



中国肉类消费与贸易展望

Future Perspectives of China's Meat Consumption and Trade

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关键问题

(Key questions to answer)

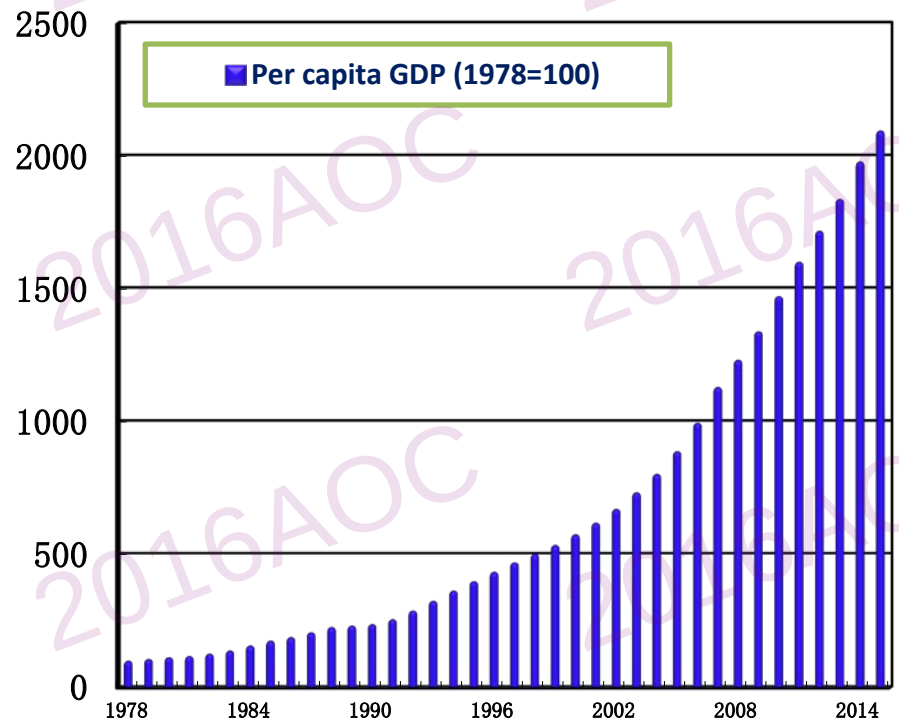
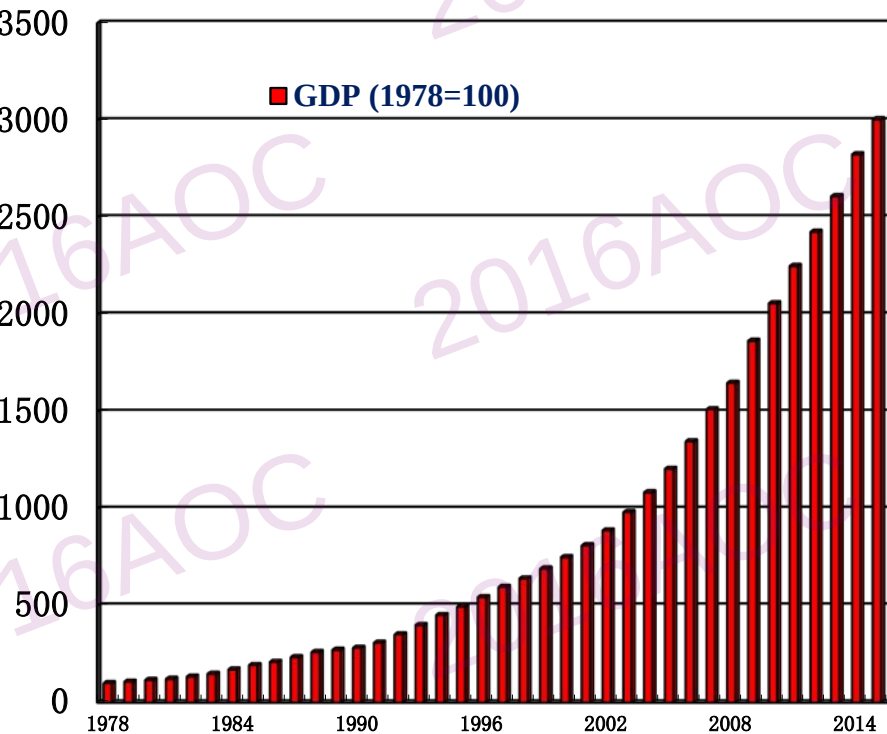
- 中国人畜产品消费会不会再增长？
- 未来的畜产品需求结构怎样变化？
- 中国畜产品生产面临的主要问题和挑战？
- 需要考虑的应对策略？

