



# Institutional Investors and Financial Markets

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# Diversified demand for bonds

- Banks
- Contractual savings institution
  - ◆ Pension funds
  - ◆ Life insurance
- Non-Life insurance
- Mutual funds
- Foreign investors
- Retail investors

# Definition and importance of contractual savings

- Funded pensions plans: accumulation period
- Annuities: pensions pay out
- Life insurance
- Funded unemployment benefits, gratuity, end of service indemnity
- Other contingencies - down payment for a house, education, weddings, funerals
- Supply long term savings

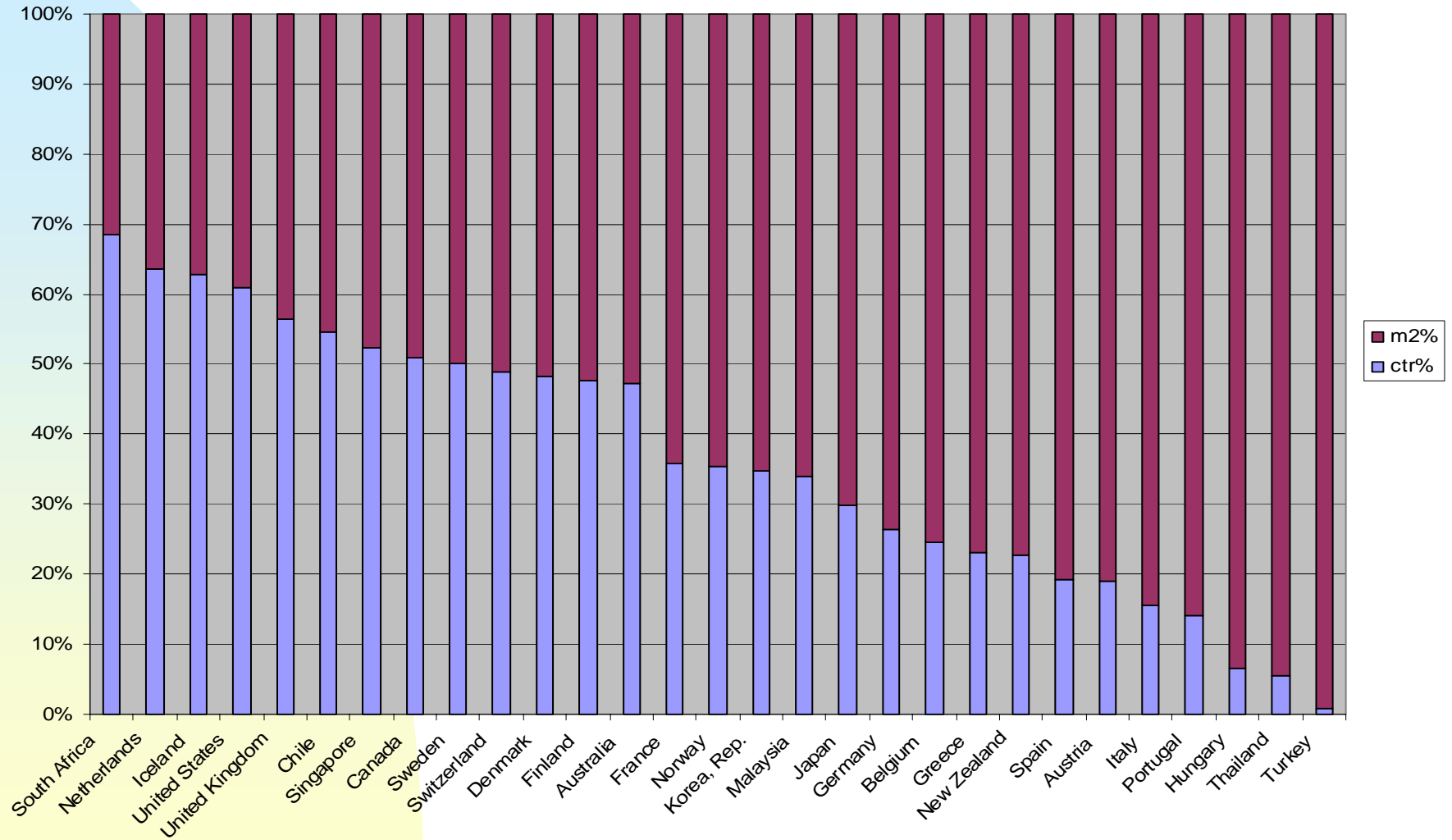
## Financial assets of contractual savings, selected countries

% GDP	1970	1980	1990	1993	1996
Switzerland	51.00	70.00	88.51	106.82	131.38
United Kingdom	43.00	38.81	86.90	137.36	141.72
Netherlands	45.00	66.90	108.11	130.46	148.19
United States	40.00	43.01	69.20	82.07	94.80
Chile		1.00	29.28	45.61	50.61
Malaysia*	18.00	20.08	47.18	50.25	51.02
Singapore*	17.00	41.00	115.13	102.39	93.50
South Africa	40.00	39.27	78.13	111.87	126.01

\* Prior to 1990, the data do not include the funds invested directly by individual workers in housing and other approved assets.

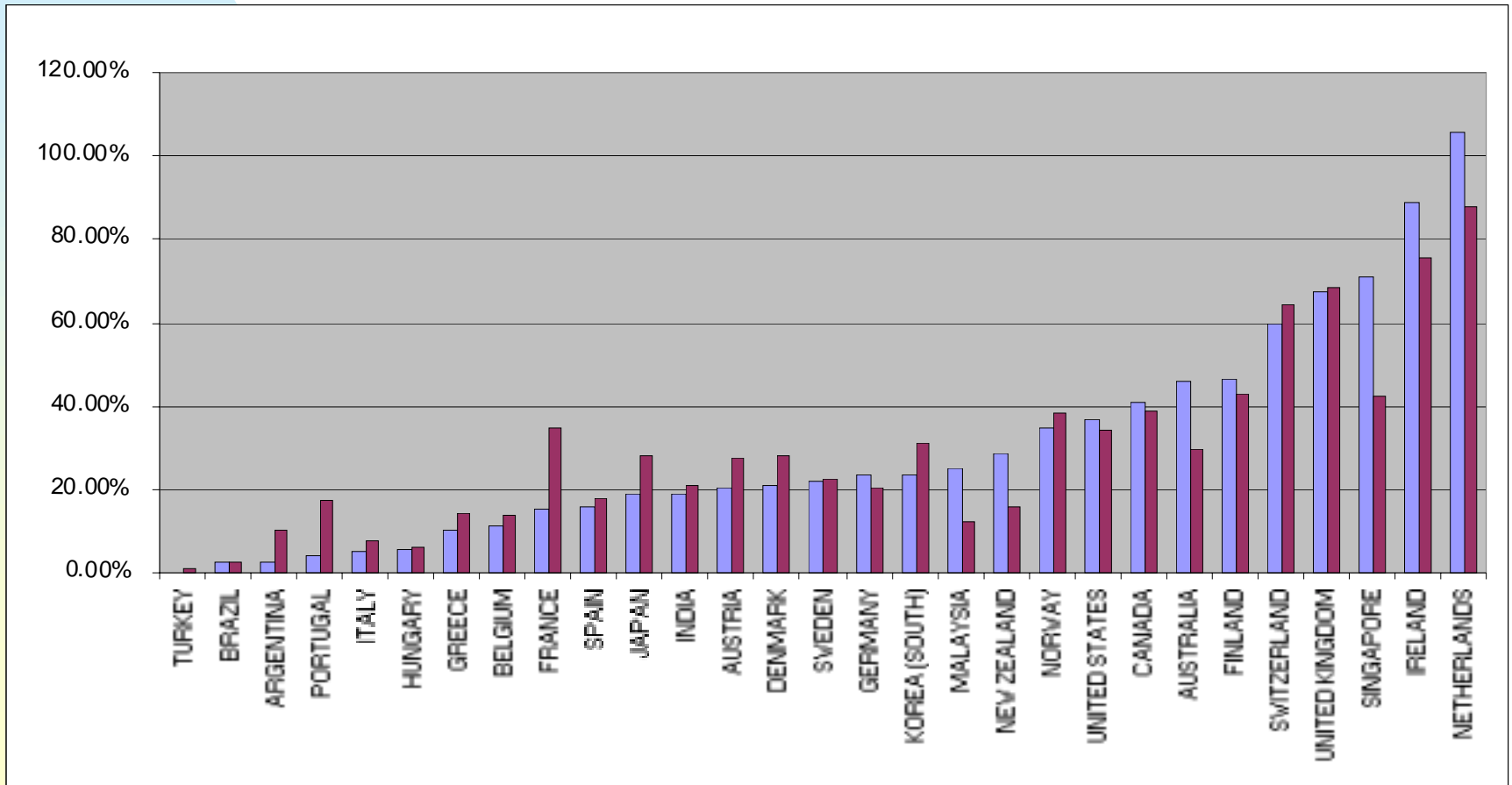
Source: 1970 data from Davis (1995) and national central banks, as quoted by Vittas (1998); all other data from World Bank database

