiscal costs of premium (e.g. if Bausparkasse is public).

Ratio of Bausparkasse profits divided by premiums paid by government

- Slovakia reduced premium as rates dropped
- Czech rep kept premium constant, i.e excess subsidy



Zhilstroysberbank / Kazakhstan

Strong increase in savings volumes after collapse of FX market Significant profits* covering state support.



3. Contract Savings for Housing Historic Development in Eastern European Countries

Attractive for savers in the initial years (depending on premium levels)

Number of contracts vs population in 2009, i.e. 5-17 years after start (excl. Germany, Austria)

Year 2009	Habitants (in m)	Portfolio in pieces – savings and credits (in m)	Market penetration (%)
Czech Republic (since 1993)	10,3	5	49
Slovak Republic (since 1992)	5,4	1,1	20
Hungary (since 1997)	10,1	0,8	8
Croatia (since 1998)	4,4	0,7	16
Romania (since 2004)	21,5	0,3	1
Austria	8,3	5,6	67
Germany	82,5	30	36
Raiffeisen STAMBENA ŠTEDIONICA	Washing	ton 2010	edi. Svrijedi!

Attractiveness for borrowers depends on interest rate environment

 \rightarrow foreign currency lending strong competitor to any local currency product

→local currency loan subsidies competitor to CSH Example Hungary



Greatest attractiveness with high/volatile local currency rates

3. Contract Savings for Housing Zhilstroysberbank, Kazakhstan - Lending



Despite high premium levels, slow start due to FX loans dominating the mortgage market.

Loan portfolio boosted in 2007 through state program.



CSH deposits became highly attractive with the financial crisis, in which

- KZT deposit rates decreased,
- FX lending dried up and
- KZT loan rates increased

3. Contract Savings for Housing Zhilstroysberbank, Kazakhstan – Investment / Funding Policy



Typical sequencing of investments of initial Bausparkasse operations:

- Accelerating deposits (2011-2013) are invested in securities
- Securities are sold to mobilize liquidity as lending picks up.

High capital levels initially were later used primarily for the state program.

Fresh capital provided after the crisis helped boosting CSH lending.



3. Contract Savings for Housing Zhilstroysberbank, Kazakhstan – additional chart



3. Contract Savings for Housing Slovakia vs. Czech Republic

In the Czech republic and Slovakia, CSH systems have operated since 1992 and materially contributed to keep LC mortgage rates low and avoid FX lending. In both countries, initial premium levels and subsidy budgets were considerable and were later lowered.

3. Contract Savings for Housing Hungary, Romania, Croatia

In Romania, Croatia and until recently Hungary, despite high premium levels, CSH has been less successful because of crowding out from predominant FX lending as well as absence of any LTV limits (esp Croatia).

With the collapse of FX lending during 2010 and 2011, in Hungary CSH as the main, neither liquidity nor capital-constrained LC lending branch of the housing finance system experienced a boom.

3. Contract Savings for Housing Premium Level Should be Seen in the Context of Mortgage Market Subsidies **Case Hungary Budget expenditure on housing subsidies** 1,20% 900 Other Exchange rate cap system Contractual saving for housing 750 1,00% Social housing subsidy Interest rate subsidy 600 0,80% Housing subsidies / GDP million USD 450 0,60% 300 0,40% 150 0,20% 0 0.00% 2000 2001 2002 2003 2004 2005 2006 2001 2008 2009 2010 2012 2012 2013 2014 Hungarian Central Statistical Office; budget laws of the single years

Deeply subsidized Forint rates of just 3 years created a mountain of fiscal commitments. Stop due to fiscal reasons was **followed by Swiss Franc lending**, which later collapsed. **After collapse, Bausparkasse** (Forint lending) dramatically **gained in market share**.

3. Contract Savings for Housing Proposal

- **Enabling law** defining product range, institution and investment options
 - Contract design parameters: minimum savings effort, loan/savings multiples, NPV-based evaluation,
 - Institution: special bank or tightly regulated universal bank (ring-fencing, ALM, qualification, licensing)
 - Investment: Bauspar loans, preliminary and interim loans, covered bonds, long-term bank deposits
 - Principles of state support: eligibility, level, withdrawal.
- Annual budget law defining premium/subsidy levels
 - Note: demand may be explosive if premia are too high, thus reduction when market rates fall,
 - Kyrgyzstan may start with 10% premium level?
- Sufficiently **specialized second-tier institution under SMC** that distributes through the banks.
 - Government claws back premium through profits of Zhilstroysberbank highly profitable,
 - Banks and mortgage market are too small to afford more than one special bank,
 - Can be privatized in the future (ex. Zhilstroysberbank).
- Alternative: private or public-private ownership.
 - For PPP or private, proportional representation of banks/MFI? Joint stock vs. LLC.

Housing Finance Institutional Framework Relationship between Banks and Specialized Institution

- Correspondent relation
 - Bank collects savings,
 - Bausparkasse accumulates, decides about investment,
 - Bausparkasse decides about eligibility for loan and premium,
 - Bank does loan origination,
 - Bank collects loan payments
 - Bank executes in case of default.
- Options
 - Bausparkasse holds loans directly, guaranteed by banks



3. Contract Savings for Housing Relationships, Case German Coops (Volks/Raiffeisenbanken)



Analogy to SMCs proposed interaction with banks (in Kyrgyzstan independent, many private)

Over time, universal banks will start own covered bond programs

3. Contract Savings for Housing Pricing Between Banks and SMC

TENTATIVE PRICING

	Investors	SMC	Banks	Total
	Yield curve	Int rate risk	Credit risk & admin	
Aff Hou	8.5%	1.5%	4.0%	14.0%
Bauspar	3.0%	2.5%	4.5%	10.0%
	Government	SMC	Banks	Total
Soc Hou	3.0%	2.0%	5.0%	10.0%