汇报主要内容： Outline of presentation

- 
1. **中国农业发展简要回顾 (Historical Change of China's Agriculture)**
 2. 中国肉类产品消费变化趋势 (Future change of food demand (Key question: What will be the case in the next 10-20 yeas?))
 3. 畜产品生产面临的主要挑战 (Challenges confronted by China's livestock production)
 4. 未来畜产品供需分析 (Future perspectives of China's food demand and supply)
 5. 主要结论和政策建议 (Main conclusion and policy implications)

中国经济快速增长

China's economy grows quickly in the past three decades

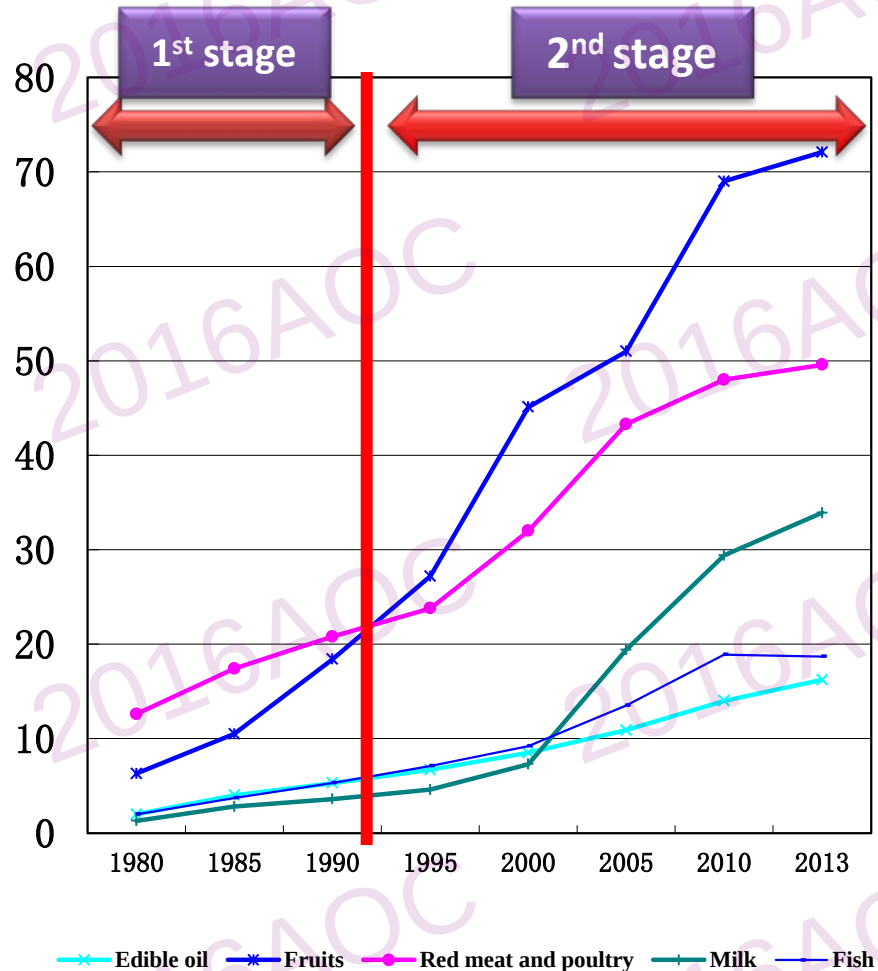
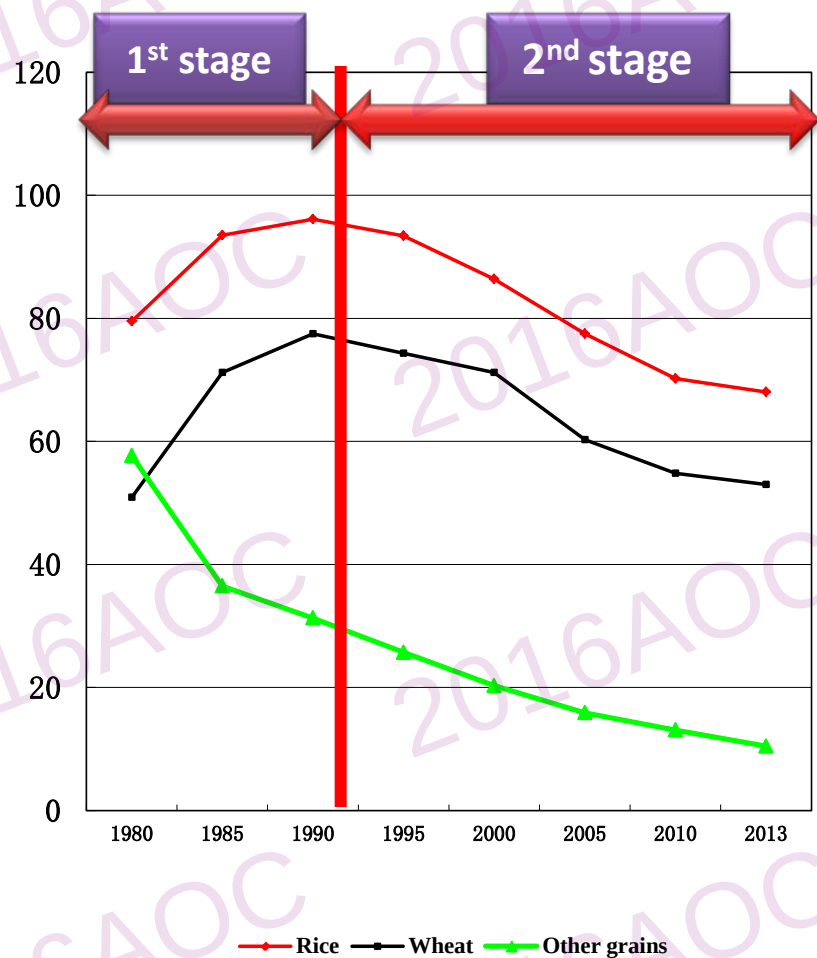


