

# Market Risk on Bear Market: Evidence from China

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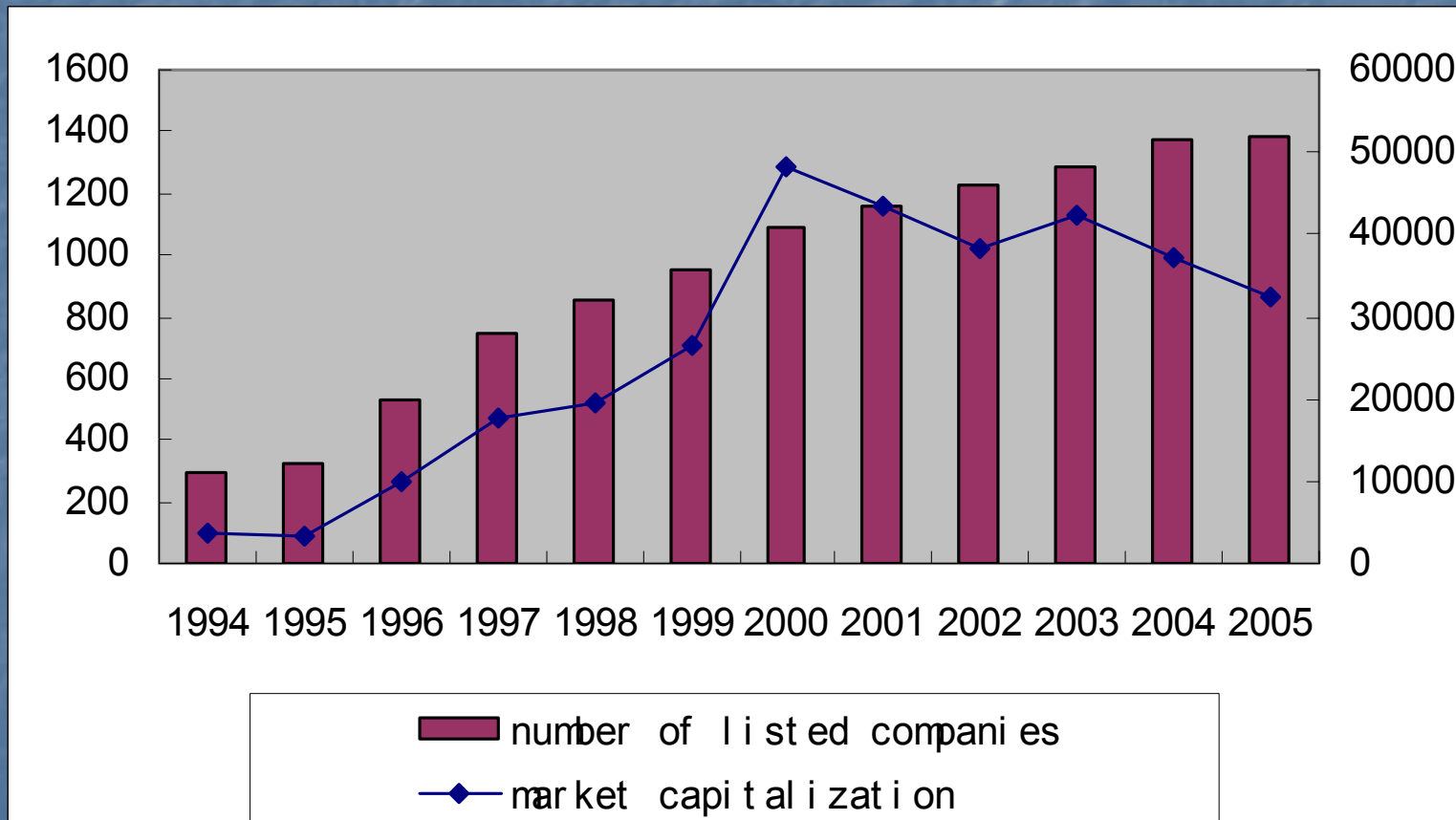
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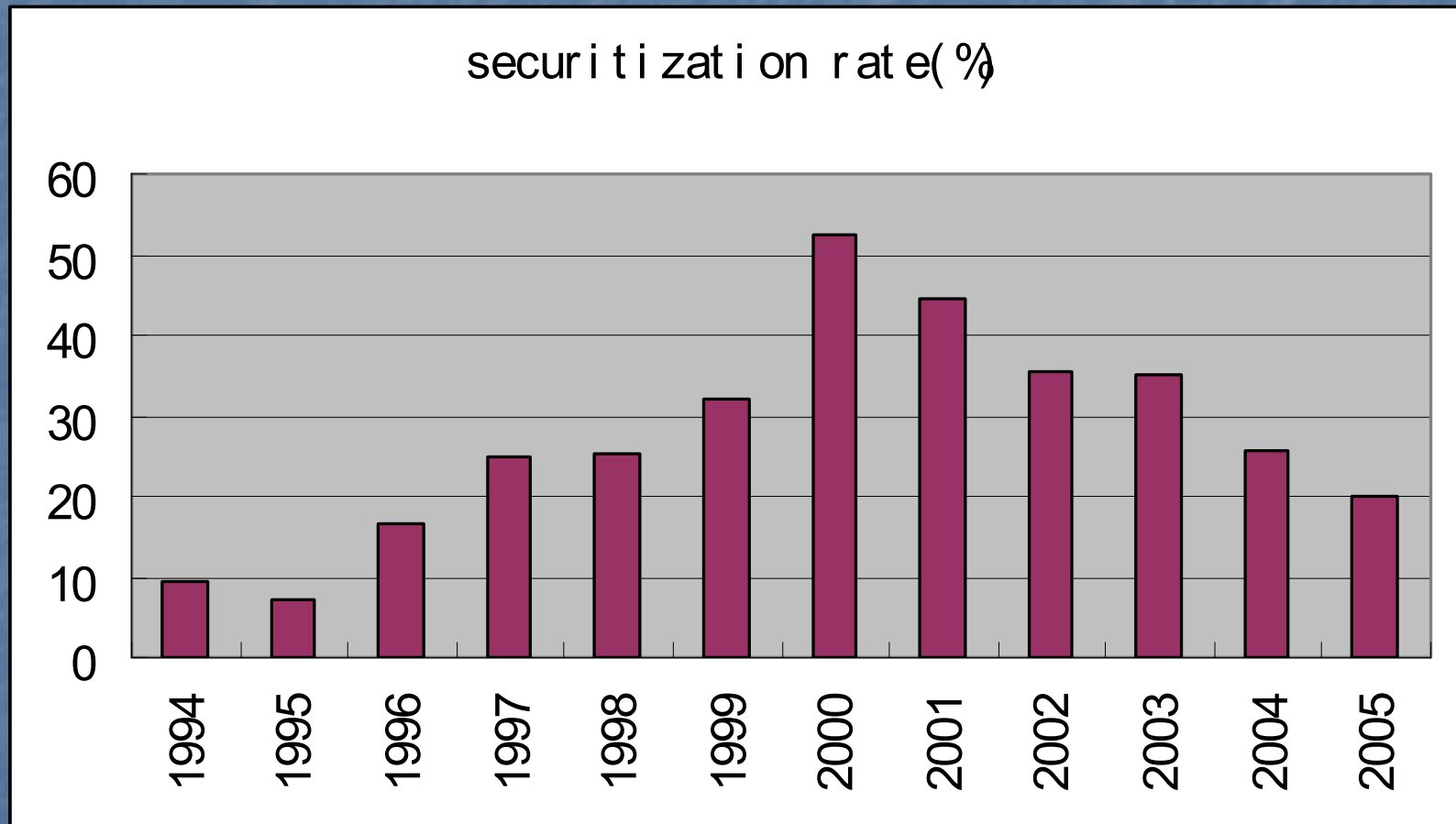
# Chinese stock market: 1992-2005

year	listed companies	market capitalization	negotiable capitalization
1992	53	1048.13	
1994	291	3690.62	964.82
1996	530	9842.37	2867.03
1998	851	19505.64	5745.59
2000	1088	48090.94	16087.52
2001	1160	43522.2	14463.17
2002	1224	38329.13	12484.56
2003	1287	42457.71	13178.52
2004	1377	37055.57	11688.64
2005	1381	32430.28	10630.52

