Question 1:

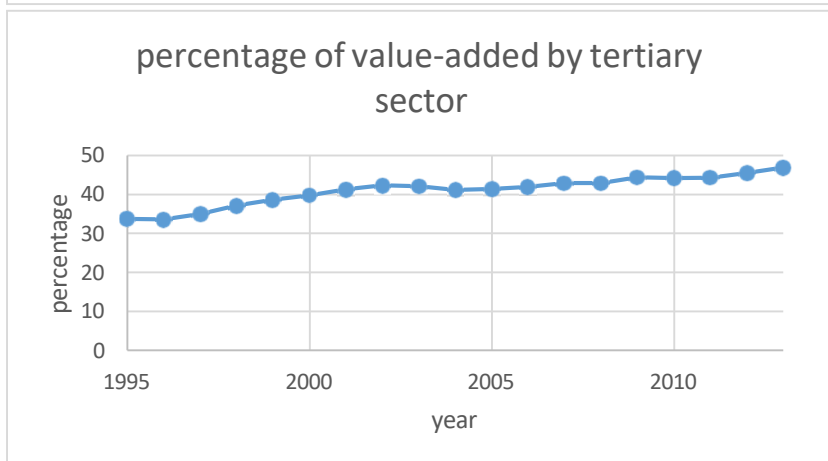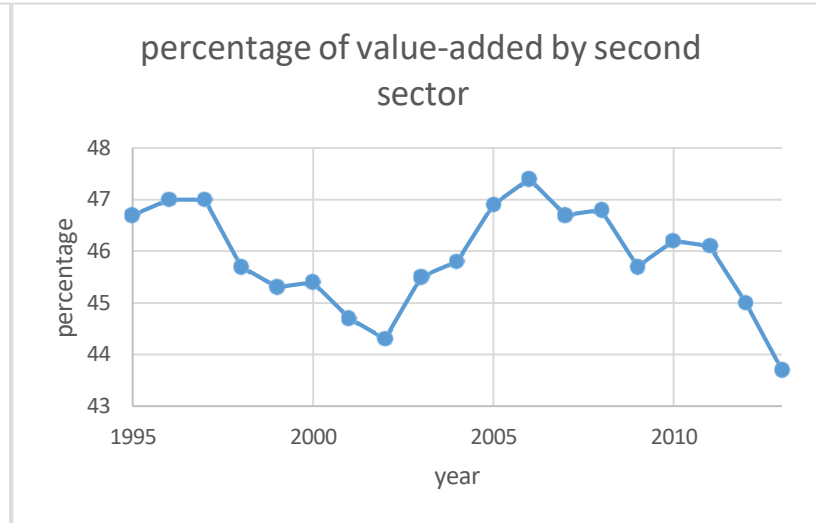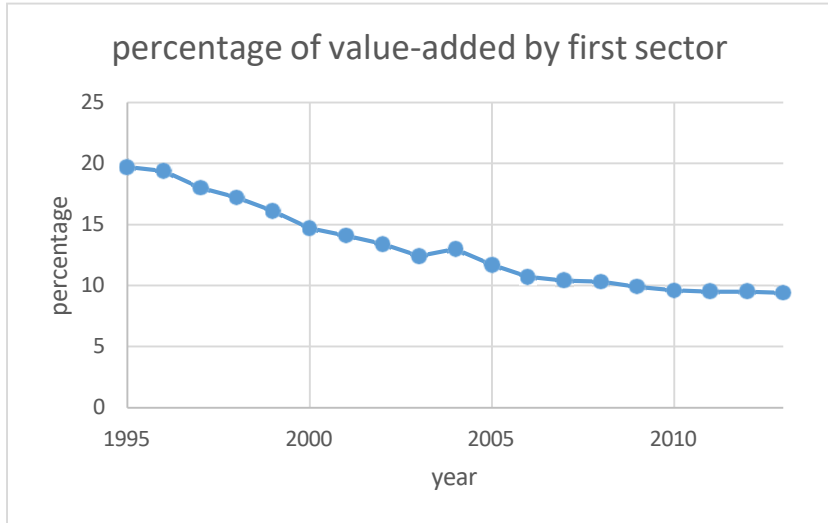| year	GDP	% 1st sector	% 2nd sector	% 3rd sector	% final consumption	GDP index (previous)	GDP index (1978)	GDP index (2000)	real GDP (2000)	annual growth rate of real GDP	GDP deflator (2000)
1995	61129.8	19.7	46.7	33.7	58.1	111	504.8	66.18	66029.20		92.580%
1996	71572.3	19.4	47	33.6	59.2	109.9	554.9	72.75	72582.42	9.925%	98.608%
1997	79429.5	18	47	35	59	109.2	606.1	79.46	79279.52	9.227%	100.189%
1998	84883.7	17.2	45.7	37.1	59.6	107.8	653.7	85.70	85505.73	7.853%	99.273%
1999	90187.7	16.1	45.3	38.6	61.1	107.6	703.5	92.23	92019.70	7.618%	98.009%
2000	99776.3	14.7	45.4	39.8	62.3	108.4	762.8	100.00	99776.30	8.429%	100.000%
2001	110270.4	14.1	44.7	41.3	61.4	108.3	826.1	108.30	108056.11	8.298%	102.049%
2002	121002	13.4	44.3	42.3	59.6	109.1	901.2	118.14	117879.39	9.091%	102.649%
2003	136564.6	12.4	45.5	42.1	56.9	110	991.5	129.98	129690.88	10.020%	105.300%
2004	160714.4	13	45.8	41.2	54.4	110.1	1091.4	143.08	142758.07	10.076%	112.578%
2005	185895.8	11.7	46.9	41.4	53	111.3	1215.3	159.32	158964.52	11.352%	116.942%
2006	217656.6	10.7	47.4	41.9	50.8	112.7	1369.5	179.54	179134.30	12.688%	121.505%
2007	268019.4	10.4	46.7	42.9	49.6	114.2	1563.9	205.02	204562.34	14.195%	131.021%
2008	316751.7	10.3	46.8	42.9	48.6	109.6	1714.4	224.75	224248.15	9.623%	141.251%
2009	345629.2	9.9	45.7	44.4	48.5	109.2	1872.7	245.50	244954.22	9.234%	141.100%
2010	408903	9.6	46.2	44.2	48.2	110.6	2071.8	271.60	270997.04	10.632%	150.888%
2011	484123.5	9.5	46.1	44.3	49.1	109.5	2268.3	297.36	296699.77	9.485%	163.169%
2012	534123	9.5	45	45.5	49.5	107.7	2444.1	320.41	319694.88	7.750%	167.073%
2013	588018.8	9.4	43.7	46.9	49.8	107.7	2631.9	345.03	344259.63	7.684%	170.807%