China's GDP in 2015 (at constant price) is **30 times** of that in 1978, with average annual growth rate of **9.6%**.

Per capita GDP is about **21 times**, with growth rate of **8.6%** annually.

食物消费结构快速转型

Food Consumption Pattern Changes Tremendously

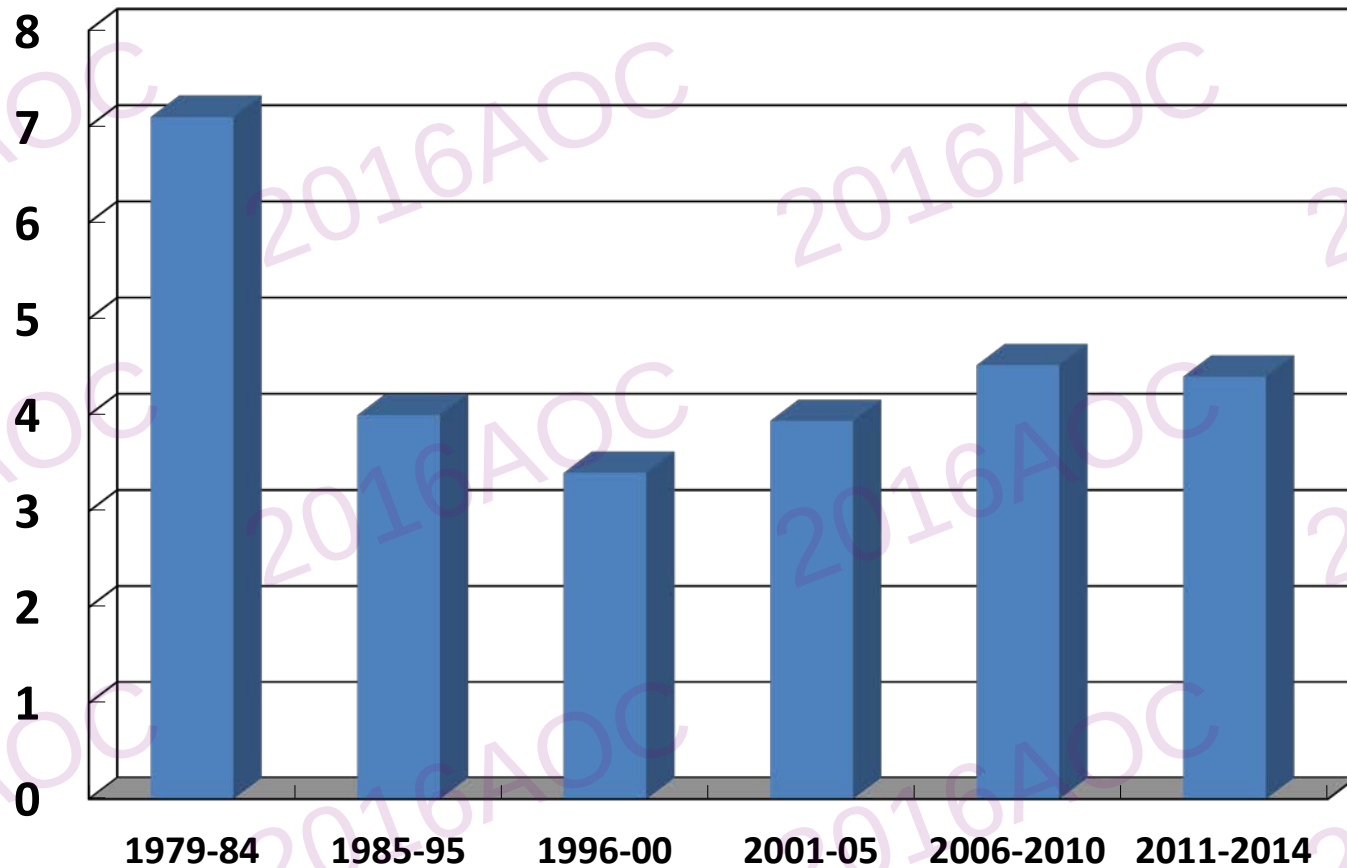