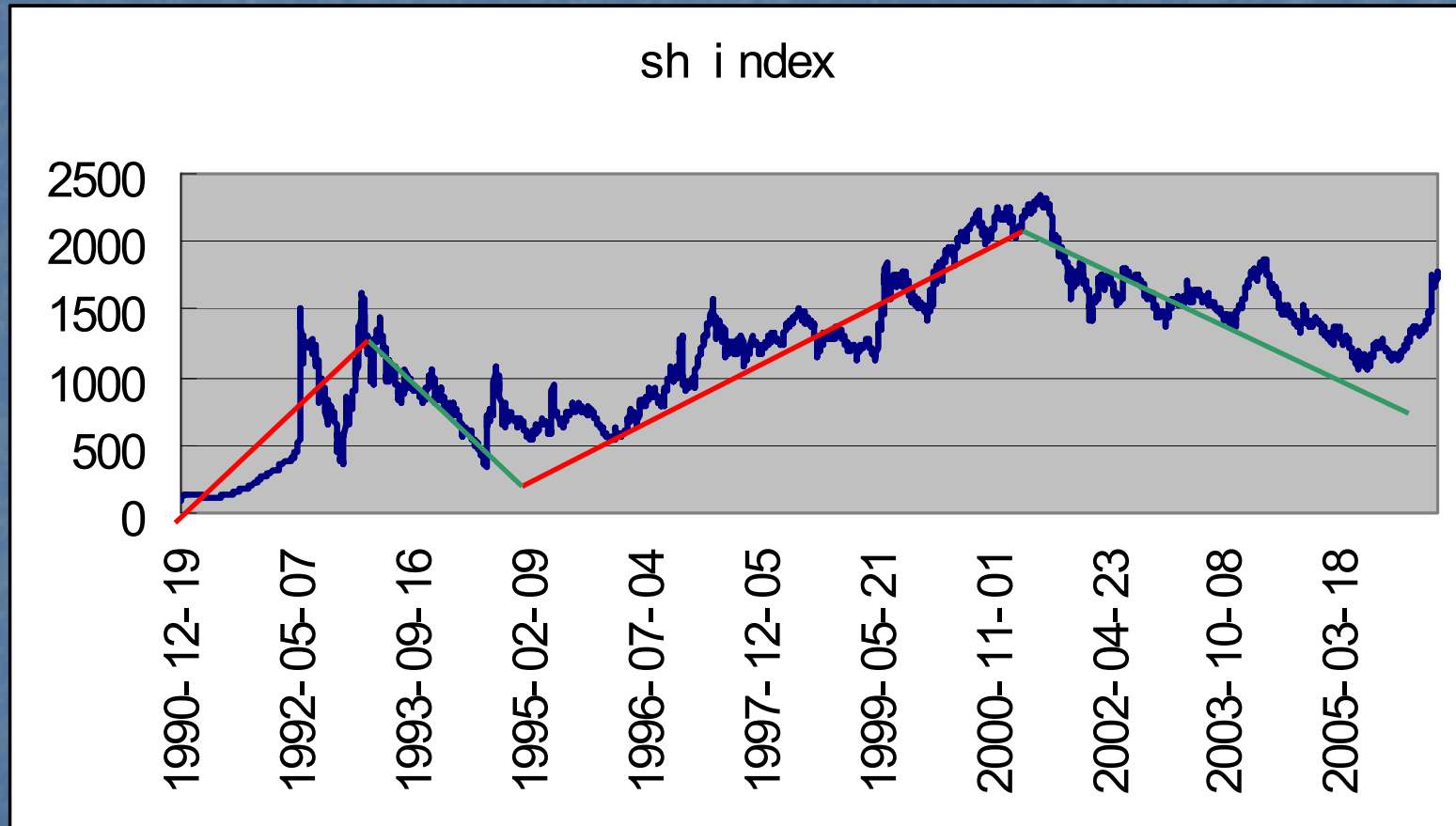
# Figure 1: listed companies and market capitalization



# Securitization ratio from 1994-2005



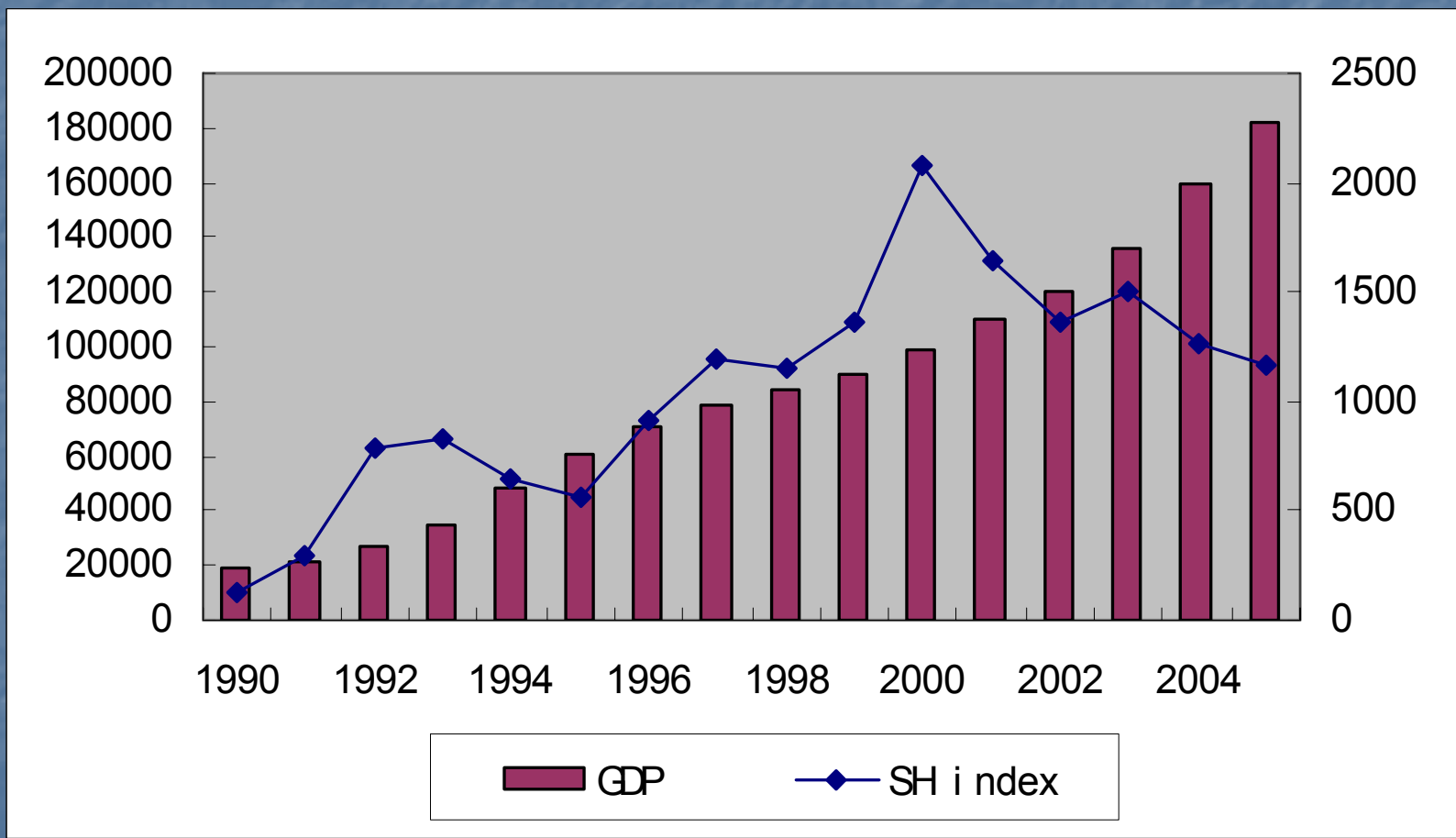
# Bulls and bears: Shanghai Composite Index (SH Index)



