

Food Security Issues in China: Achievements, Challenges and Policies

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Introduction

Basic facts:

- 22% of world population relying on 10% arable land, with per capita water availability at $\frac{1}{4}$ of world average;
- Per capita GDP growing at 8-9 % for 3 decades, but still quire low (2280 US\$ in 2007)

Introduction

Basic policy objectives:

- Achieving food security for a growing population through efforts in domestic production & marketing;
- Maintaining fast economic growth to build a strong nation and to reduce internal conflicts

Linkage between objectives:

Secure growing food supply at low cost in order to mobilize and transfer resources from agricultural to urban industrial sector

Major achievements

Output growth 1978-2007

- Grain production growth: 65%, or 1.8% on average per year
- Meat production: increased by 8 times
- Fishery production: increased by 8.8 times

Per capita food availability 1980 vs. 2006 (kg)

	1980	2006
Grain	327	380
Cotton	2.8	5.1
Oilseeds	7.8	23.3
Meat	(2000) 38.3	48.9
Aquatic products	4.6	40.0
Milk	1.2	24.4

Major challenges

Challenges for balancing demand and supply (1)

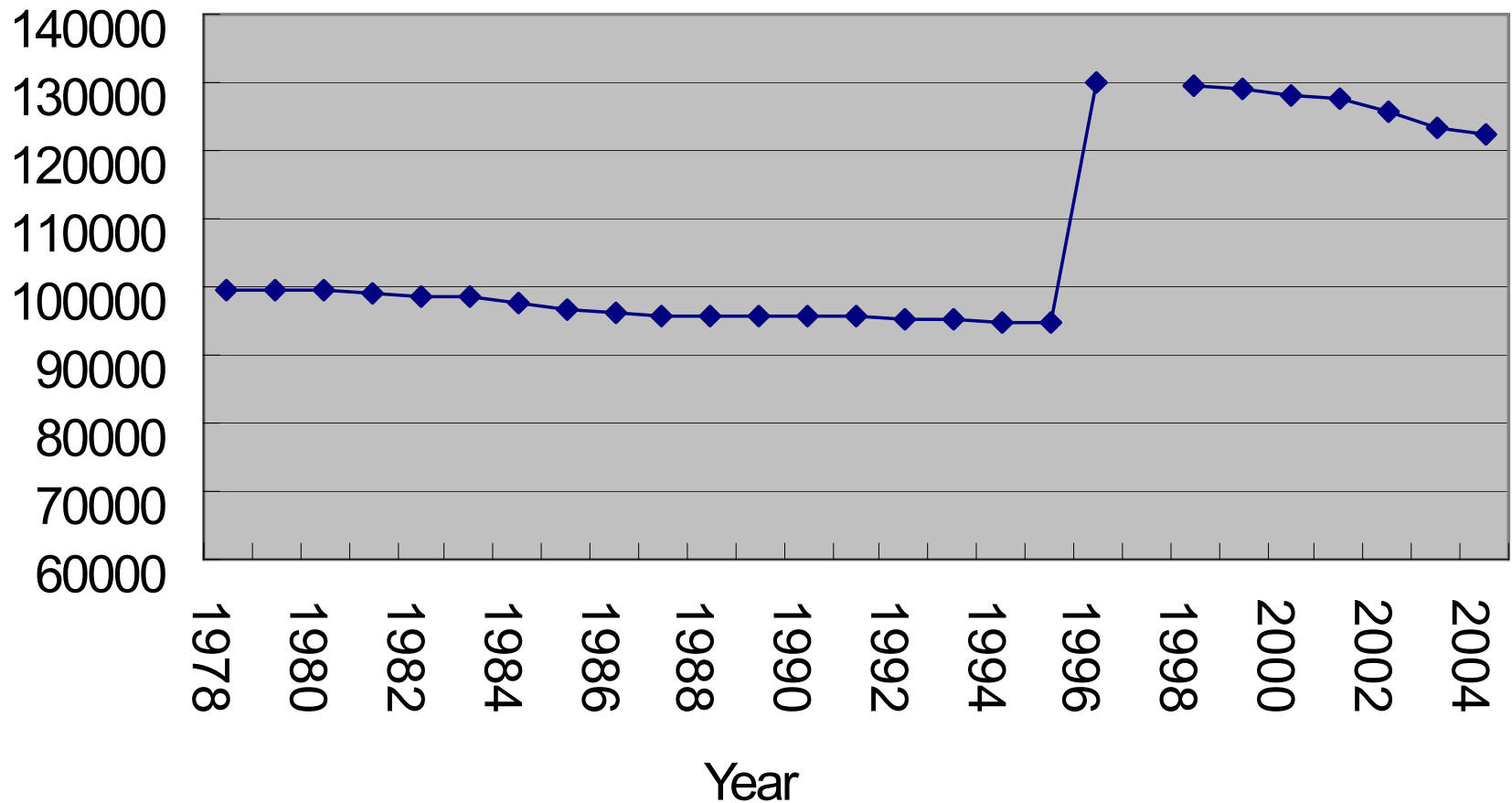
- Continued demand: 90 million tons for 2005-2020, or 6 million tons per year:
 - population growth: 47 million t
 - urbanization (increased urban share in population): 10 million t
 - income improvement: 10 million t
 - growth of other sectors (without biofuel): 23 million t