Per capita consumption on high-value added food (e.g., fruits, meat, milk and fishery products etc.) increasing dramatically in the 2nd stage

农业保持快速增长（年均4.6%在过去36年间）

4.6% of annual growth rate of agri GDP in past 36 years (1978-2014)

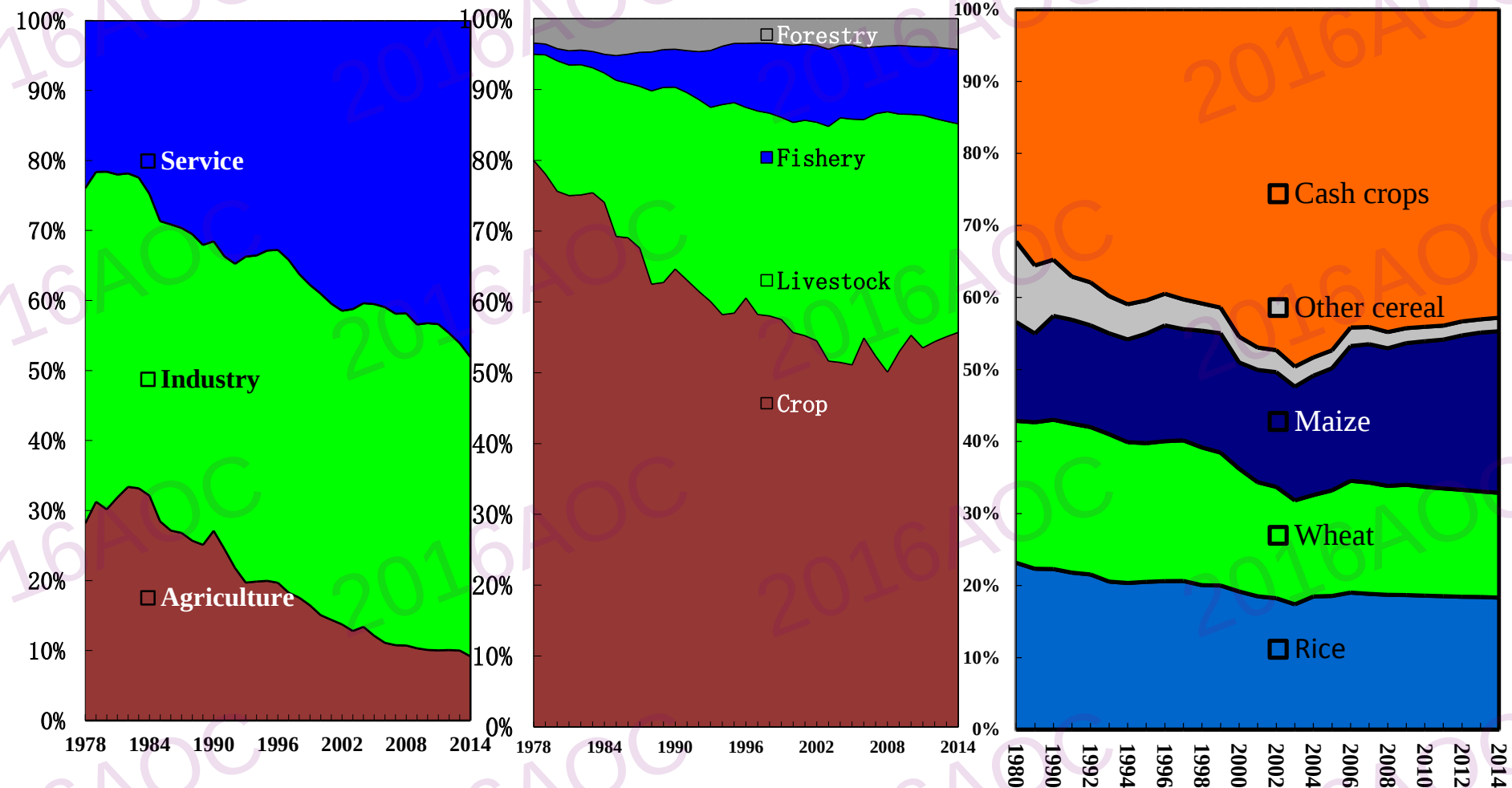
Annual growth rate of agri GDP in 1978-2014 (%)