# Bull and bear: from the viewpoint of Shanghai Composite Index

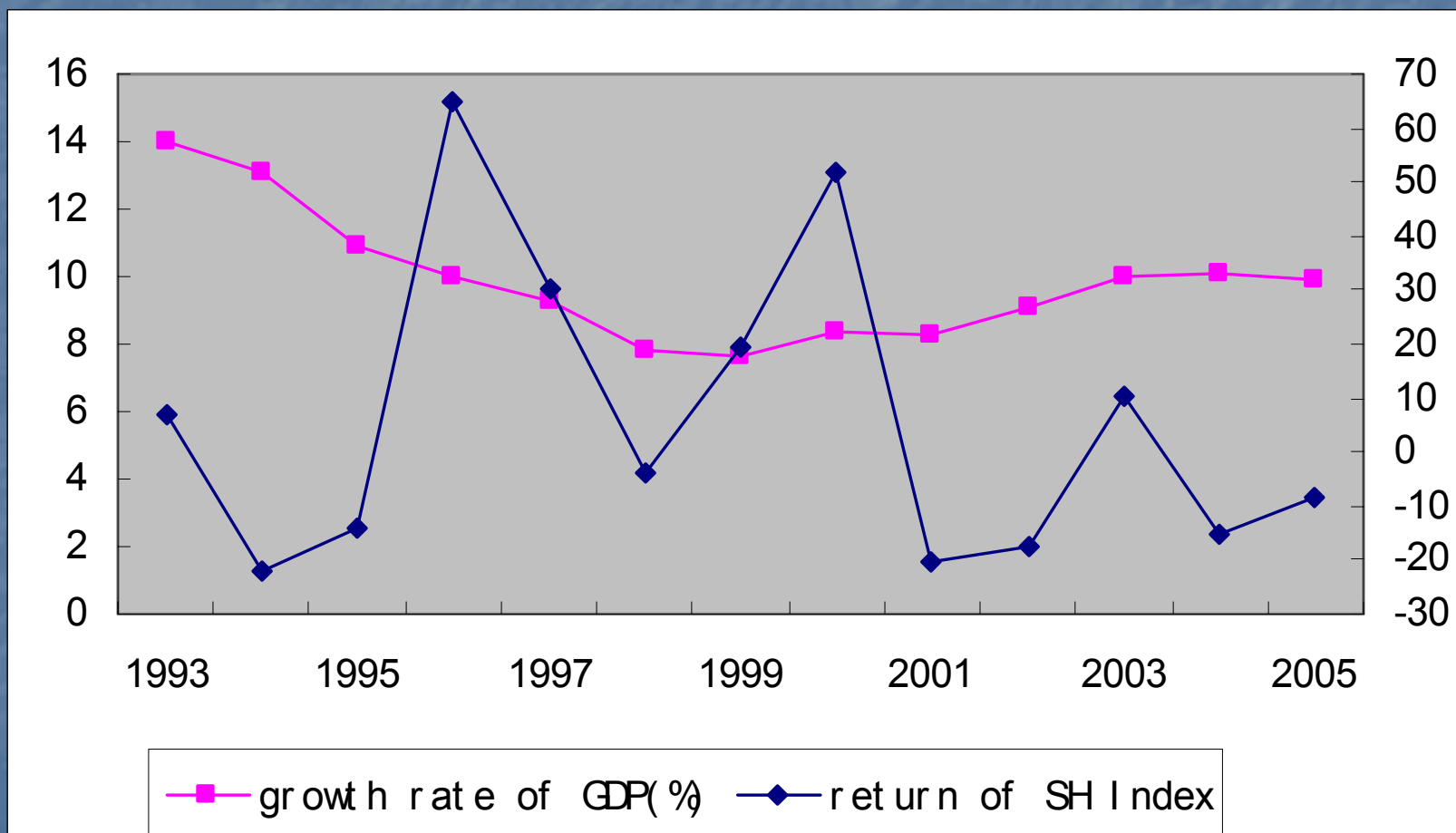
- We can find a relative long bear market from 2001 to mid-2005. On the contrary, macro economy was strong during the same period. We can see this inconsistency from multi dimensions.
- (1) stock market and GDP
- (2) Stock market and consumption
- (3) stock market and investment in fixed-asset (IFA)
- (4) Stock market and money supply