# Contractual savings and M2 as percentage of financial assets (1996)



# CONTRACTUAL SAVINGS % OF CAPITAL MARKETS (STOCKS AND BONDS)

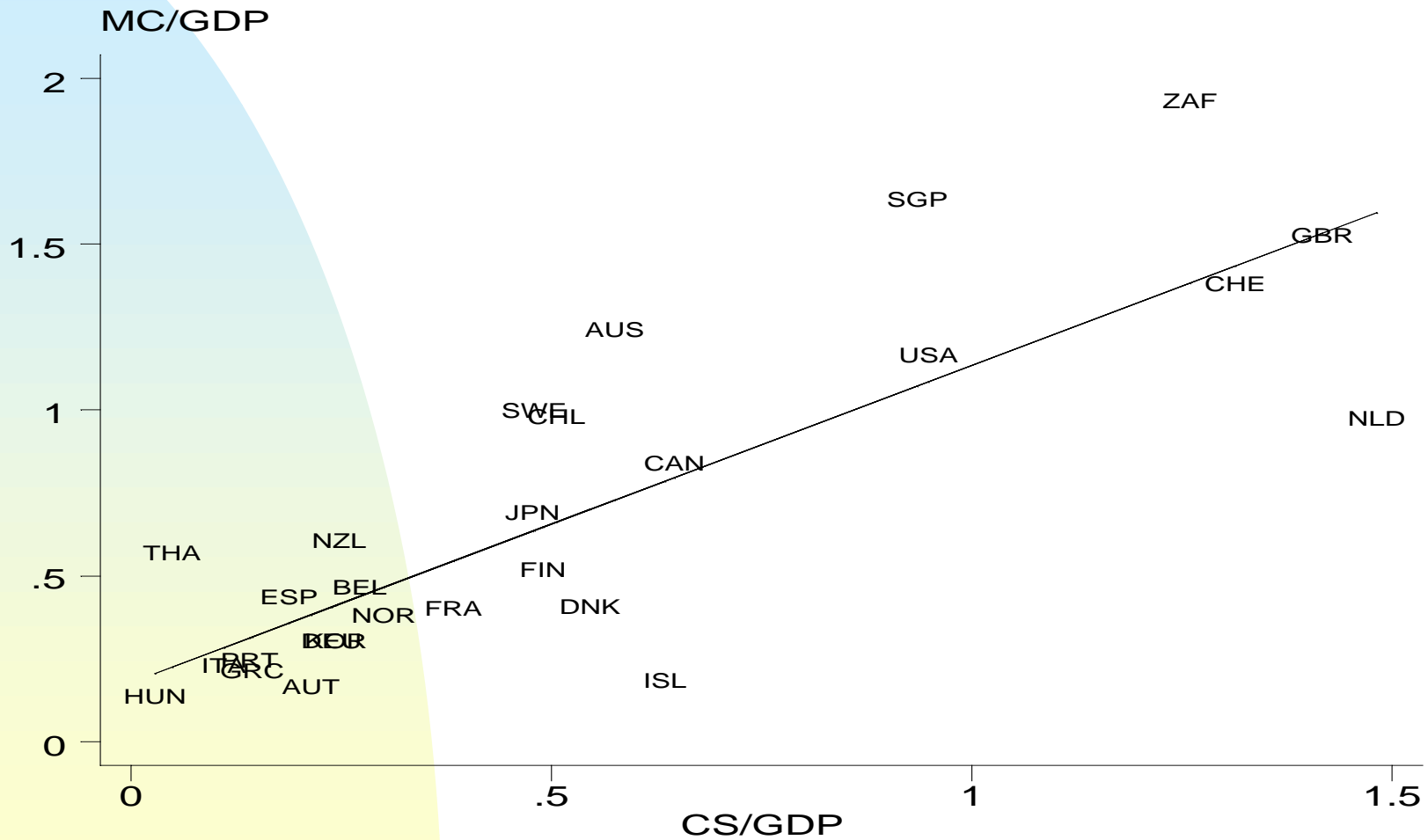
## Comparing two years during the 1990s



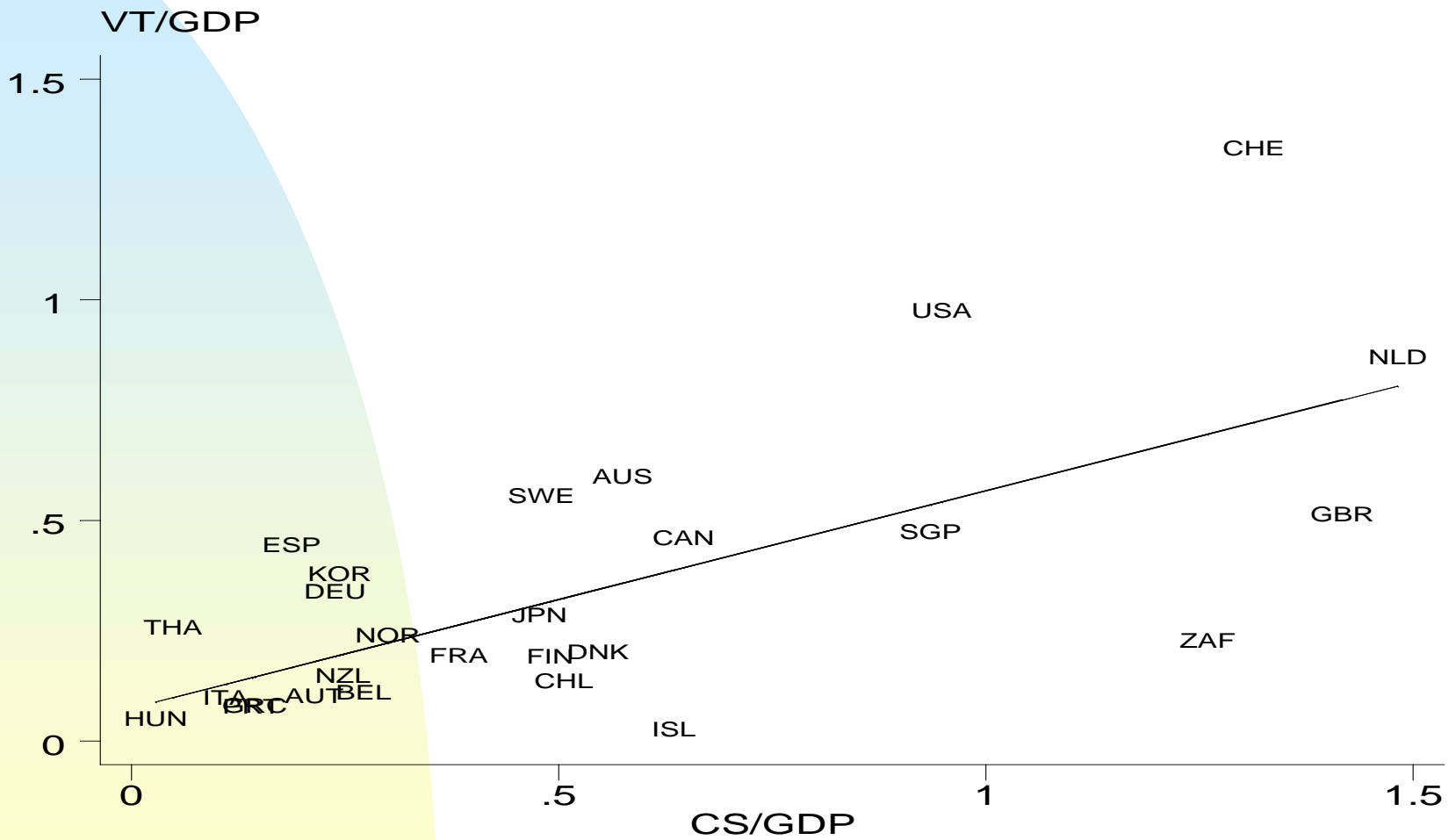
# Financial market effects

- Increase demand for shares and bonds, market capitalization and volume traded: increase depth and liquidity
- Increase demand for long term bonds
- Increase supply of long term loans
- Improve regulations and transparency
- Foster financial innovation, competition and efficiency
- Improve corporate governance

# Market capitalization and contractual savings assets, 1996 (% GDP)



# Value traded and contractual savings assets, 1996 (% GDP)



# Causality

- In countries with developed capital markets, direction of causality between contractual savings and either market capitalization or value traded is not clear.
- In countries with underdeveloped capital markets, either contractual savings causes market capitalization and value traded, or causality runs both ways.
- In developing countries, pension funds cause market capitalization while life and non-life insurance cause value traded.

# Market capitalization

- **Estimator:** Error Components 2 Stage Least Square (EC2SLS), N=281, 26 unbalanced panels (21 OECD and 5 non-OECD countries, 1975-97)
- **Positive impact:** contractual savings, non-life ins., value traded, real return on stocks
- **Negative Impact:** real return on money, real interest rate, book reserves, stock price index volatility
- **Step dummy:** developing countries with positive coefficient
- **Endogenous variables:** asset returns
- **Exogenous variables:** all other
- **Diagnostics:** various specification tests passed

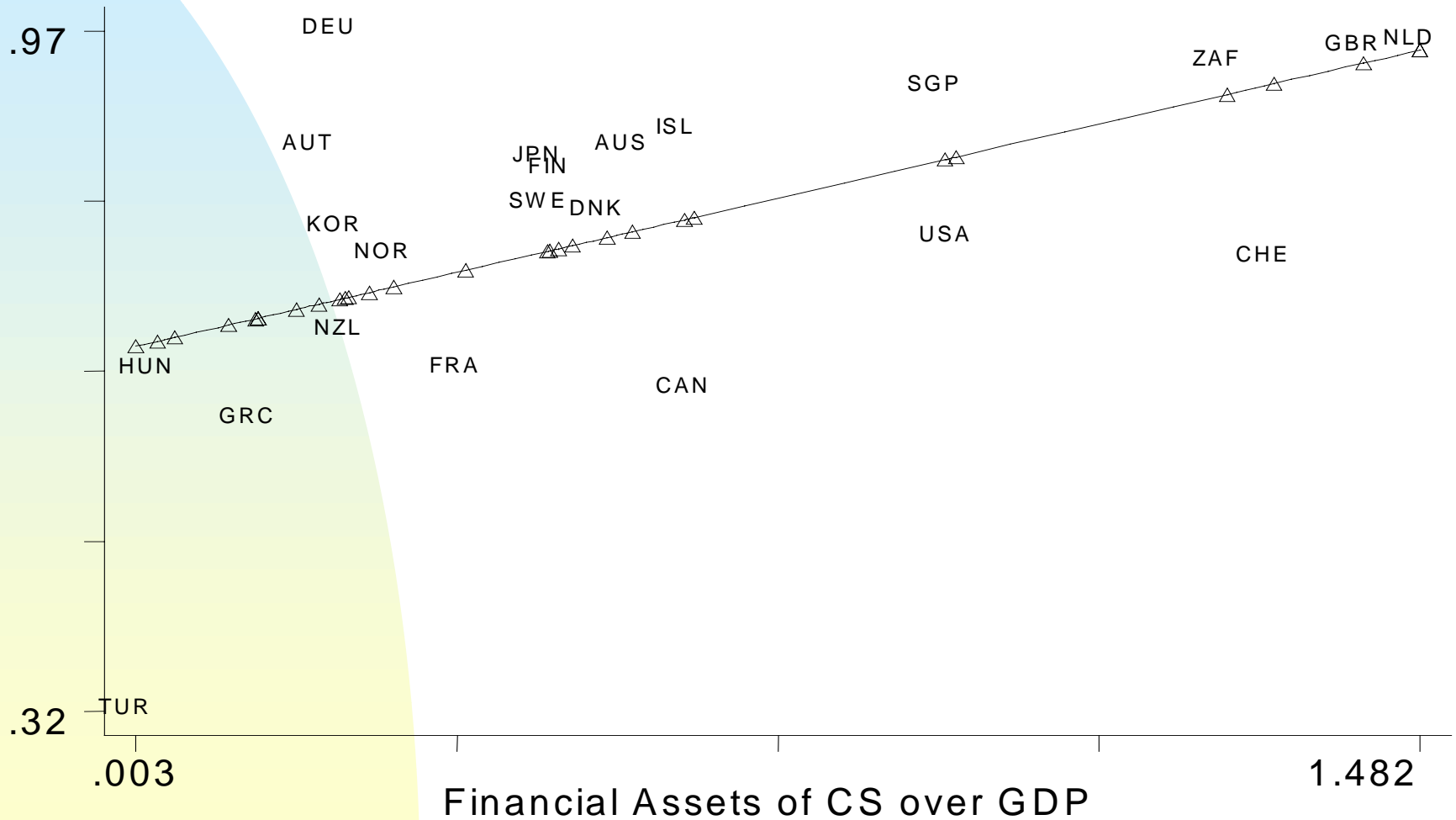
# Value traded

- **Estimator:** EC, N=233, 26 unbalanced panels (21 OECD and 5 non-OECD countries, 1975-97)
- **Positive impact:** contractual savings share portfolio, non-life insurance share portfolio, real return on money
- **Negative impact:** real interest rate
- **Step dummy:** developing countries with positive coefficient
- **Diagnostics:** various specification tests passed