More than 4.5 times of population growth rate

经济结构发生显著改变

Significant Structural Changes of China's Economy (%)



Agricultural GDP share: 30% in 1980 → 9.17% in 2014

Crop production-value share: 76% in 1980 → 56% in 2014

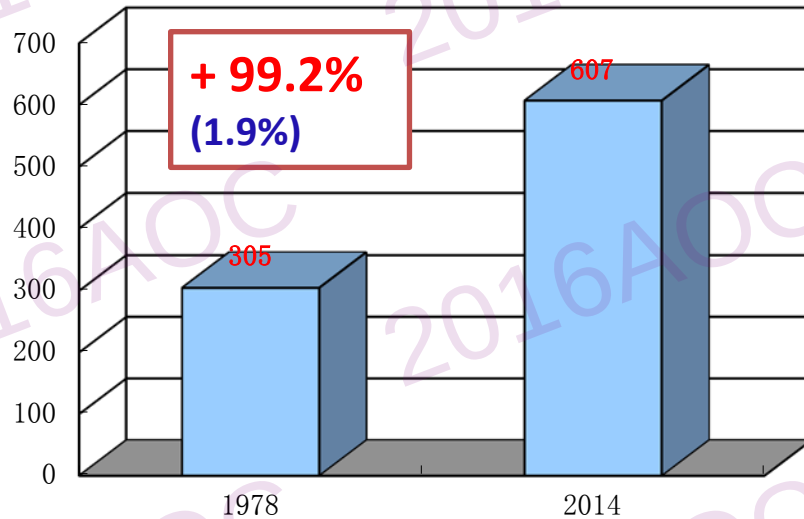
Fishery and livestock: 20% → 40%

Cash crops sown area share: 32% in 1980 → 42.8% in 2014

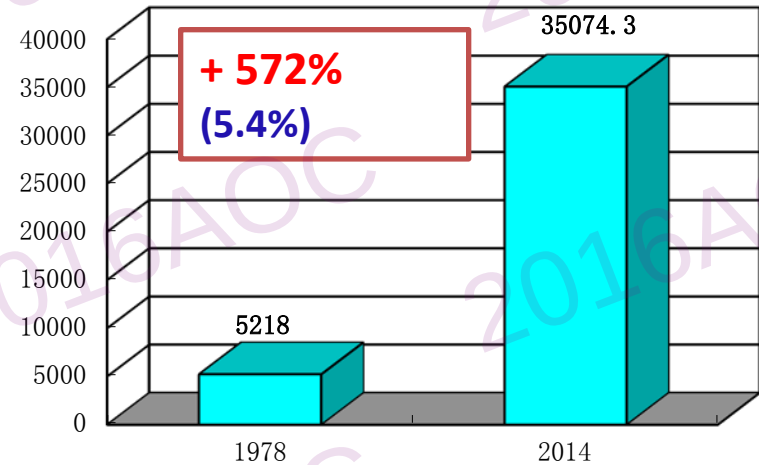
农产品产出快速增长，并伴随着显著的结构性餐椅

Agr. Prod. Grows Fast and Experiences Dramatic Structure Changes

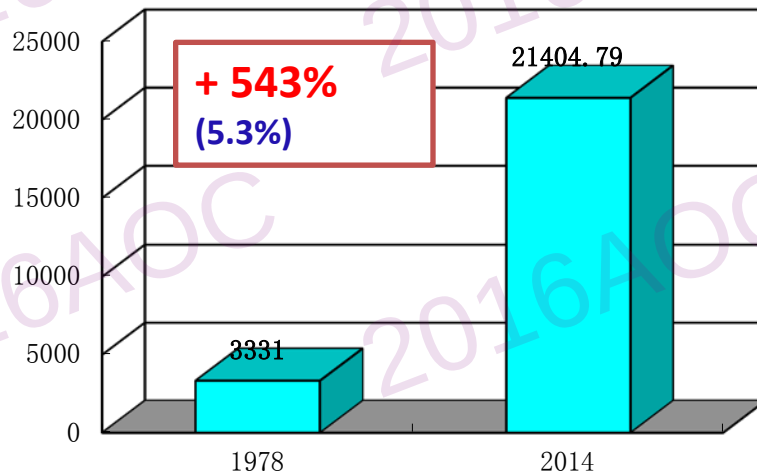
Grain (million tons)