# Stock market and GDP(1)

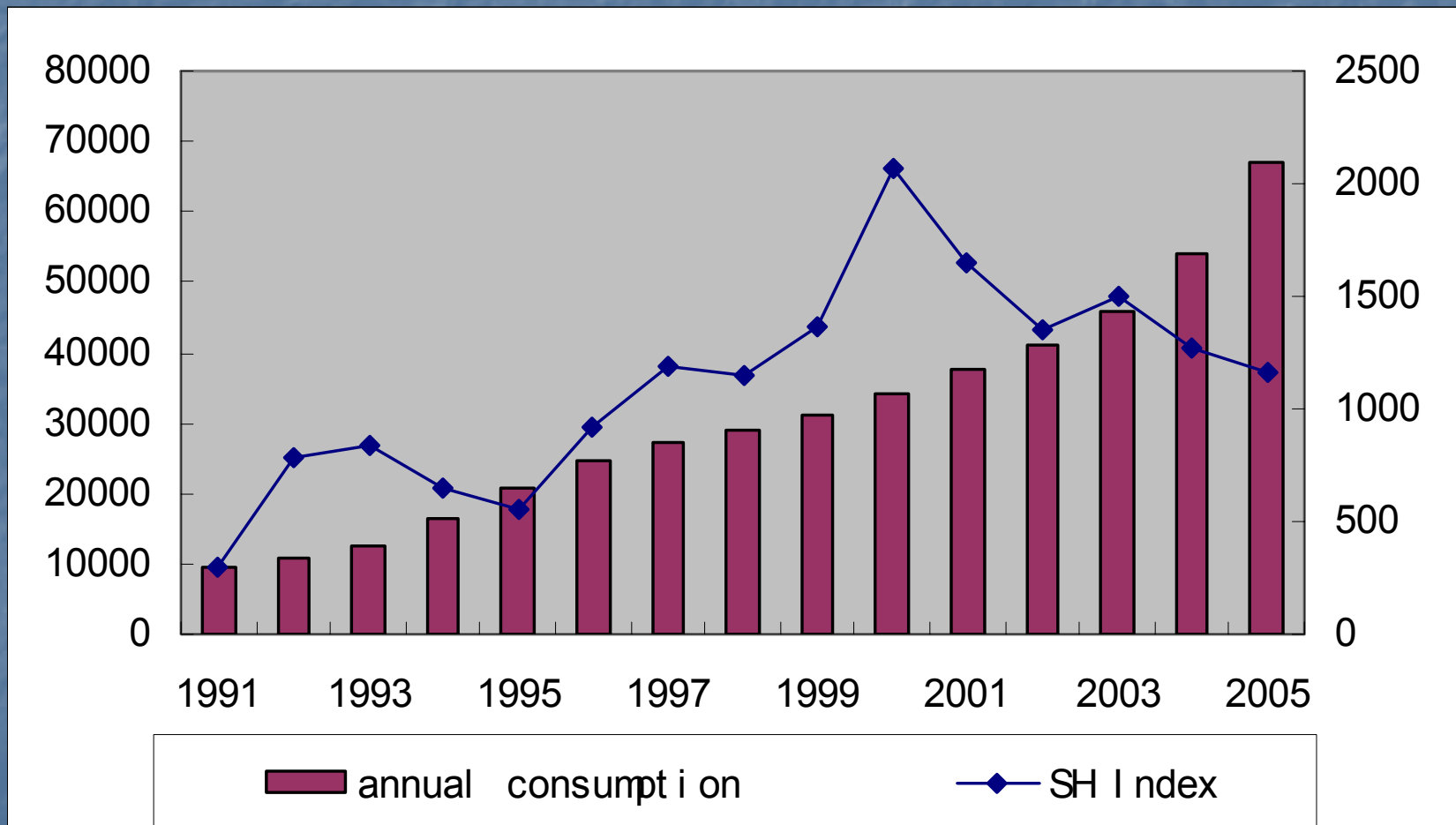




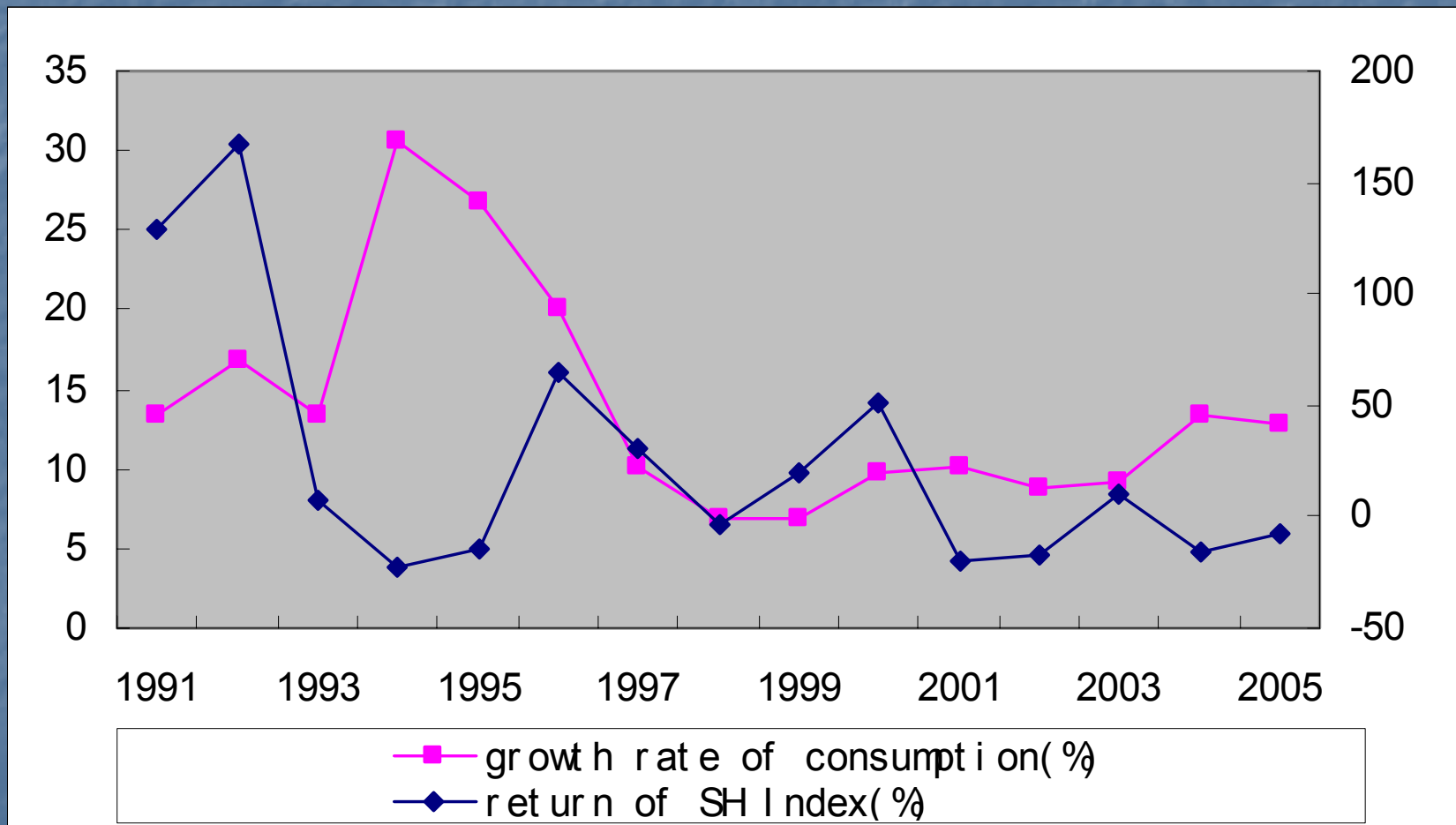
# Stock market and GDP(2)



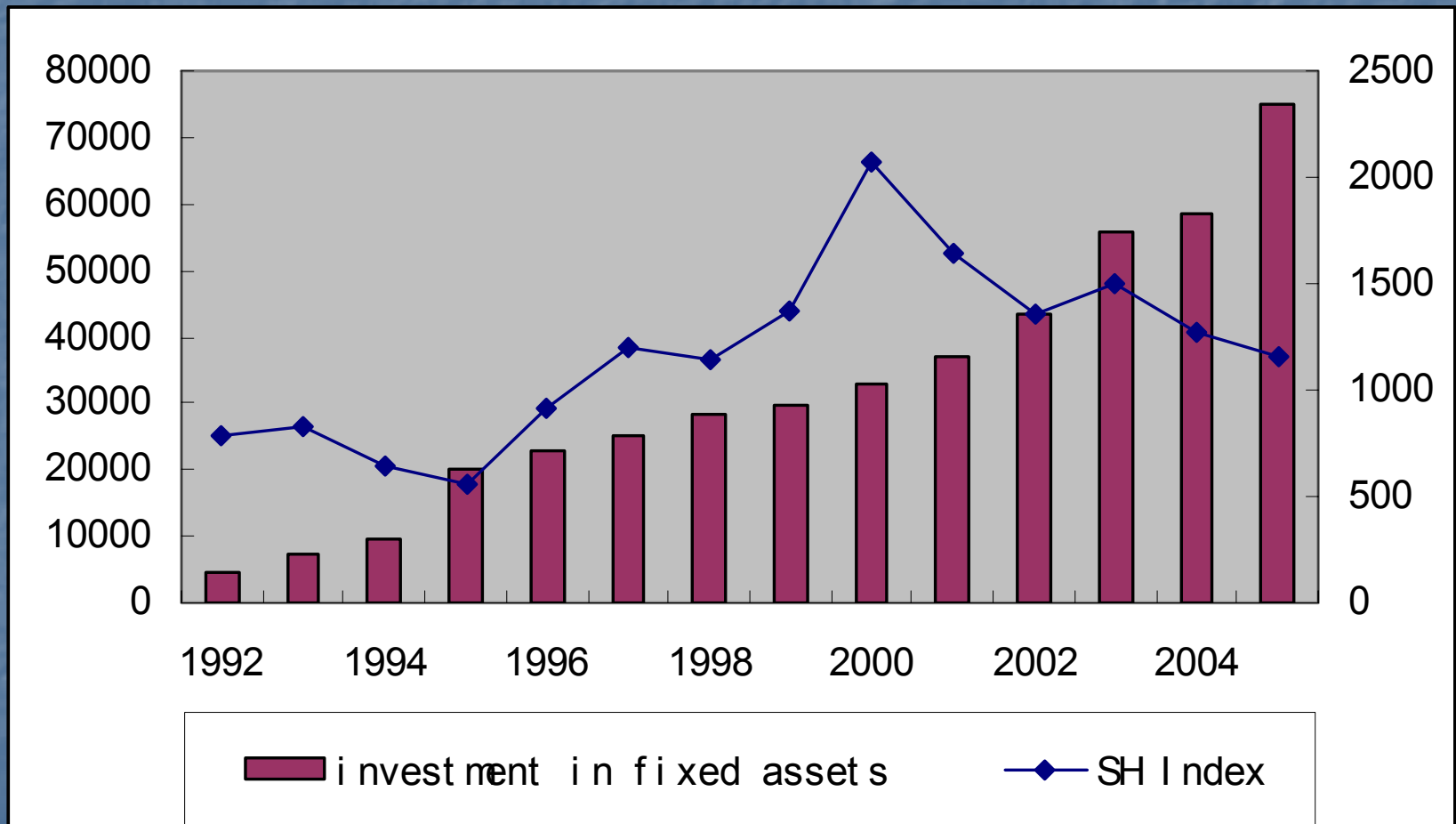
# Consumption and SH Index(1)