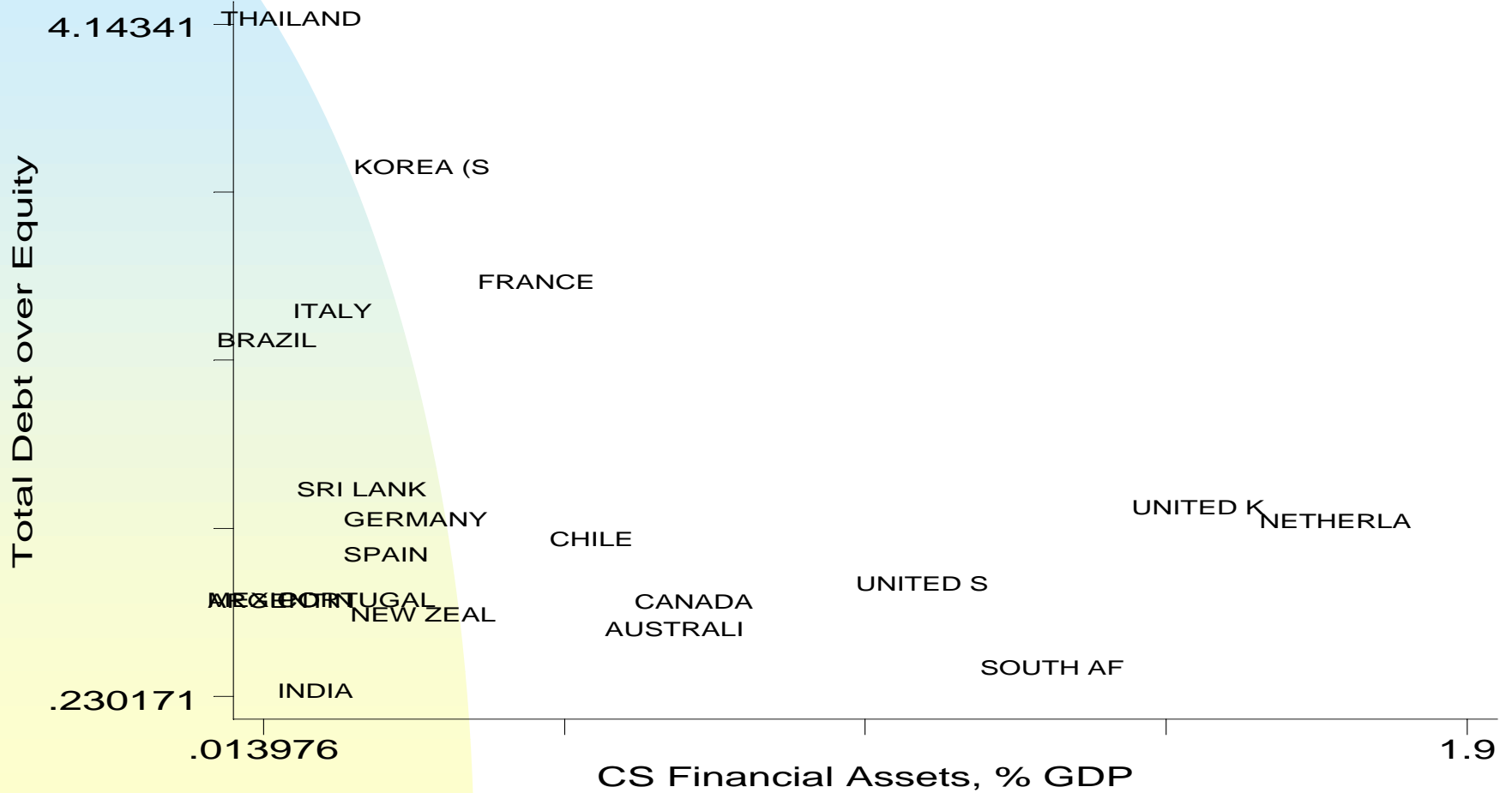
# Social and financial risk mitigation effects

- Beneficiaries improve management of longevity, death and other risks
- Reduce debtors refinancing risks, including governments, by lengthening the maturity of debts
- Reduce pressure on banks to engage in excessive term transformation risks
- Reduce enterprise vulnerability to interest rate and demand shocks due to improved financial structure (higher Equity/Debt ratio)
- Reduce capital markets volatility

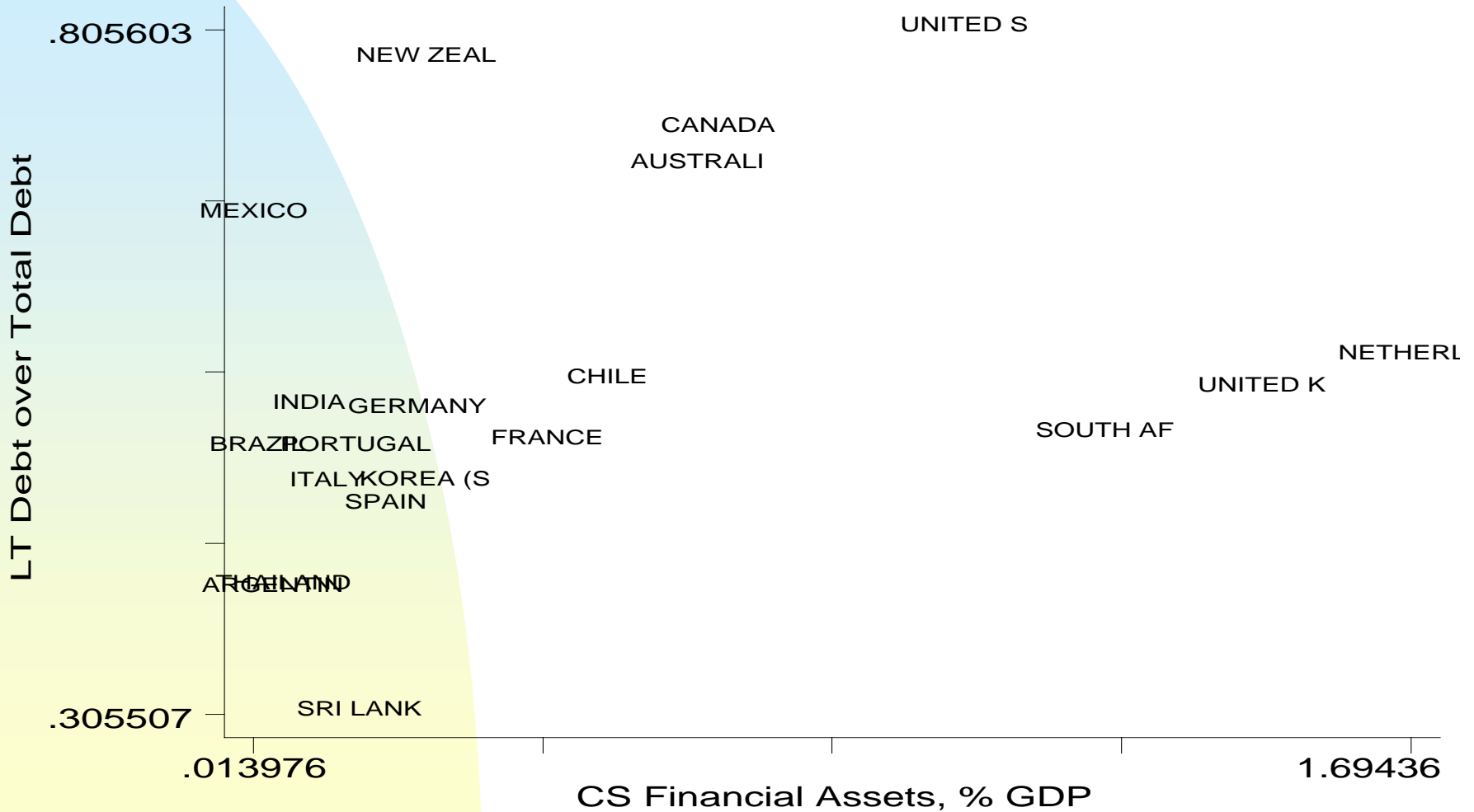
## Government long-term to total debt ratio and contractual savings assets, 1996 (% GDP)