- ■ GDP and real GDP are all measured by one hundred million yuan.

year	per capita GDP	per capita GDP index (previous)	per capita GDP index (1978)	per capita GDP index (2000)	real per capita GDP (2000)	annual growth rate of real per capita GDP	annual growth rate of pop
1995	5074	109.8	400.6	69.36	5480.51		
1996	5878	108.8	435.8	75.45	5962.07	8.787%	1.138%
1997	6457	108.1	471.1	81.56	6445.00	8.100%	1.127%
1998	6835	106.8	503.3	87.14	6885.52	6.835%	1.018%
1999	7199	106.7	536.9	92.95	7345.19	6.676%	0.942%
2000	7902	107.6	577.6	100.00	7902.00	7.581%	0.849%
2001	8670	107.5	621.1	107.53	8497.11	7.531%	0.767%
2002	9450	108.4	673	116.52	9207.14	8.356%	0.735%
2003	10600	109.3	735.8	127.39	10066.29	9.331%	0.689%
2004	12400	109.4	805.2	139.40	11015.74	9.432%	0.644%
2005	14259	110.7	891.3	154.31	12193.65	10.693%	0.659%
2006	16602	112.1	998.8	172.92	13664.33	12.061%	0.627%
2007	20337	113.6	1134.7	196.45	15523.54	13.606%	0.589%
2008	23912	109.1	1237.5	214.25	16929.93	9.060%	0.564%
2009	25963	108.7	1345.1	232.88	18401.97	8.695%	0.539%
2010	30567	110.1	1480.9	256.39	20259.82	10.096%	0.536%
2011	36018	109	1613.6	279.36	22075.25	8.961%	0.524%
2012	39544	107.2	1730.2	299.55	23670.43	7.226%	0.524%
2013	43320	107.2	1854	320.98	25364.11	7.155%	0.529%

■ Per capita GDP and real per capita GDP are all measured in yuan.