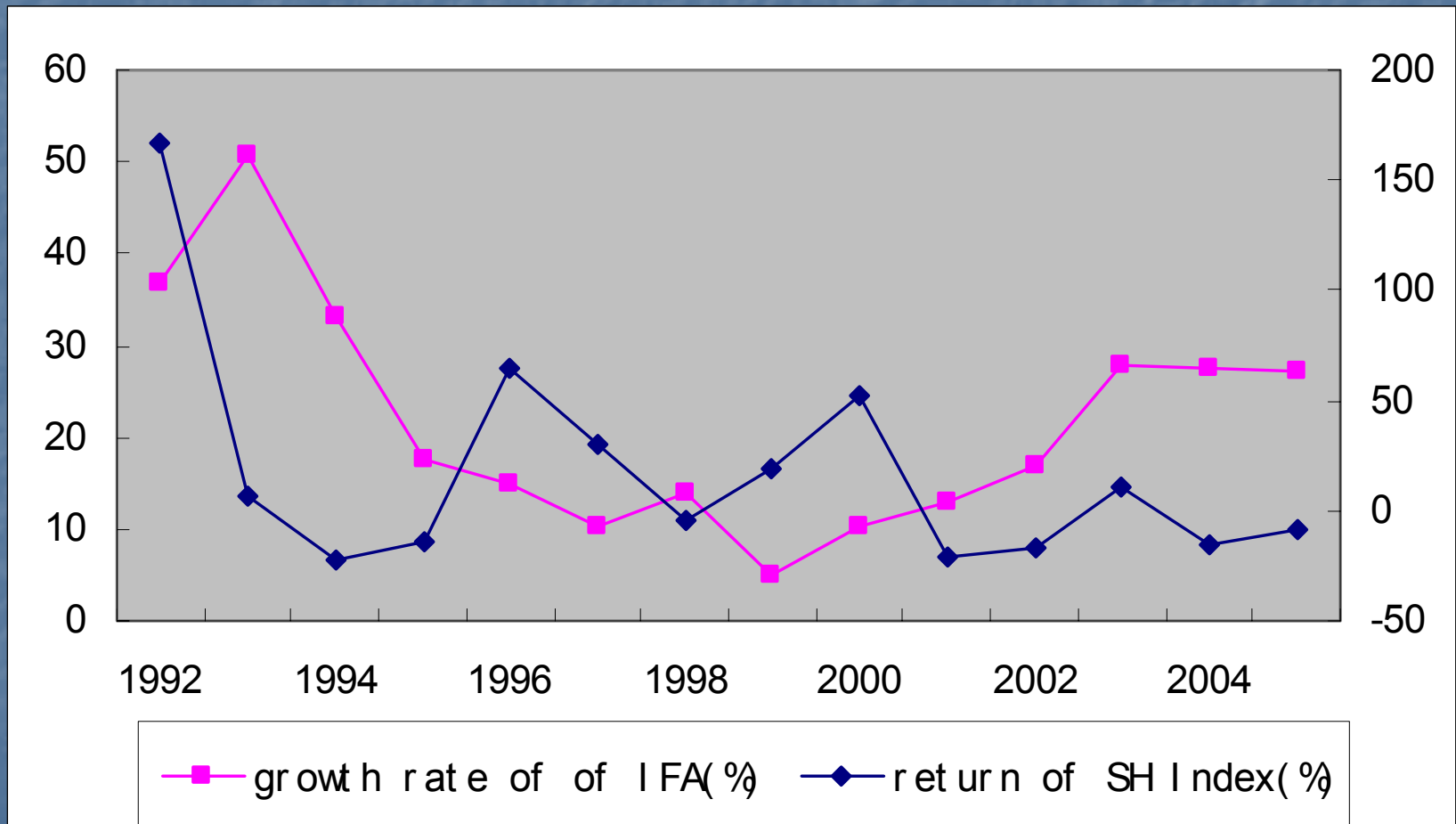
# Consumption and SH Index(1)



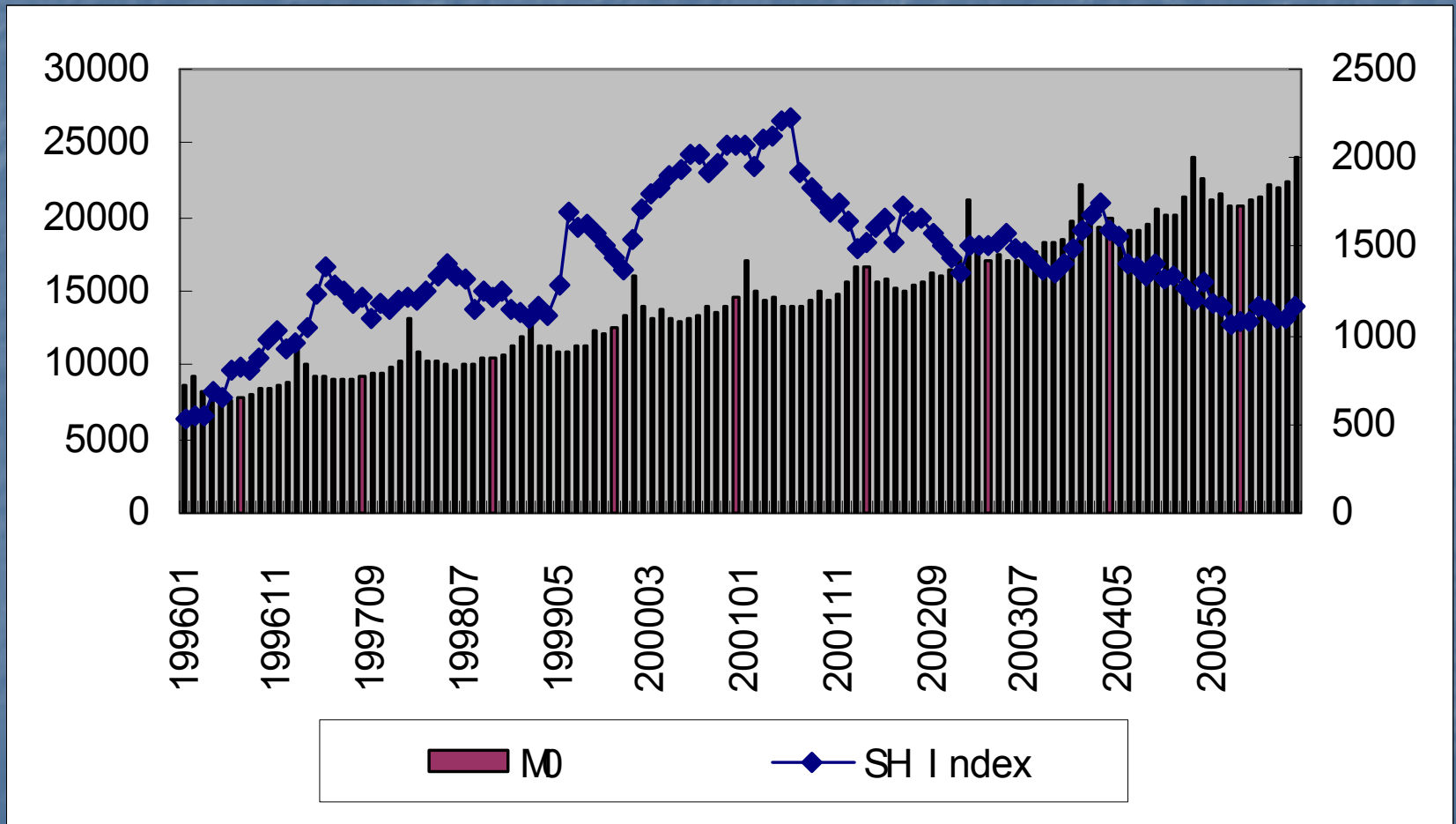
# Stock market and IFA(1)