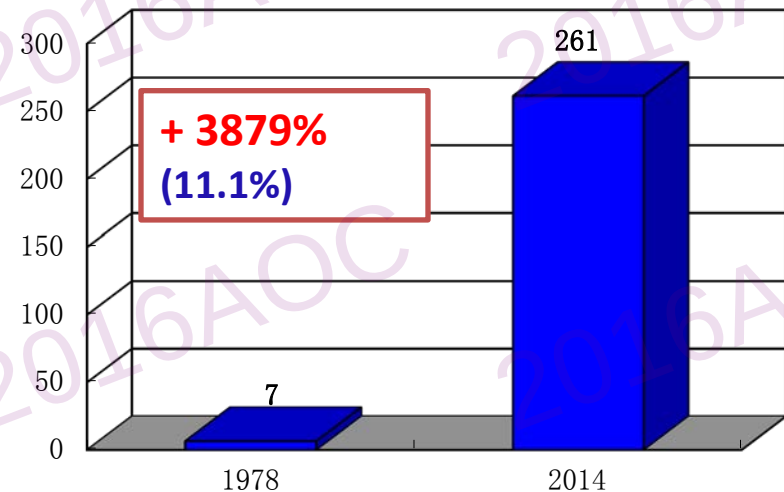
Oil crops (1000 tons)



Vegetable area (1000 ha)



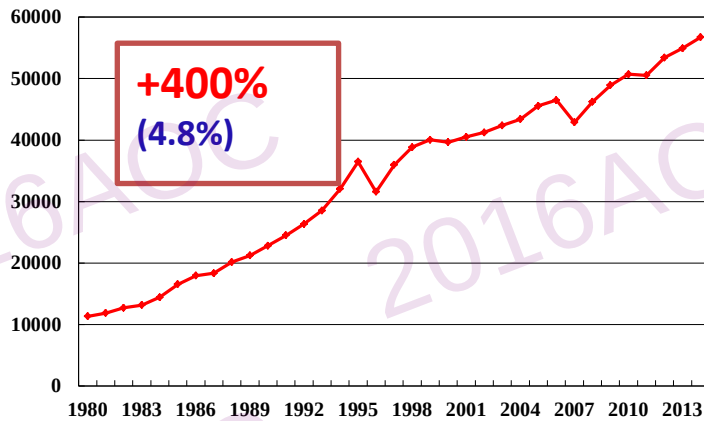
Fruit outputs (million tons)



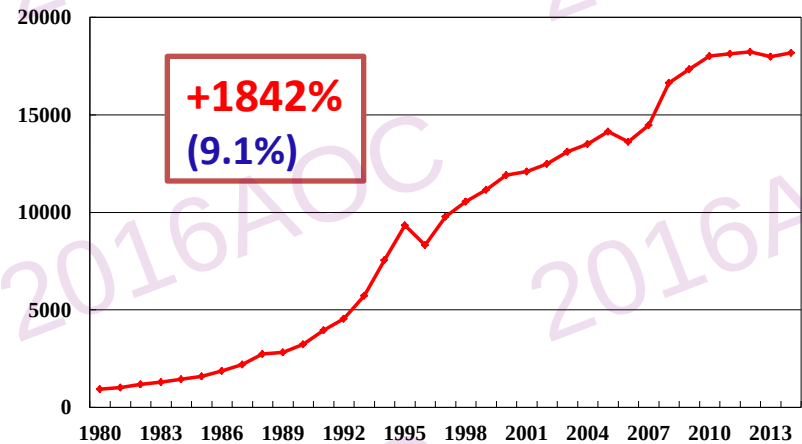
畜产品产出变化

Meat production during 1980-2014 (1000 tons)