## Debt-equity ratios of listed companies and contractual savings assets, 1997 (% GDP)

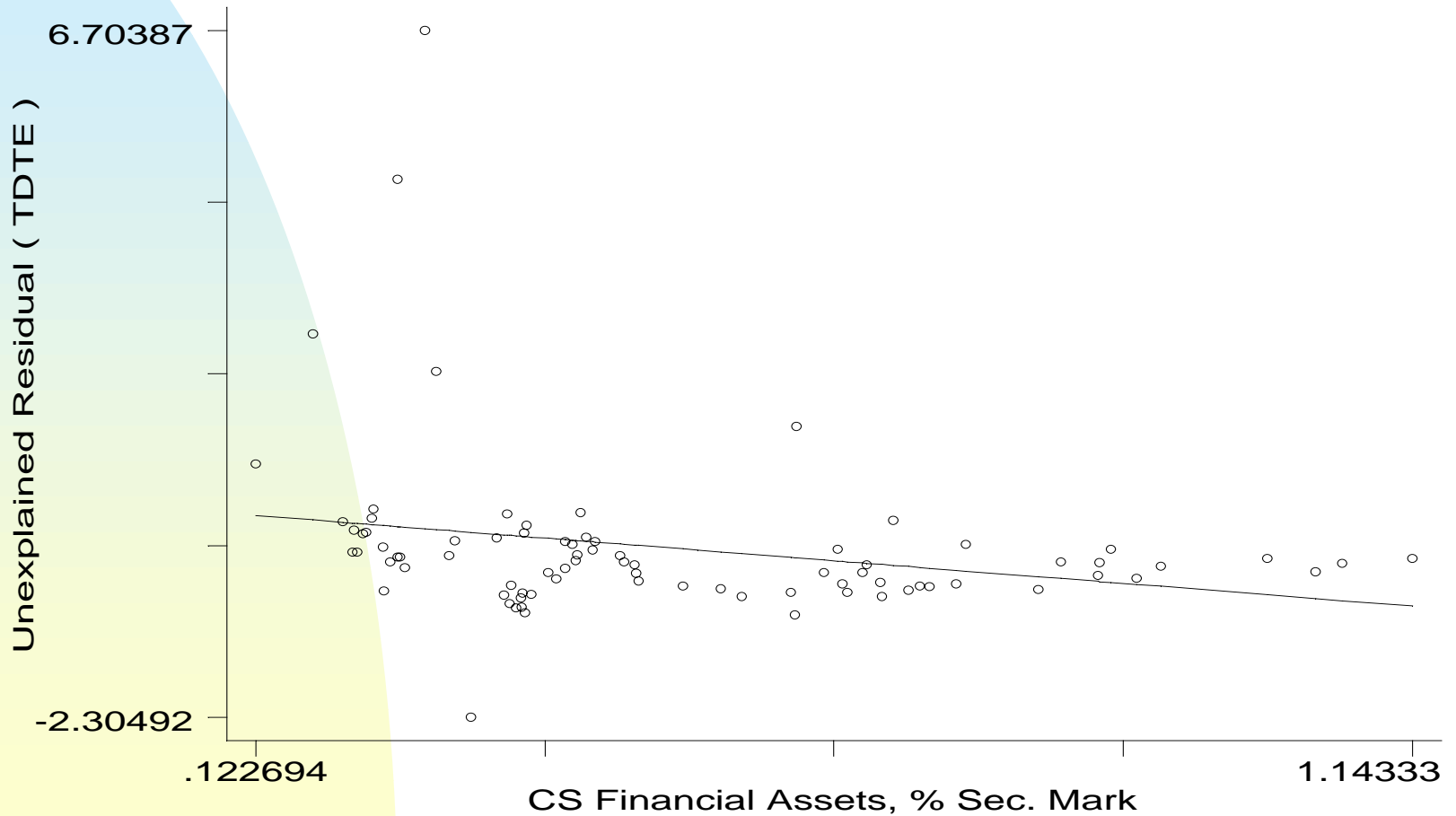


# Long-term to total debt ratio of listed companies and contractual savings assets, 1997 (% GDP)



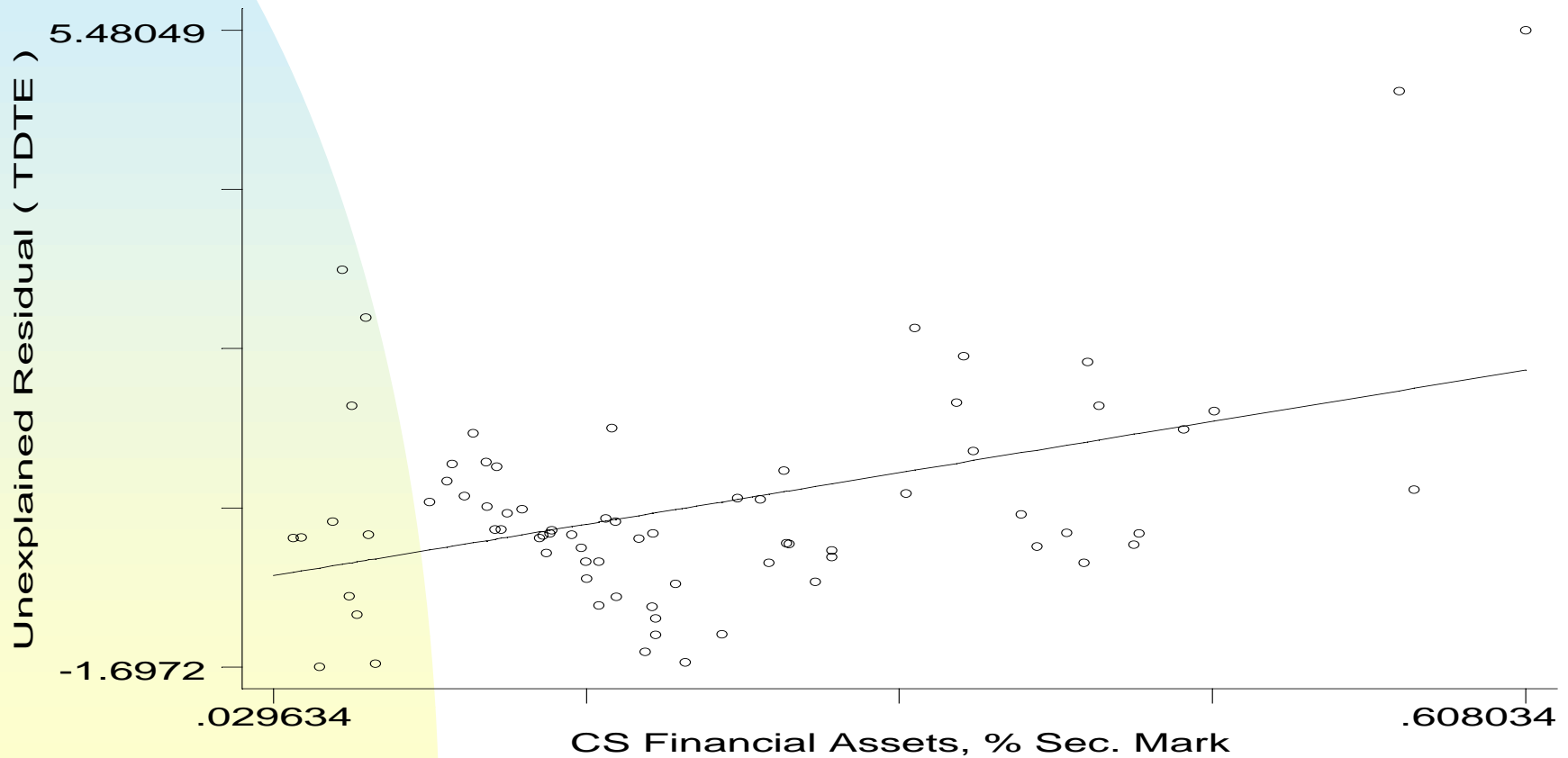
# Leverage (TDTE) vs Contractual Savings: Conditional Correlation - Market-based Financial Structure

*Residual = -1.16 \* (CS Fin. Assets, % Sec. Market) (t-stat = -2.47) Pooled reg., 82 obs.*



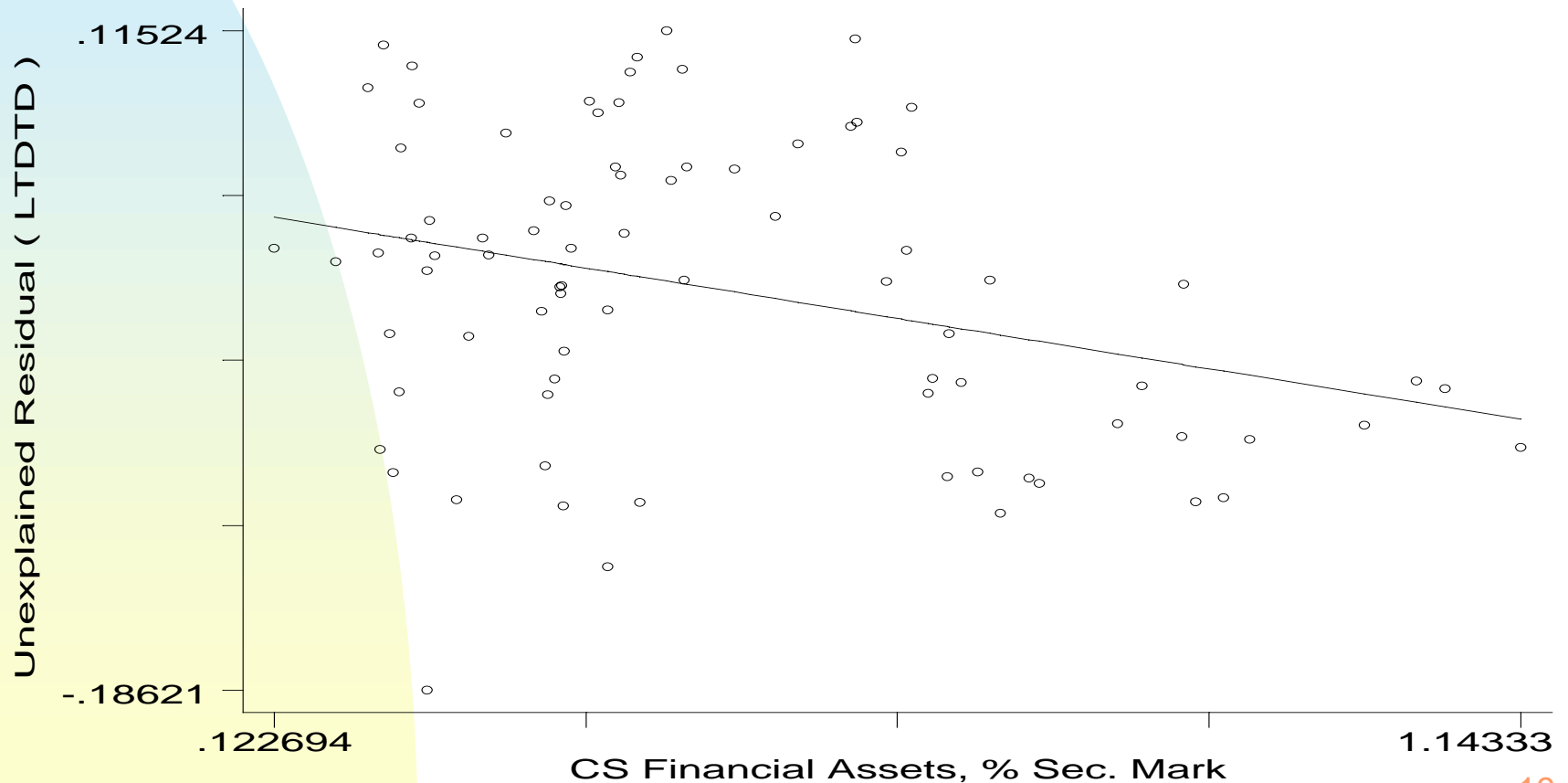
# Leverage (TDTE) vs Contractual Savings: Conditional Correlation - Bank-based Financial Structure