Challenges for balancing demand and supply (2)

- Constraints in production
 - Reduction of arable land due to urbanization
 - Degradation of land quality
 - Shortage of irrigation water
 - Rising production costs for labor and material inputs: falling cropping index
 - Slow-down in yield improvements

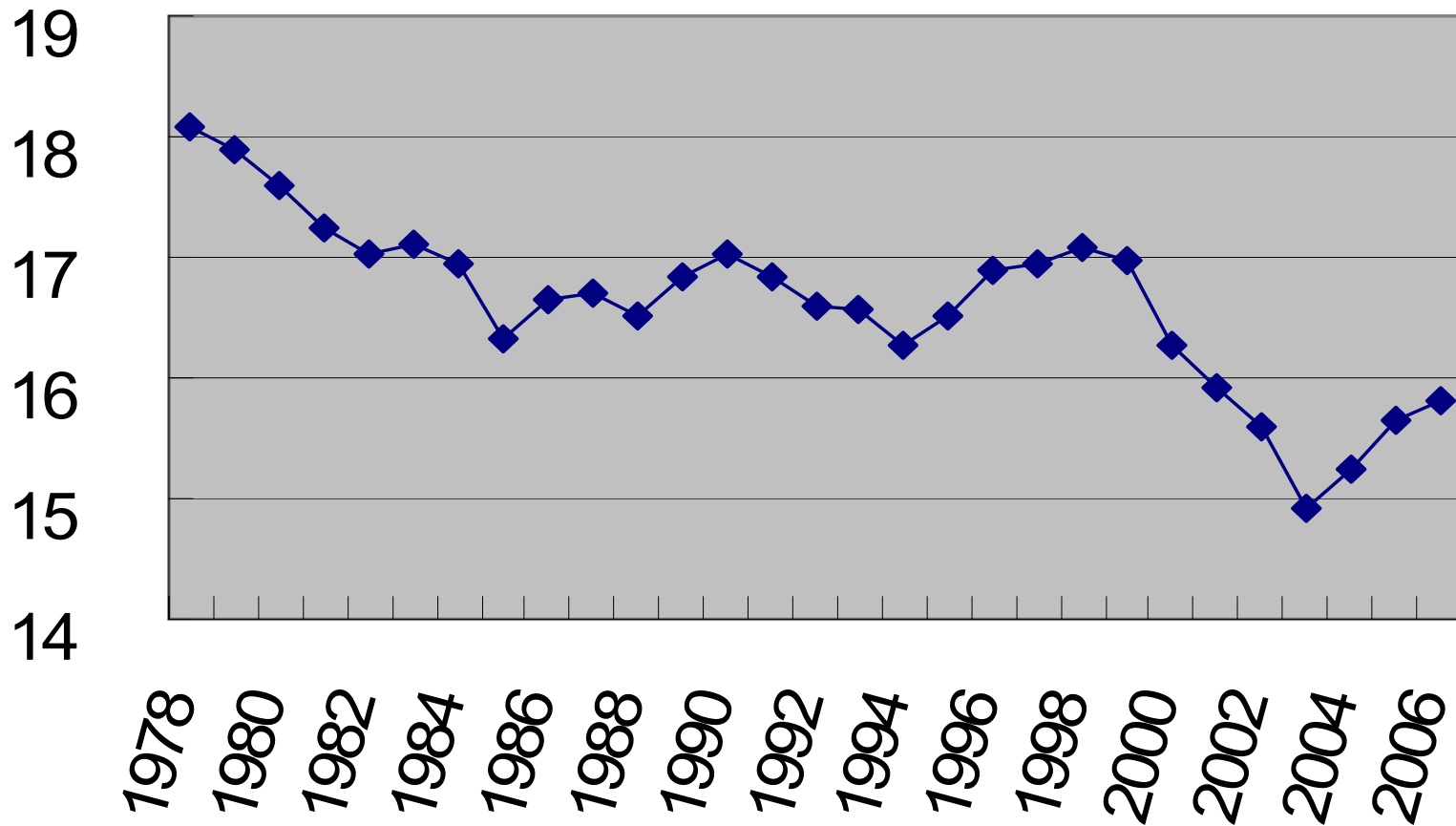
Losses in cultivated land

Chinese Cultivated Land (1000 Ha)