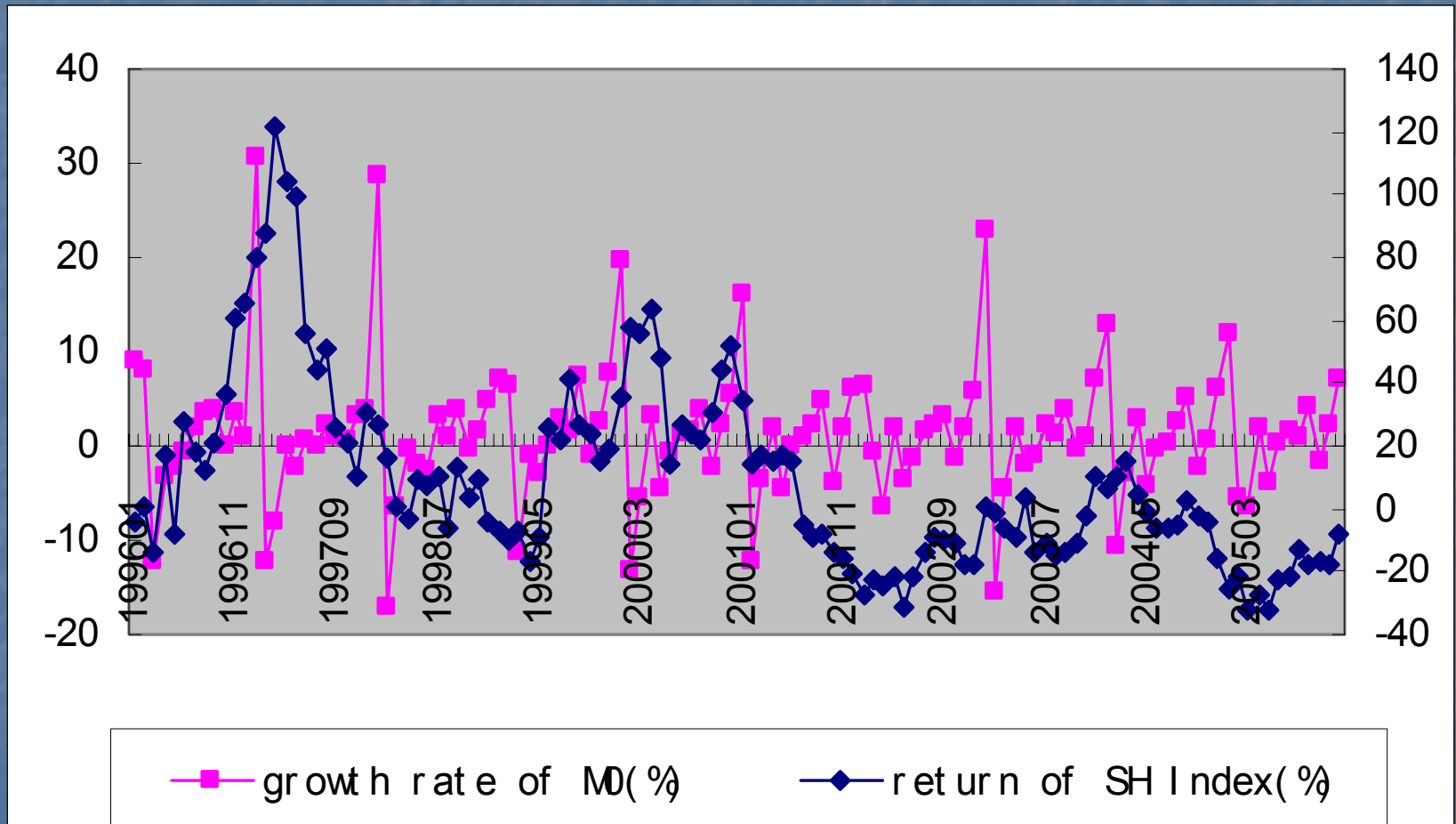
# Stock market and IFA(2)



# Stock market and money supply(1)



# Stock market and money supply(2)



# Bear market: from the viewpoint of policy

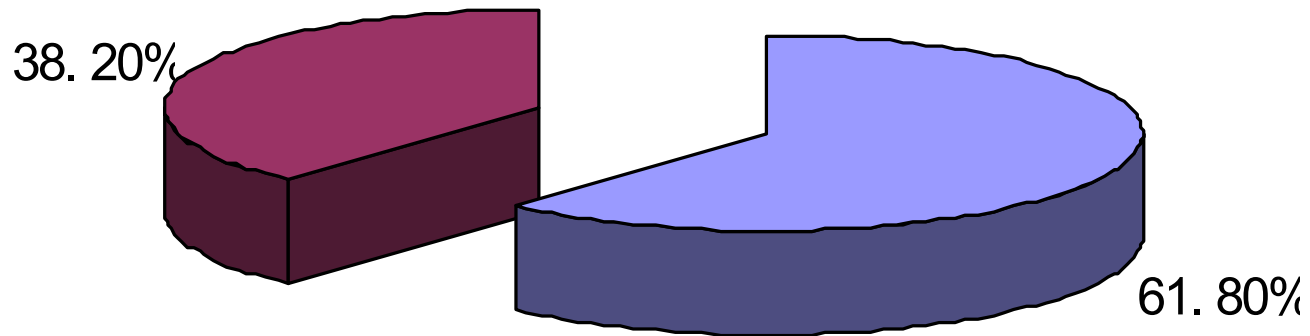
- Although we cannot explain this market decline in the context of macro economy, we see some direct relationship between policy and security market.



# Background: dual ownership structure

- Liquid (negotiable) shares (mainly A shares) are bought and sold freely on market
- Illiquid (nonnegotiable) shares (institutional shares and state-owned shares) are not. This difference in marketability creates a dramatic gap between the values of these two types. Some researchers define this value difference as the value of “liquidity power”.