*Residual = 4.0 \* (CS Fin. Assets, % Sec. Market) (t-stat = 2.37) Pooled regression, 74 obs.*



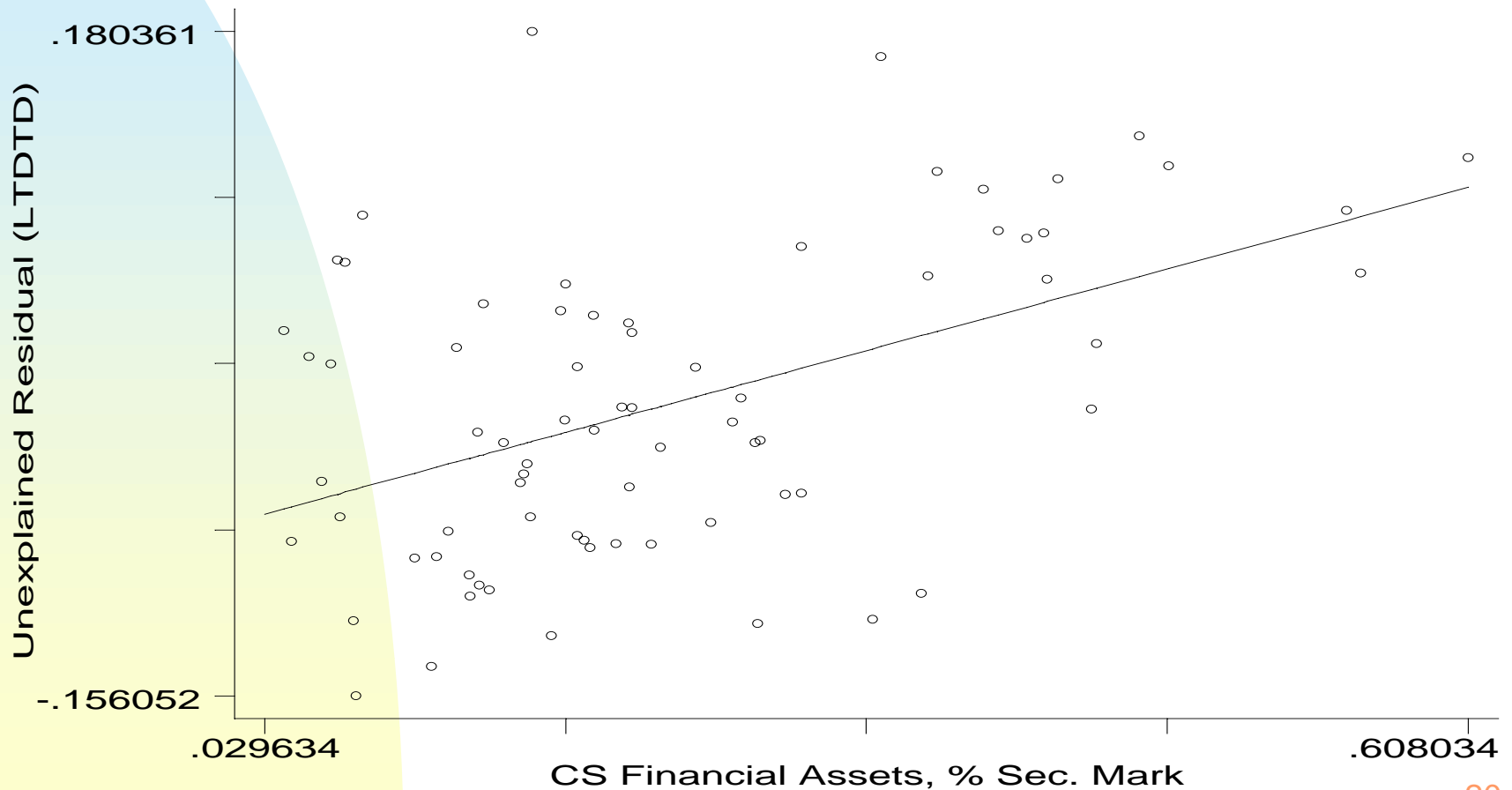
# Debt Maturity vs Contractual Savings: Conditional Correlation - Market-based Financial Structure

*Residual = -0.09 \* (CS Fin. Assets, % Sec Mkt) (t-stat = -3.84) Pooled regression, 82 obs.*



# Debt Maturity vs Contractual Savings: Conditional Correlation - Bank-based Financial Structure

*Residual = 0.28 \* (CS Fin. Assets, % Sec Mkt) (t-stat = 5.28) Pooled Regression, 74 obs.*



# Contractual savings and growth

- Potential increase in saving
- Decline in the cost of capital: equity and debt
- Flatten the term structure of interest rates
- Reduce the country risk premium
- Promote efficiency gains
- Virtuous cycle: higher growth increases saving thus furthering growth

# Development of contractual savings institution

- Reform pension systems to increase funding
  - ◆ Mandatory: privately or publicly managed
  - ◆ Voluntary
  - ◆ Regulation and supervision of pension funds
  - ◆ Tax treatment
- Developing insurance
  - ◆ Regulation and supervision: allow banks to market insurance
  - ◆ Tax treatment

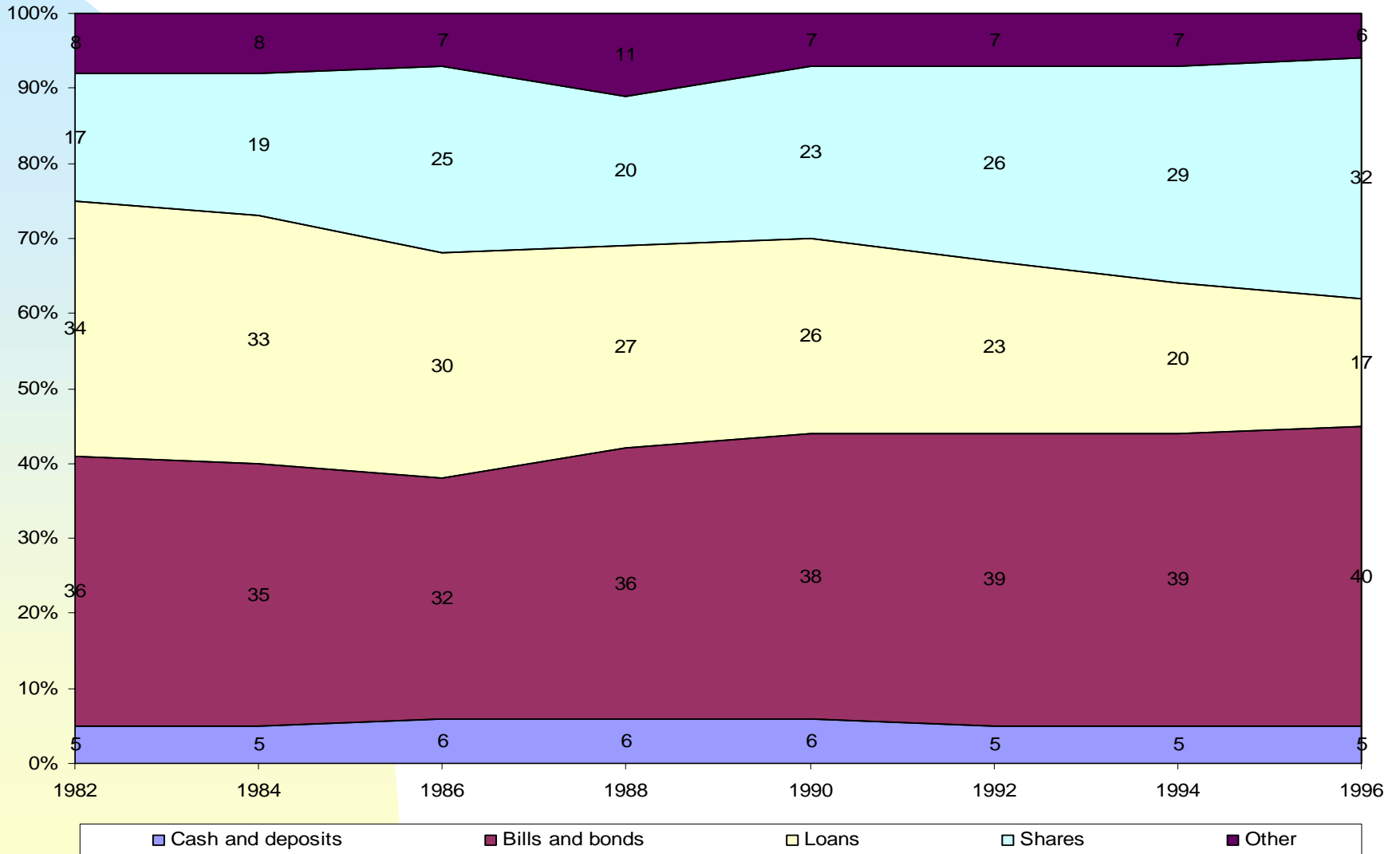
# Development of mutual funds and foreign investors

- Developing mutual funds
  - ◆ Regulation and supervision
  - ◆ Tax treatment
  - ◆ Allow banks to market mutual funds: close substitute to bank deposits
- Allowing foreign investors
  - ◆ Sustainable macroeconomic policy
  - ◆ Financial sector prudential regulation and supervision in place
  - ◆ Should short term capital be taxed?