Grain areas in China

100 million Mu

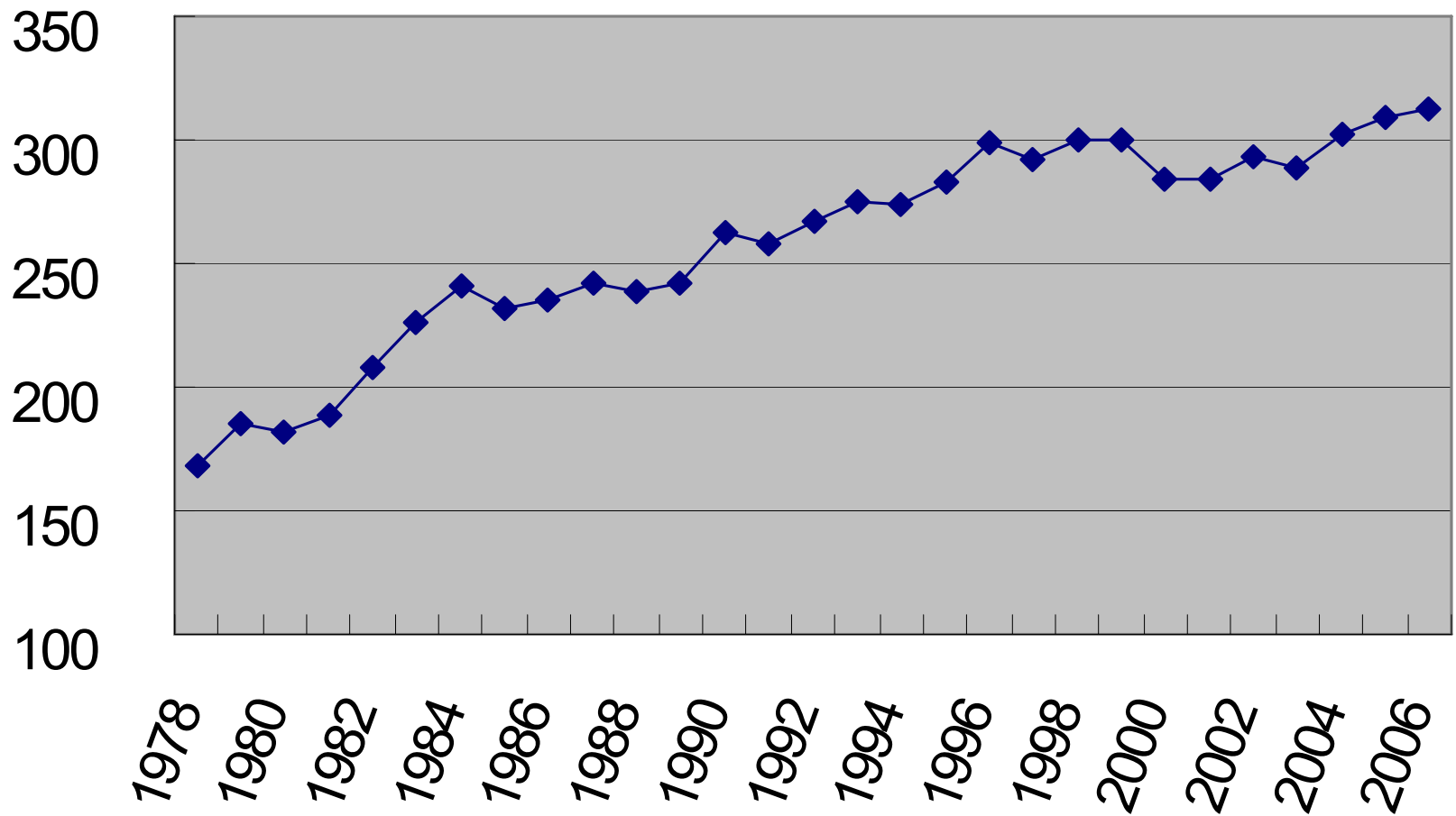


Grain area decrease

■ Diversification of cropping sector, %

year	grain	oil seeds	cotton	fiber	sugar	tobacco	vegetables	tea	orchards
1978	80.3	4.1	3.2	0.5	0.6	0.5	2.2	0.7	1.1
1980	80.1	5.4	3.4	0.5	0.6	0.3	2.2	0.7	1.2
1985	75.8	8.2	3.6	0.9	1.1	0.9	3.3	0.8	1.9
1990	76.5	7.3	3.8	0.3	1.1	1.1	4.3	0.7	3.5
1995	73.4	8.7	3.6	0.3	1.2	1.0	6.3	0.7	5.4
2000	69.4	9.9	2.6	0.2	1.0	0.9	9.7	0.7	5.7
2005	67.1	9.2	3.3	0.2	1.0	0.9	11.4	0.8	4.8