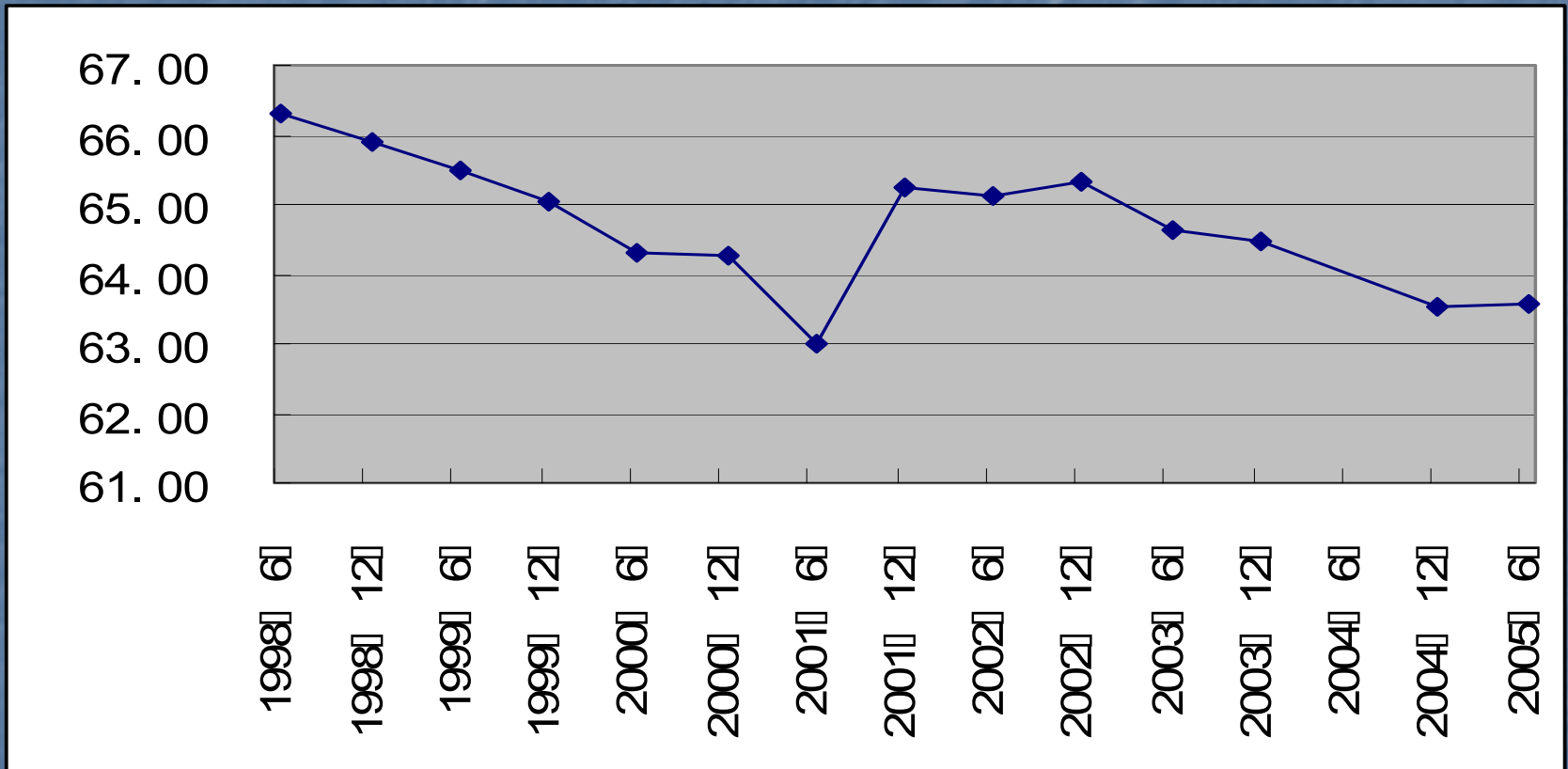
weight in total shares



■ nonnegotiable shares

■ negotiable shares

# Illiquid shares(%)



# Distribution of liquid shares

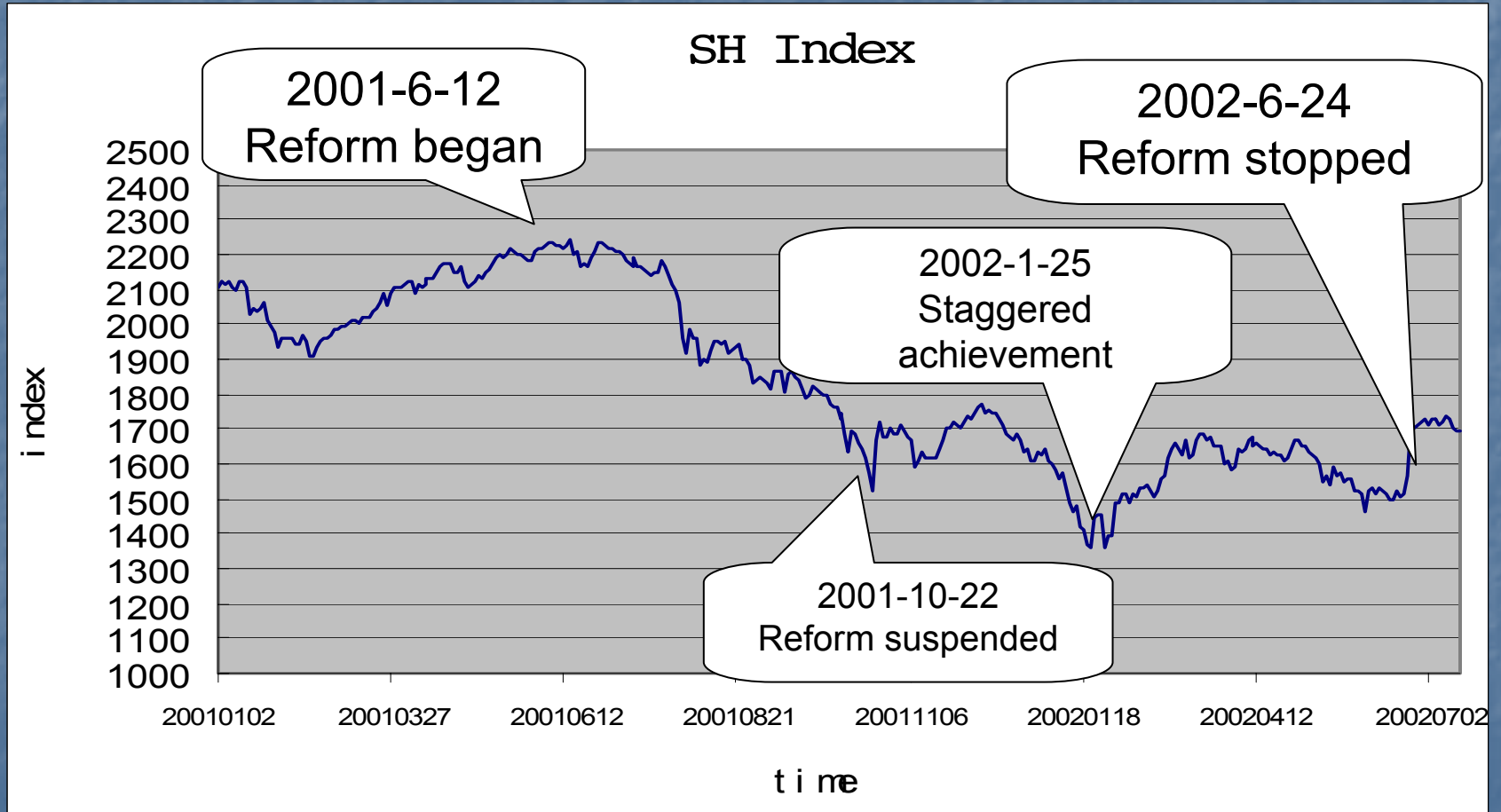
range	<0.1	0.1~0.2	0.2~0.3	0.3~0.4	0.4~0.5	0.5~0.6	0.6~0.7	0.7~0.8	0.8~0.9	0.9~1
2000	5	30	257	381	220	109	41	11	1	5
2001	3	25	239	417	253	131	50	12	1	5
2002	2	25	235	451	271	142	57	10	1	5
2003	2	23	240	468	299	142	66	11	1	5
2004	2	21	268	508	318	150	66	12	1	5

Data source: Sinofin

# Policy driven bear market

- This difference in marketability creates a dramatic gap between the values of these two types. Because only 1/3 shares are marketable, liquid shares are bought and sold at very high premium.
- From 2001, Share-trading Reform began. This reform aimed at changing this dual ownership structure and make illiquid shares marketable just like liquid shares. If all shares become negotiable, the size of market negotiable shares will triple, that will sure to press down stock price largely. This reform will change the foundation of market pricing and the expectation of investors, but it has nothing to do with economy itself.