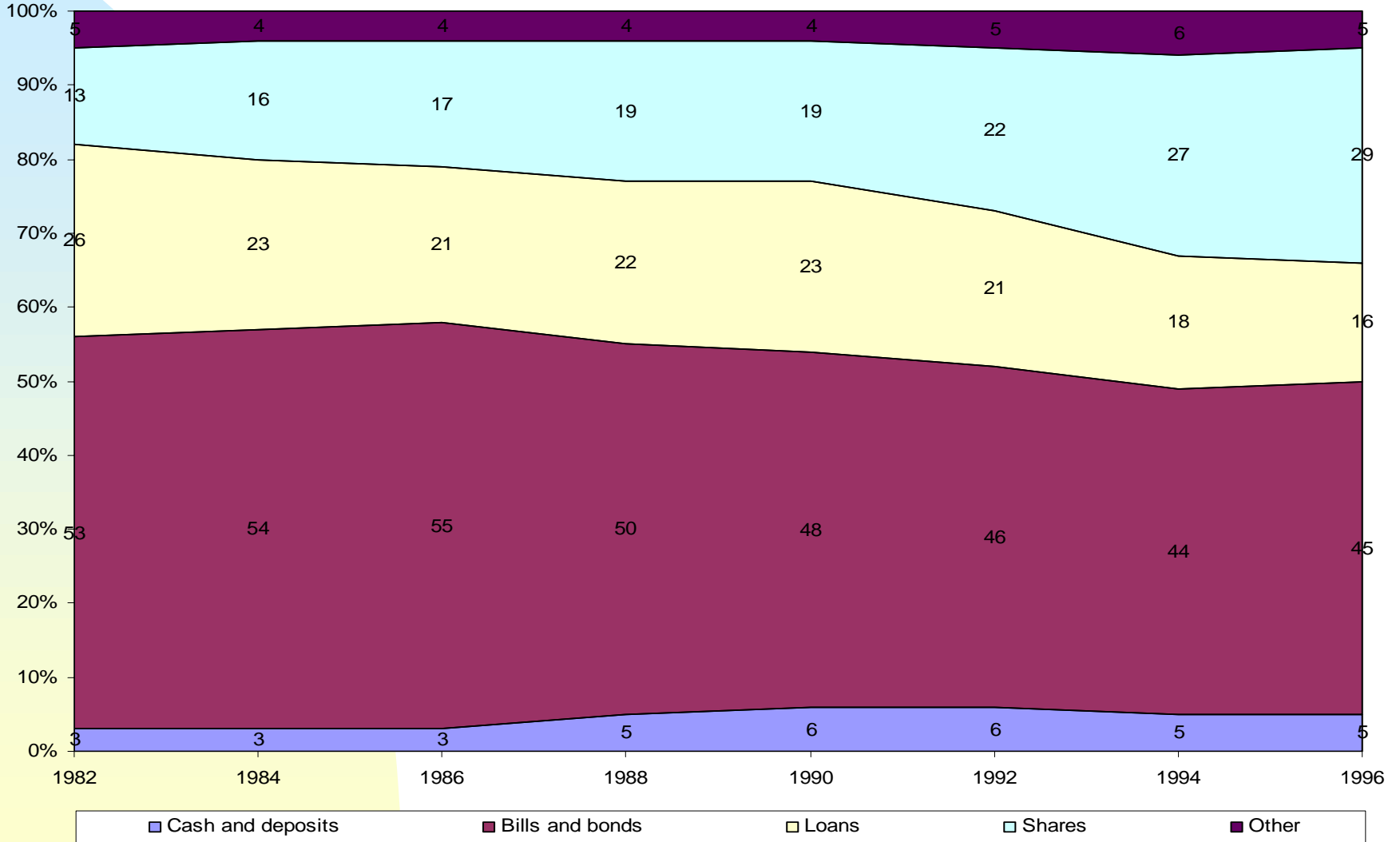
# Portfolios composition

# Life insurance portfolio composition



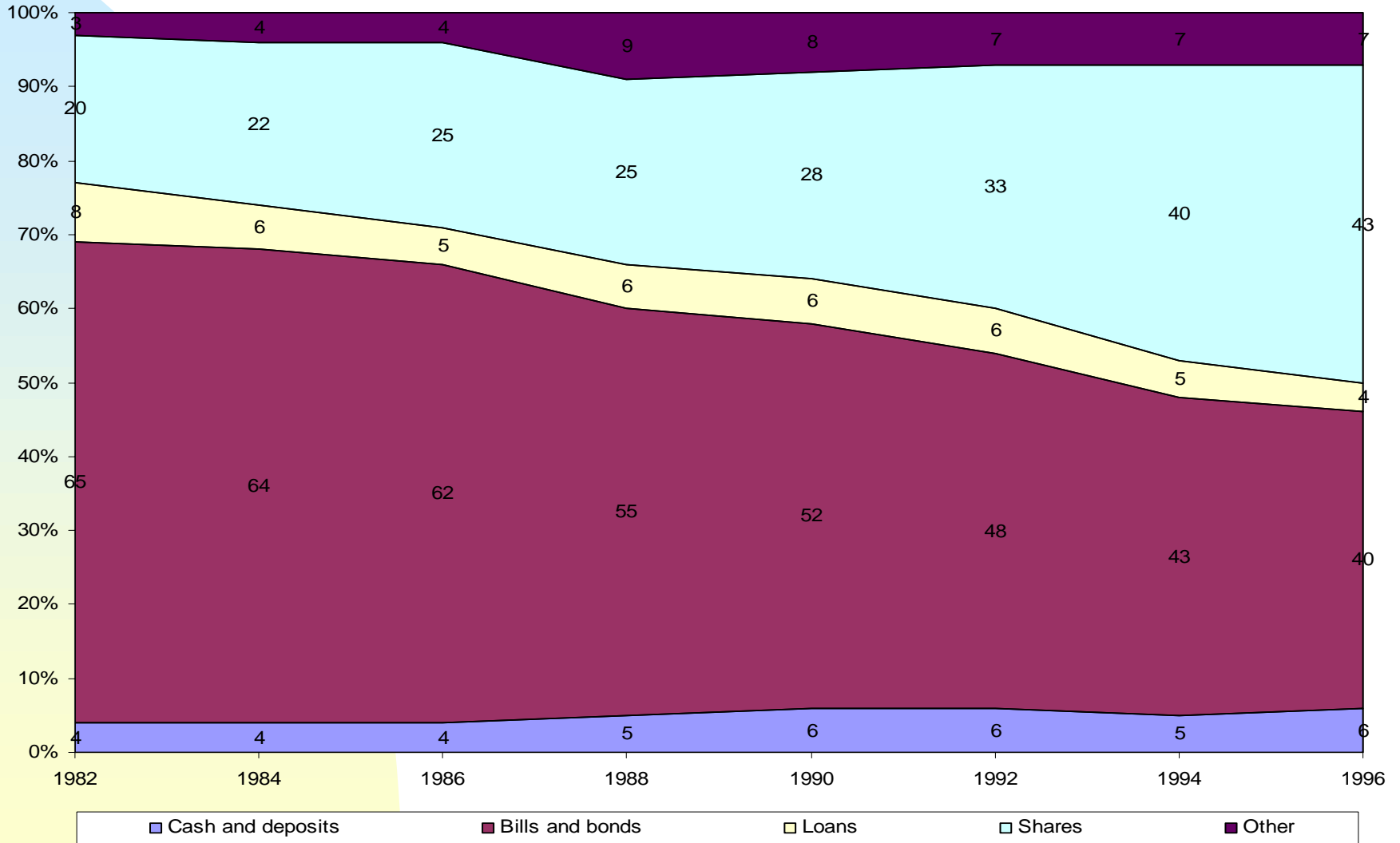
Source: OECD Yearbook of institutional investors and WB database

# Pension funds portfolio composition



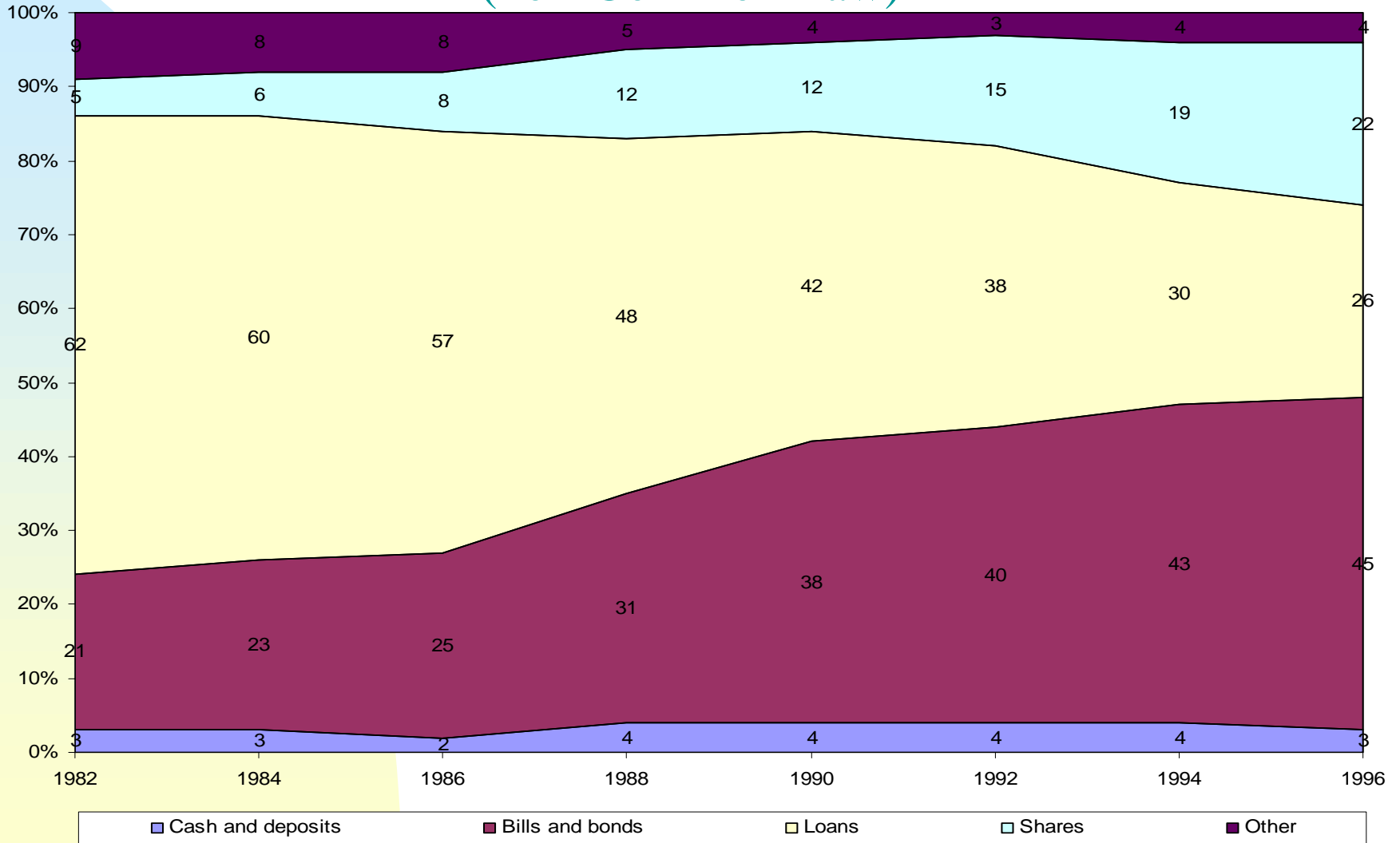
Source: OECD Yearbook of institutional investors and WB database