Grain yield in China, kg/mu



Policy practice

Police practice

- Production
- Consumption
- Trade

Policy to promote production incentives:

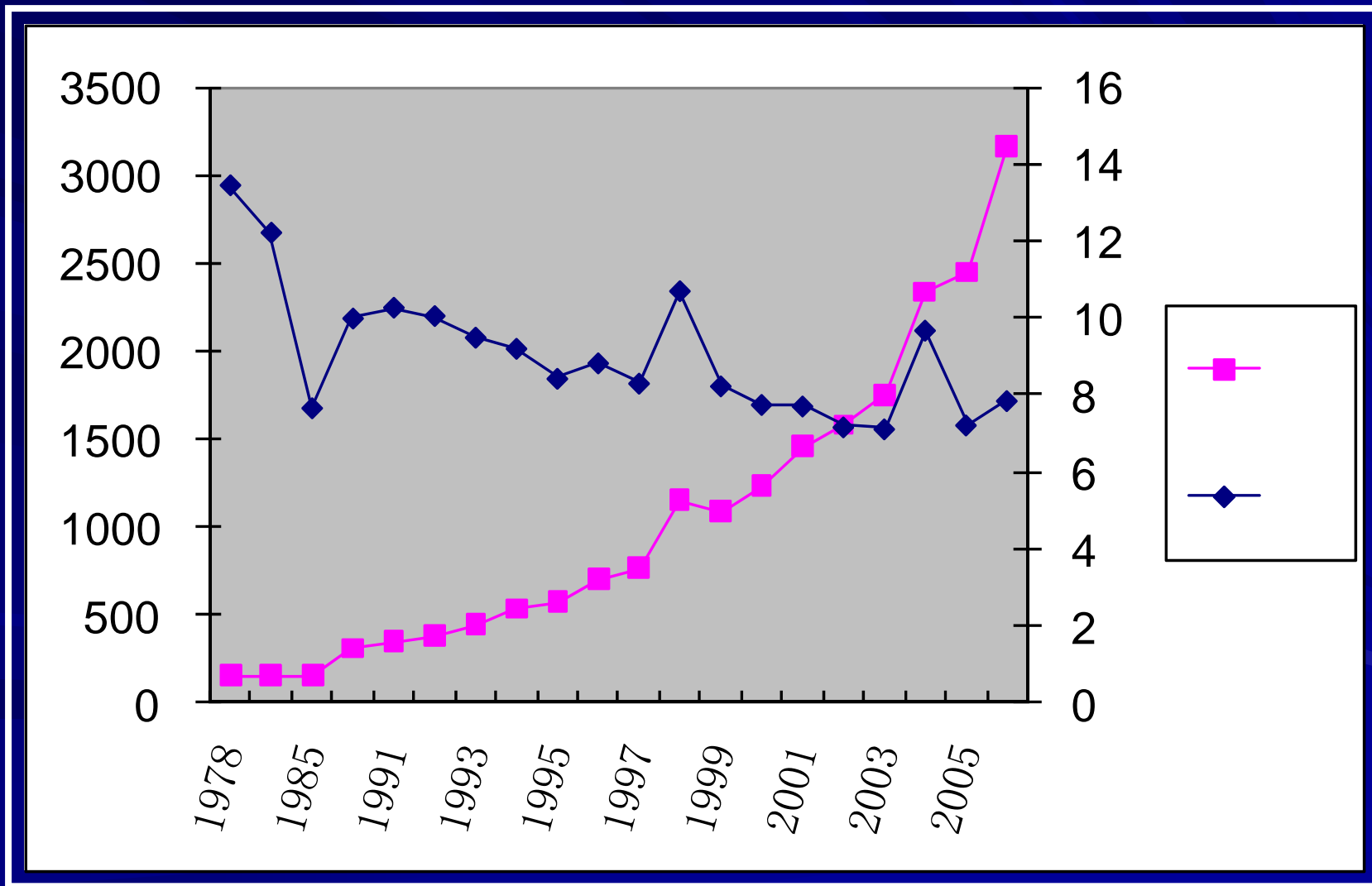
Subsidies:

- Grain area subsidy
- Subsidy to mitigate effects from price hike of farm inputs
- Grain seed subsidy
- Subsidy for purchase of farm machines

Policy to promote productivity

- Stricter control on taking farmland for non-farm purposes
- Increased public funding in:
 - irrigation and other infrastructure
 - extension
 - research
 - Other public service: information, food safety, diseases control...