◆ All the data above are collected from the website of National Bureau of Statistics of China at 10:00 p.m. on March 16, 2005.
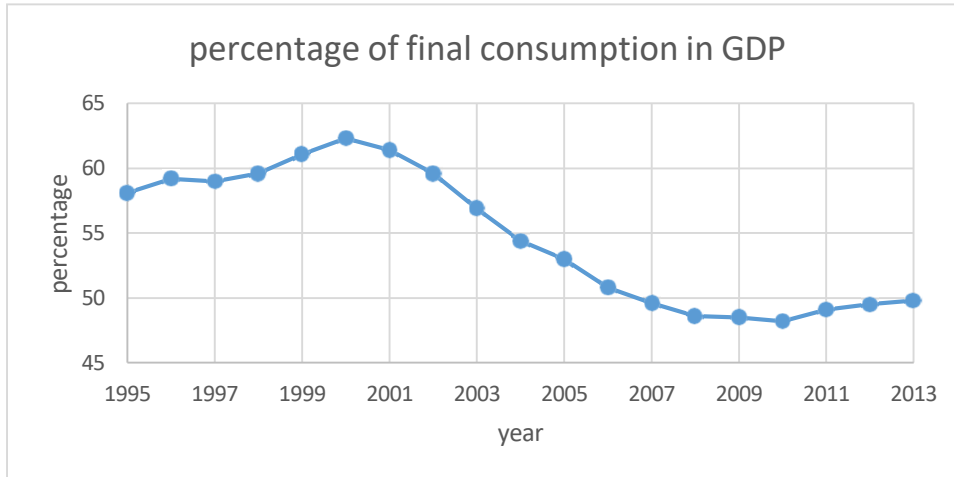The website is http://data.stats.gov.cn/workspace/index?m=hgnd

(2) percentage of value-added by first sector, second sector, tertiary sector in GDP (agricultural, industrial, service). Do you see any stability or trend in these data?

percentage of value-added by first sector

percentage of value-added by second sector

percentage of value-added by tertiary sector

From the graphs, we can draw some conclusions：

● The percentage of value-add by first sector is gradually declining.

● There are large fluctuations on the percentage of value-add by second sector. From 1997 to 2002 and 2006 to 2013, we can see a large drop, while from 2006 to 2013, the percentage was increasing. Thus, the percentage is not stable.

● The percentage of value-add by tertiary sector is stably increasing.

(3) percentage of final consumption in GDP. Do you see any stability or trend in these data?

percentage of final consumption in GDP

From the graph, we can see that:

There exists a fluctuation in the percentage of final consumption in GDP. The percentage increases in a small degree from 1995 to 2000 and declines a lot from 2000 to 2010. Then it stably rises till 2013. Thus, the major trend could be decreasing.

(4) GDP index: (a) previous year as 100; (b) year 2000 as 100

We collect GDP index based on previous year and 1978 from the website. Then we calculate GDP index based on 2000 as this way:

Since the GDP index based on 1978 of 2000 is 762.8, GDP index based on 2000 = $\dfrac{GDP\ index\ based\ on\ 1978\ of\ year\ i}{762.8} \times 100$

 (5) real GDP, use 2000 as the base year

Since GDP of 2000 is 99776.3, real GDP of year i = $\dfrac{99776.3 \times GDP\ index\ based\ on\ 1978\ of\ year\ i}{100} = \dfrac{99776.3 \times (4b)}{100}$

(6) Calculate annual growth rate of real GDP

annual growth rate of real GDP of year i = $\dfrac{real\ GDP\ of\ year\ i}{real\ GDP\ of\ year\ i-1} - 1 = \dfrac{(5)_i}{(5)_{i-1}} - 1 (i \geq 2)$

(7) GDP deflator relative to year 2000

GDP deflator = $\dfrac{nominal\ GDP}{real\ GDP} = \dfrac{(1)}{(5)}$