# Policy and market reaction



# Results

- In China, there is little relationship between stock market and macroeconomics, especially during declining market.
- Significant effect of policy on stock market.
- This has the implication that systematic risk is more important in this market, especially on bear market.

# Characteristic of risk on bear market

Year	1996	1997	1998	1999	2000
Average $\beta$	1.07	0.95	1.04	0.92	0.97
Max $\beta$	1.48	1.7	2.05	2.18	2.06
Min $\beta$	0.59	0.24	0.17	0.09	0.2
Year	2001	2002	2003	2004	2005
Average $\beta$	0.96	1.09	0.9	1.03	1.188
Max $\beta$	1.54	2.05	1.83	2.35	2.55
Min $\beta$	0.01	0.29	0.004	0.3	-0.147

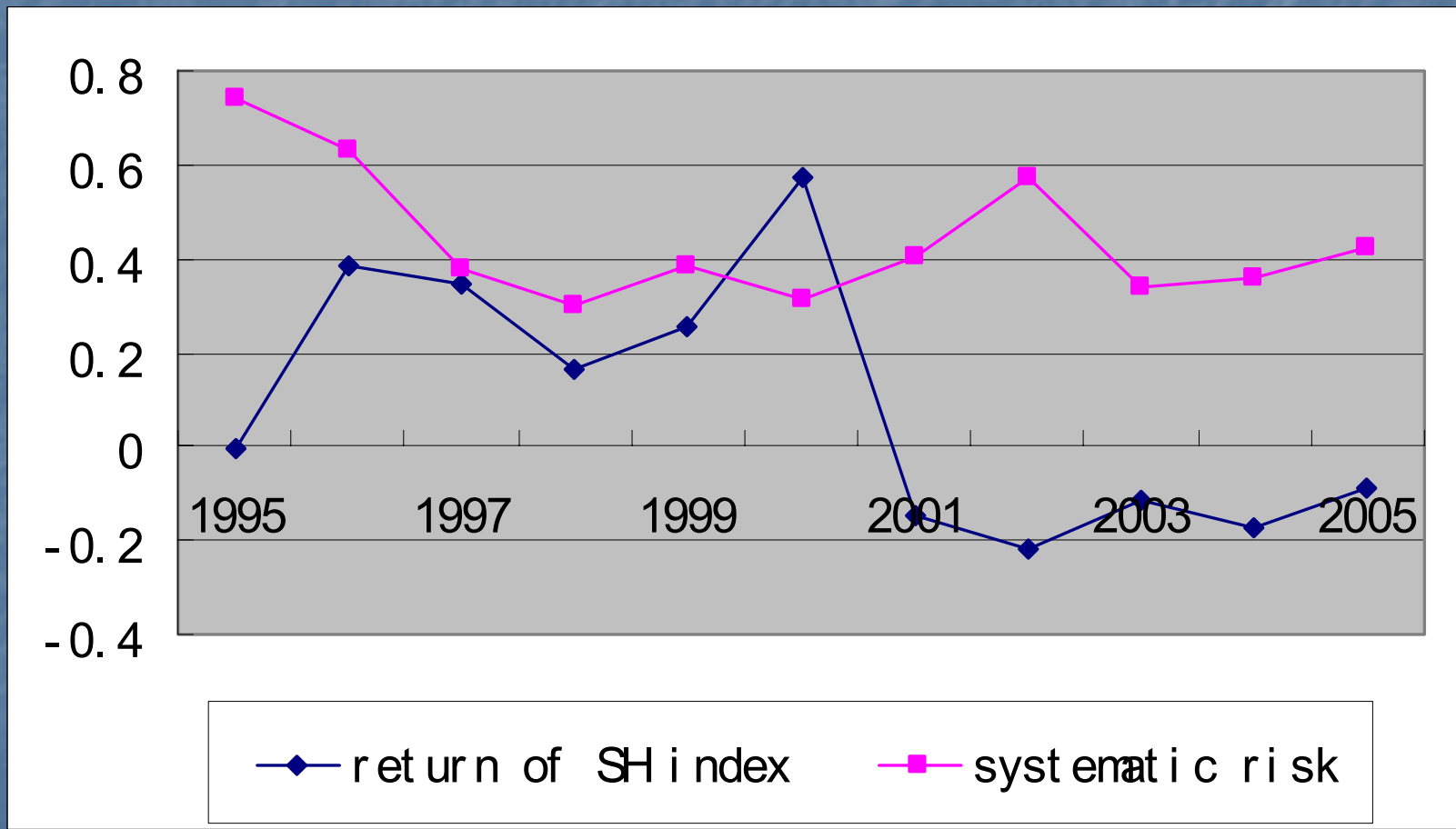


# systematic risk weight:1996-2005(%)

Year	1996	1997	1998	1999	2000
Average	62.88	37.82	30.22	38.44	31.44
Max	86.38	76.81	61.13	81.51	71.11
Min	29.75	1.74	1	1.88	0.25
Year	2001	2002	2003	2004	2005
Average	40.63	57.15	33.66	36	42.38
Max	71.54	91.37	74.11	67	79.13
Min	0.0033	1.85	0.0007	6.29	1.49

Data source: Zhang and Zhu(2005)

# Market vs. systematic risk



# Zhang and Zhu(2005)

- They use data from 1995 to 2004, using some proxy of policy, and found policy is the most important factor that determines the systematic risk.
- Cross-section regression showed that policy factors have a significant effect on systematic risks, indicating that the China equity market still a policy-oriented market to a large degree.
- Main conclusion: policy factor is the most important factor in determining systematic risk. This shows that this market is policy oriented.

- $\theta = b_1 \times \text{policy} + b_2 \times \text{scale} + b_3 \times \text{industry} + b_4 \times \text{cycle}(-1) + b_5 \times \text{fund}$
- $\theta = 8.962 \times \text{policy} - 0.654 \times \text{scale} + 0.757 \times \text{industry} - 3.046 \times \text{cycle}(-1) + 0.138 \times \text{fund}$

# Implication: risk management on bear market

- Risk management relies on two important facts: diversifiable and expectable of risk.
- If systematic risk increases, risk management will fail.
- At the same time, there are no index futures and similar instruments to be used to hedge against systematic risk.
- It is a difficult problem to manage risk within such a bear market.

# Conclusion

- China's stock market is a polity oriented market to a large degree.
- Systematic risk plays an important role in this market.
- Risk diversification will not be so efficient as expected, and there is no index derivatives to be used to hedge system risk. So risk management is more difficult.

# What to do?

- Financial innovation: More instruments such as index derivatives
- Avoid direct policy intervention: Policy consistency to give market a clear expectation.

Thanks!