Budget outlay for supporting agriculture and its share



Policy to reduce demand

- Establishment of new biofuel plants using grains as feedstock is in fact prohibited since 2007.

Trade policy

- In practice: Much more freer than WTO commitments:
 - Soybean import tax: 1% from 3%(WTO)
 - Cotton: 5% from 40% (WTO)
- Similar can happen to other key products when in shortage
- Export tax/quota at price surge

Future perspective

Future perspectives

- Import of land-intensive commodities (low yield products: oilseeds, cotton, wheat) will further expand;
- Growth of livestock consumption will not develop as fast as assumed by many studies. Reduction of meat production (consumption) during 2005-2007 is nearly 9 million tons, equal to 40 million tons of grains.
- There will be no food crisis for China for the short and mid-term. The long term food security will depend on protection of farmland and yield improvement (for both crop and livestock). Technological innovation in both traditional and biotechnology areas will play the crucial role.

Current Situations

Current Chinese situations

- **Domestic demand/supply roughly in balance;**
- **Economic growth jeopardized by inflation and currency appreciation;**
- **Income gap widening between rural and urban areas, and among urban residents;**
- **Policy preference: to increase food production through input rather than output price incentives**

Further thoughts

- Past & current farm policy continues?
 - How long farm price could be kept low?
 - Price transmission & further reform of domestic market?
 - Incentive in agricultural R&D
 - Income disparity
- What policy should change?
 - Farm policy or development policy?
 - Price policy or income policy
- The role of stock

REVIEW OF WORLD STOCKS (USDA: GRAINS REPORT)

Million Metric Tons (MMT)

	RICE		WHEAT		COARSE GRAINS		CORN	
	Total Cons.	Ending Stocks	Total Cons.	Ending Stocks	Total Cons.	Ending Stocks	Total Cons.	Ending Stocks
1977/78	244.6	44.8	396.0	109.2	680.8	124.0	356.5	77.3
1987/88	313.3	105.3	511.3	191.1	799.5	263.3	458.3	197.5
1990/91	345.0	126.7	553.7	170.5	815.9	195.2	473.7	141.2
1991/92	353.1	126.8	551.5	162.0	813.3	194.4	493.6	140.9
1992/93	357.5	123.3	547.6	175.7	841.9	219.3	512.5	162.5
1993/94	359.1	119.1	552.4	181.4	836.4	181.1	509.3	129.3
1994/95	365.2	117.8	542.4	162.1	853.8	196.5	535.4	152.9
1995/96	368.2	118.4	544.8	155.3	835.6	162.1	536.3	132.7
1996/97	378.7	120.6	573.4	164.5	869.3	202.1	560.0	165.6
1997/98	379.7	127.9	577.5	197.0	867.5	216.2	573.7	166.2
1998/99	388.2	134.3	579.1	207.9	869.2	237.9	581.1	190.9
1999/00	399.7	143.5	585.1	208.5	882.3	232.8	604.9	193.6
2000/01	395.1	147.2	584.2	205.8	884.2	211.2	610.0	174.3
2001/02	413.1	133.4	585.4	201.6	906.9	198.3	623.5	151.0
2002/03	407.6	103.6	603.7	166.3	903.0	170.7	628.1	126.2
2003/04	413.0	82.1	587.5	132.4	945.8	141.0	648.9	104.6
2004/05	408.1	74.5	606.9	150.6	978.2	178.6	688.0	131.4
2005/06	415.5	76.7	624.4	147.6	991.5	164.4	704.0	123.7
2006/07	419.2	75.1	615.8	125.1	1009.7	136.5	720.7	107.3
2007/08	423.7	72.1	619.0	109.7	1062.5	126.0	771.6	101.9
5 year change	3.95%	-30.41%	2.53%	-34.03%	17.66%	-26.19%	22.85%	-19.26%
10 year change	11.59%	-43.63%	7.19%	-44.31%	22.48%	-41.72%	34.50%	-38.69%
20 year change	35.24%	-31.53%	21.06%	-42.60%	32.90%	-52.15%	68.36%	-48.41%
30 year change	73.19%	60.99%	56.32%	0.45%	56.07%	1.63%	116.46%	31.81%

Thank You