# Contractual savings portfolio composition (Common Law)



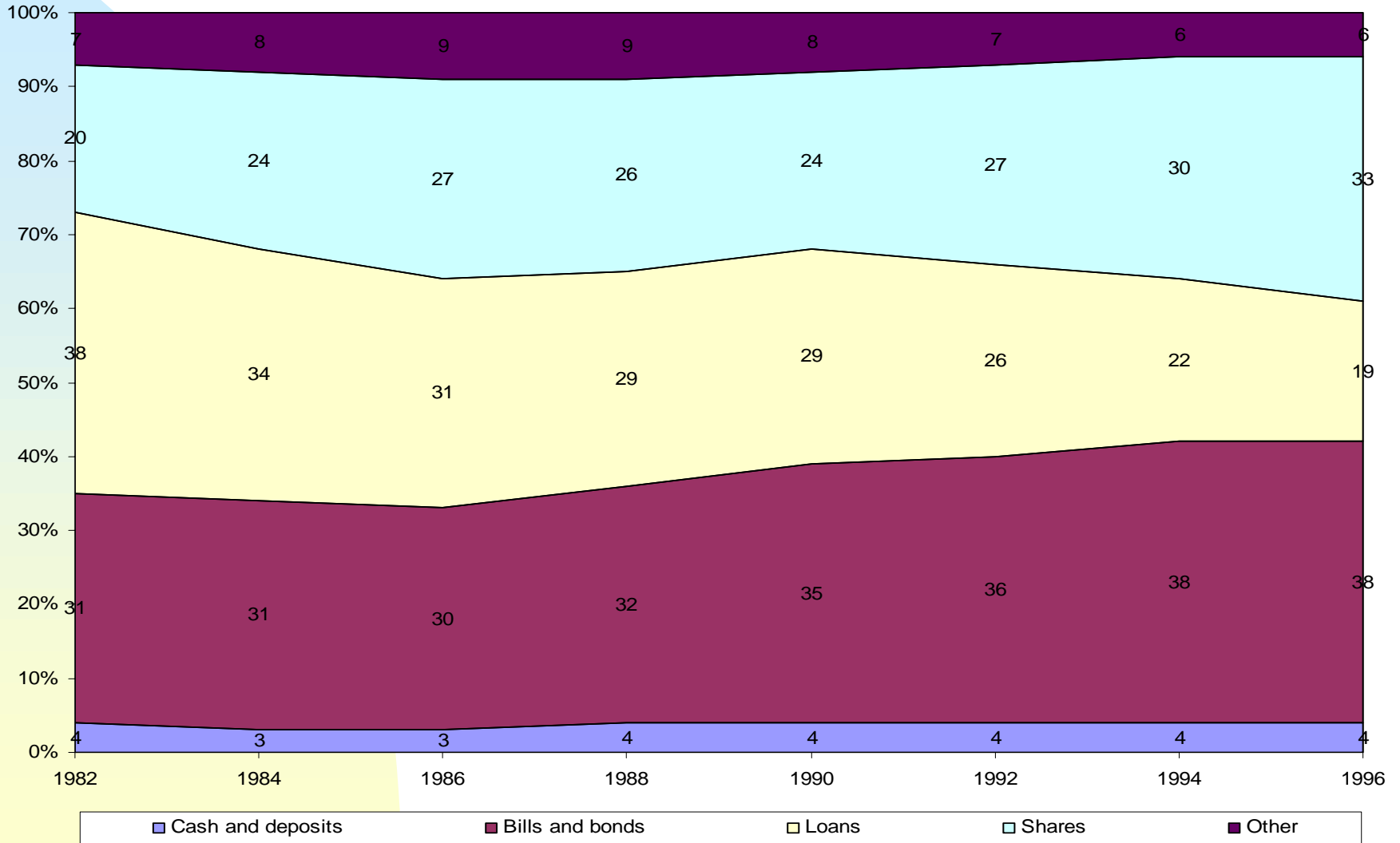
Source: OECD Yearbook of institutional investors and WB database

# Contractual savings portfolio composition (non-Common Law)



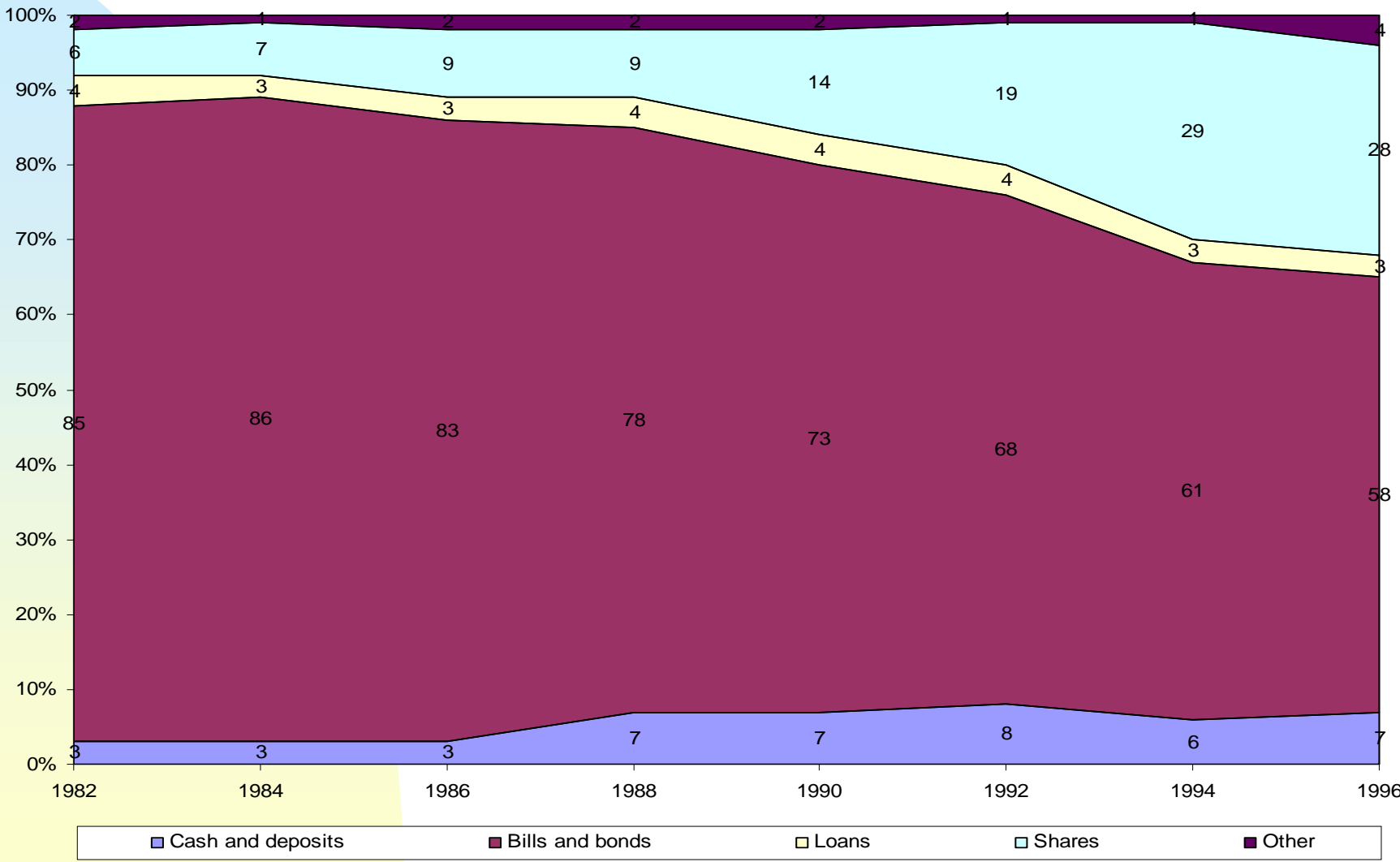
Source: OECD Yearbook of institutional investors and WB database

# Contractual savings portfolio composition (OECD)



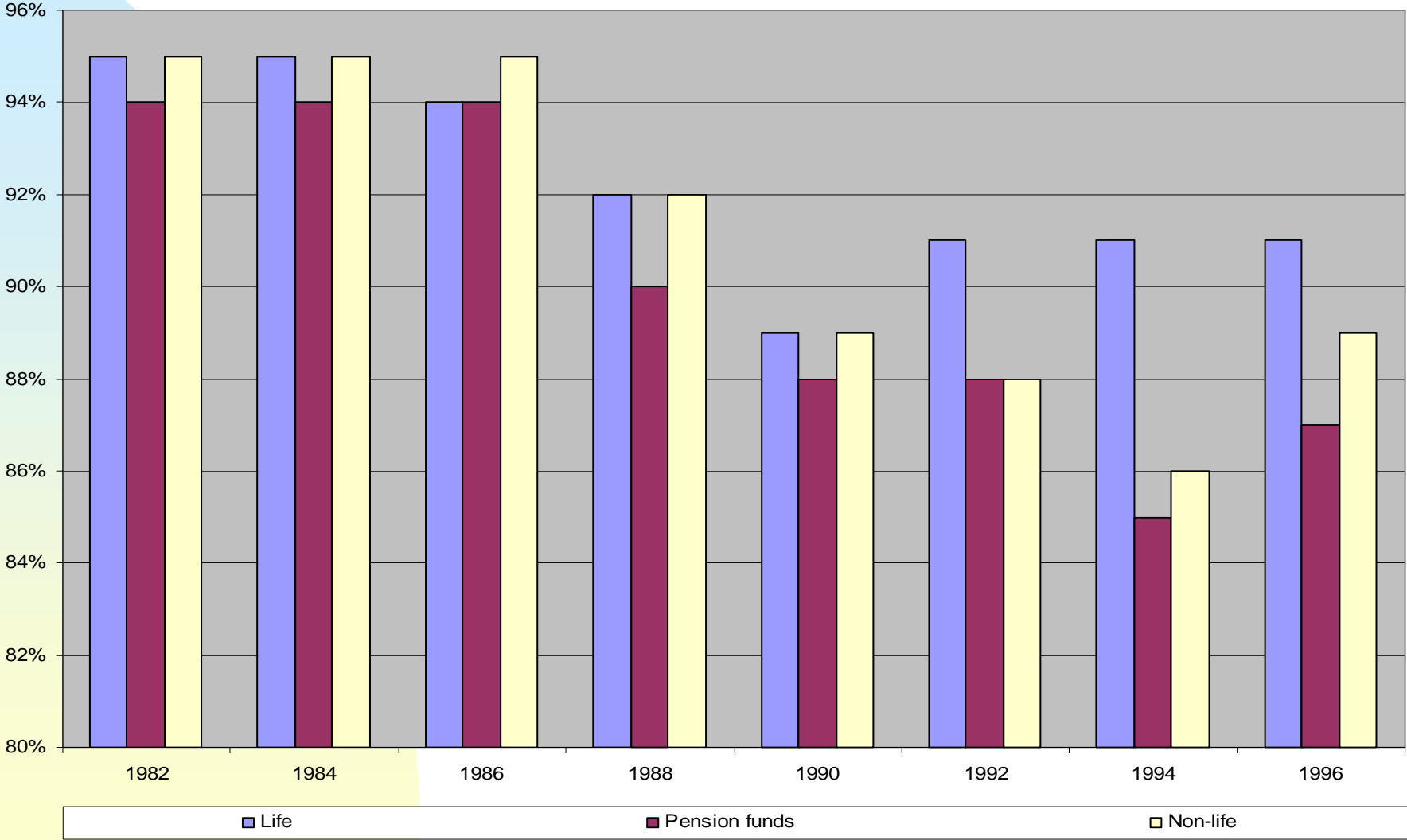
Source: OECD Yearbook of institutional investors and WB database