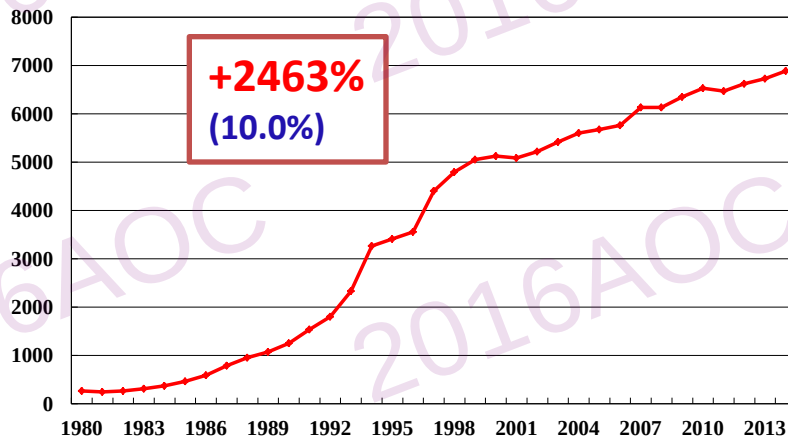
Pork



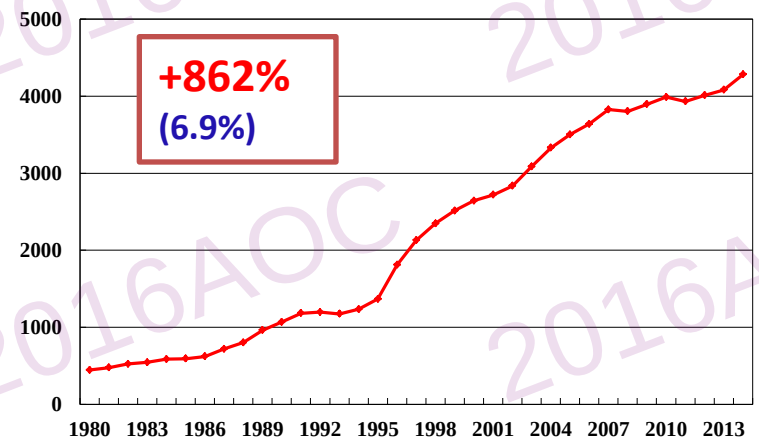
Poultry



Beef



Mutton

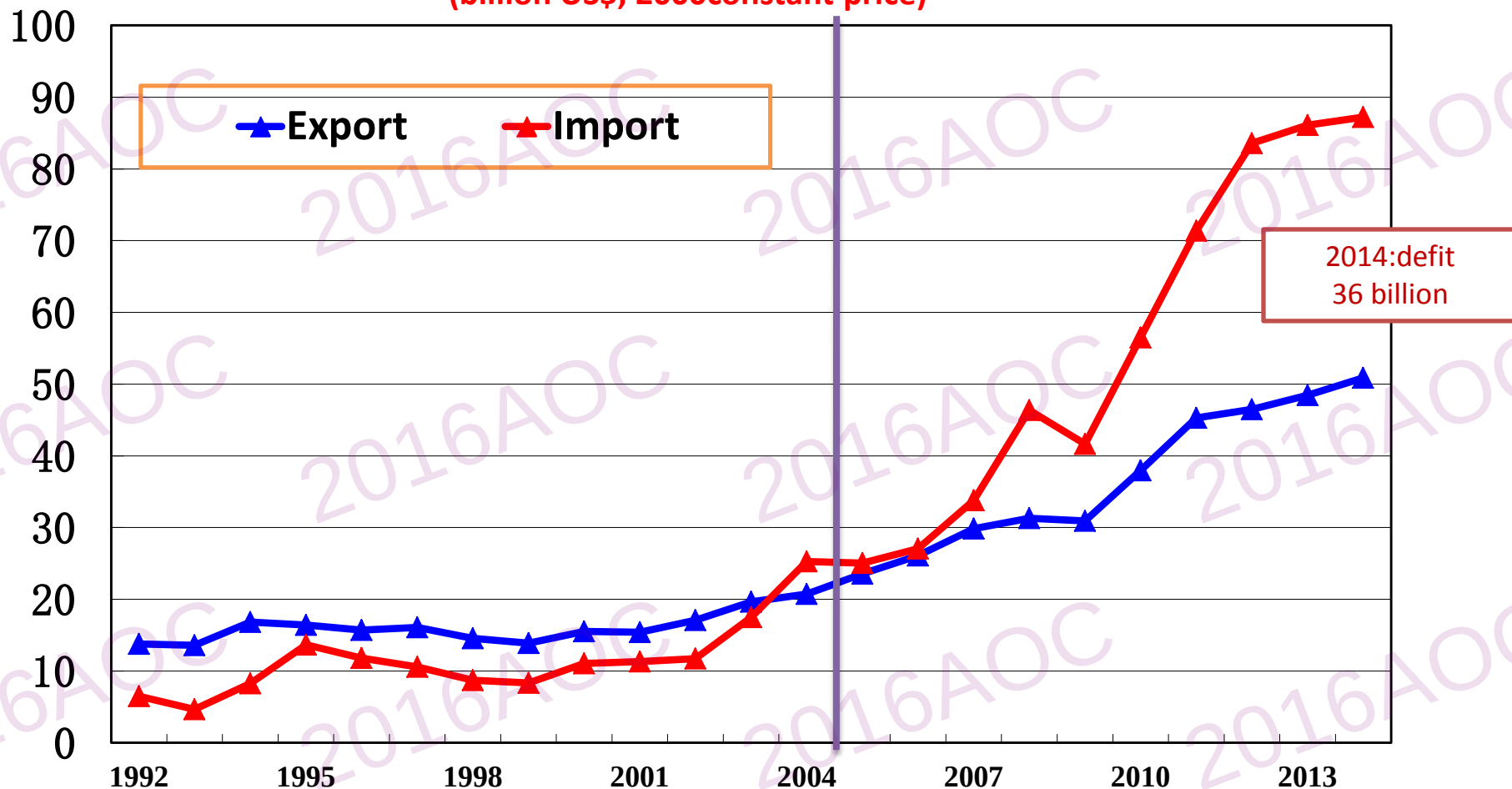


Source: NSBC

中国农产品贸易变化（10亿美元）

China converted into a net importer of agri. Commodities in 2004, and trade deficit kept rising afterward