# Contractual savings portfolio composition (non-OECD)



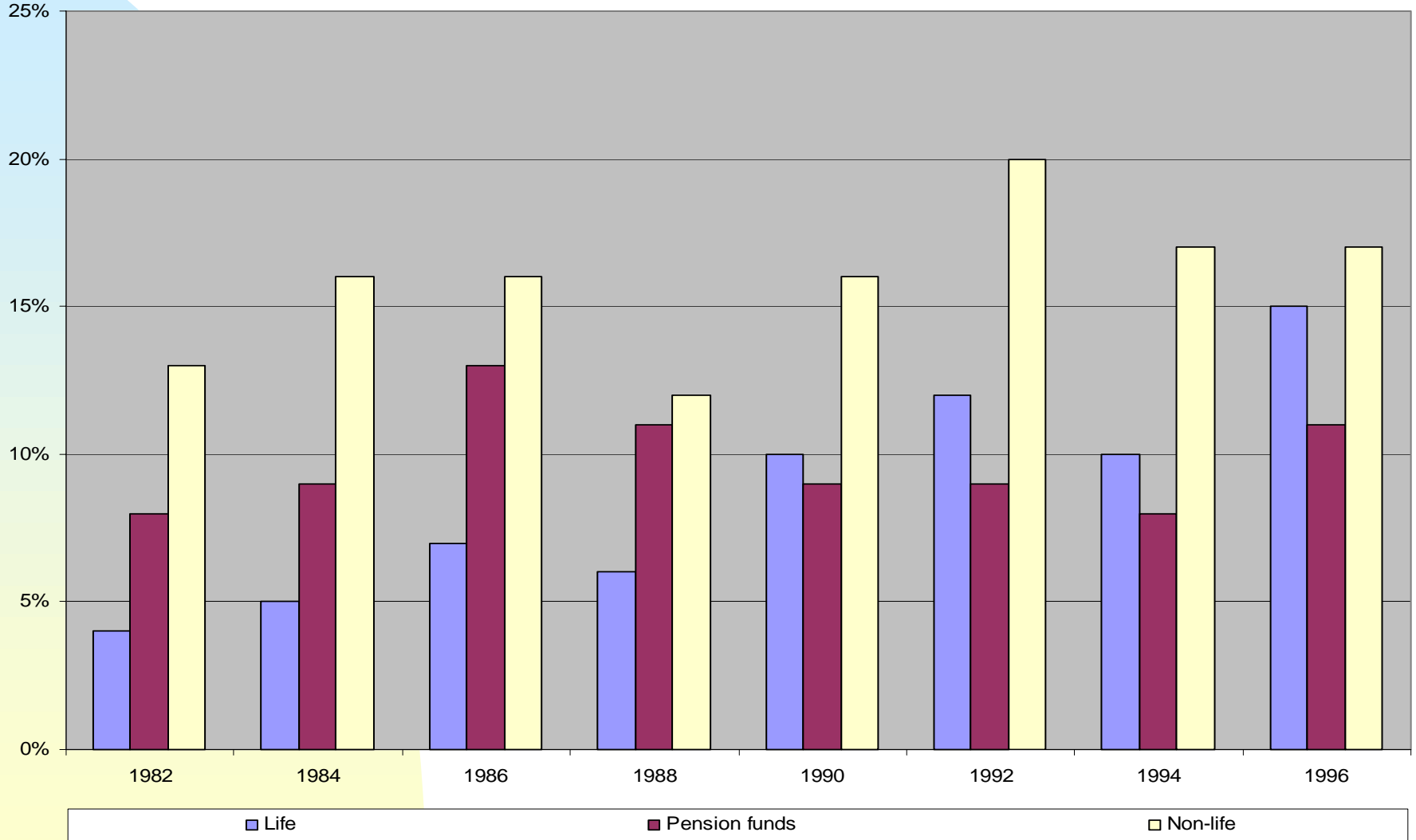
Source: OECD Yearbook of institutional investors and WB database

# Share of long-term bonds in bonds portfolio



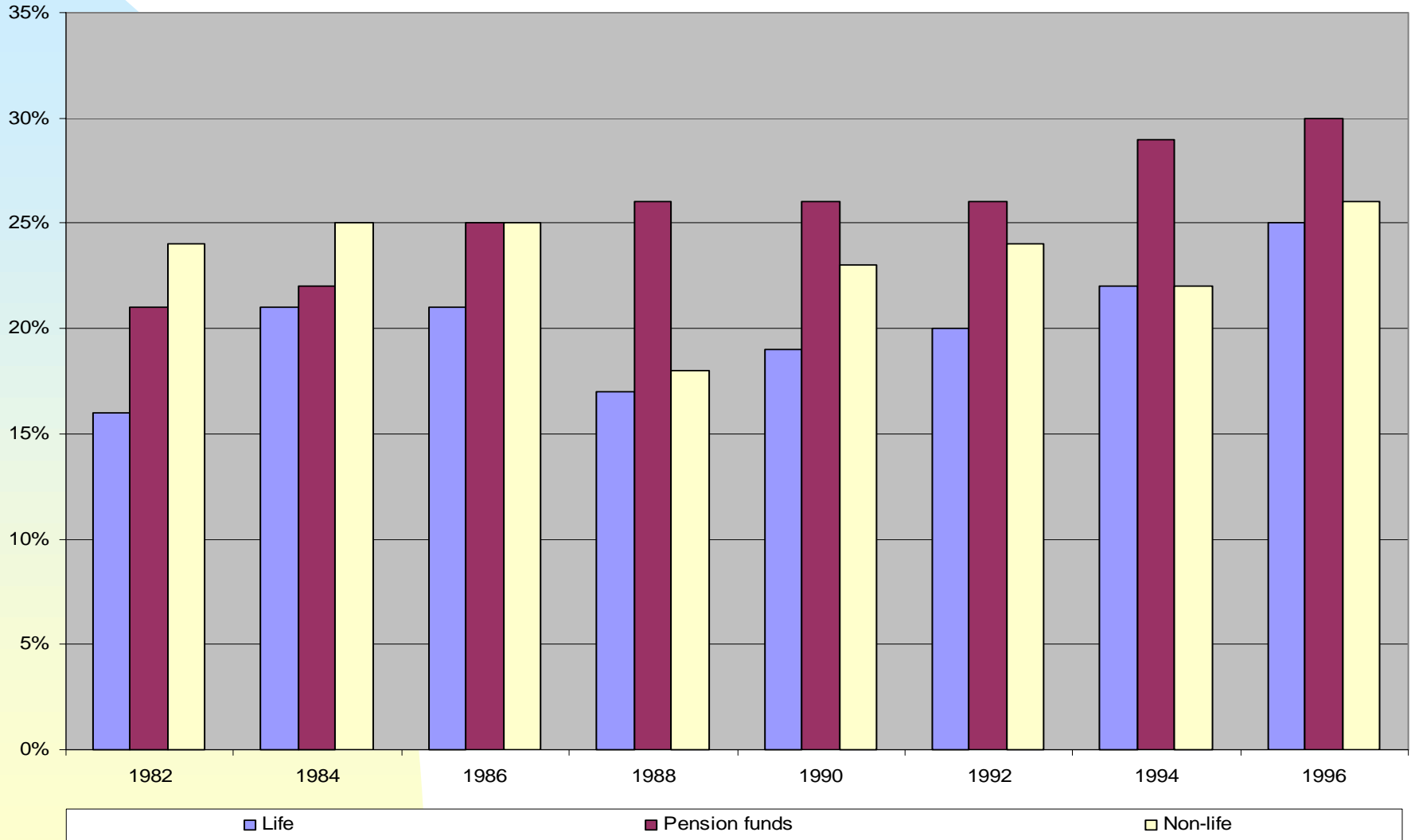
Source: OECD Yearbook of institutional investors and WB database

# Share of foreign bills and bonds in bills and bonds portfolio



Source: OECD Yearbook of institutional investors and WB database

## Share of foreign stocks in stocks portfolio



Source: OECD Yearbook of institutional investors and WB database

# List of countries

ARG	Argentina	ISL	Iceland
AUS	Australia	ITA	Italy
AUT	Austria	JPN	Japan
BEL	Belgium	KOR	Korea, Rep.
BRA	Brazil	LUX	Luxembourg
CAN	Canada	MYS	Malaysia
CHE	Switzerland	NLD	Netherlands
CHL	Chile	NOR	Norway
DEU	Germany	NZL	New Zealand
DNK	Denmark	PRT	Portugal
ESP	Spain	SGP	Singapore
FIN	Finland	SWE	Sweden
FRA	France	THA	Thailand
GBR	United Kingdom	TUR	Turkey
GRC	Greece	USA	United States
HUN	Hungary	ZAF	South Africa
IDN	India		