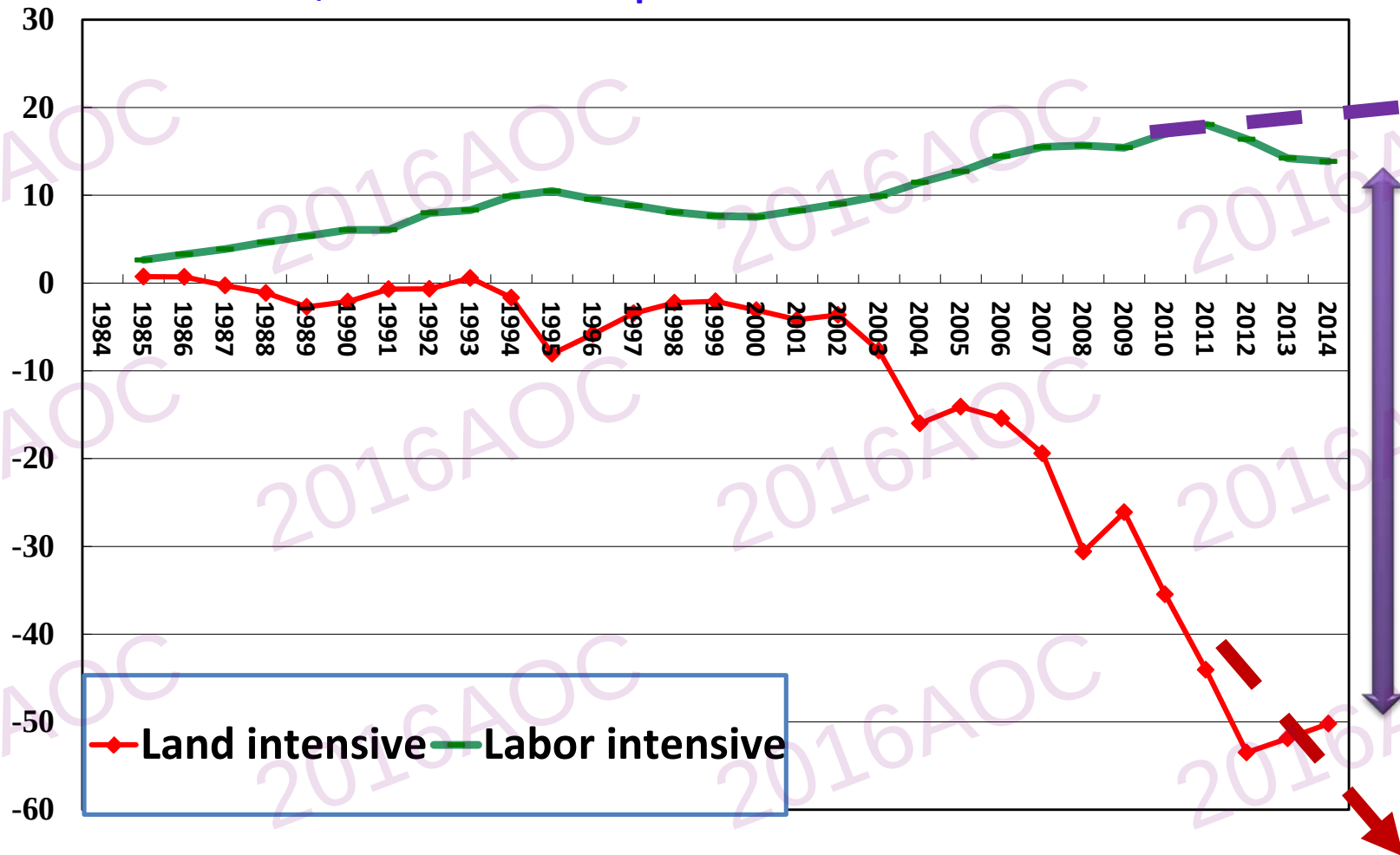
Agricultural trade: export and import in 1992-2014
(billion US\$, 2000 constant price)



按照禀赋分类的净出口变化（10亿美元）

Net export of Agricultural commodities classified by Factor Intensity

(billion US\$ in 2000 constant price)



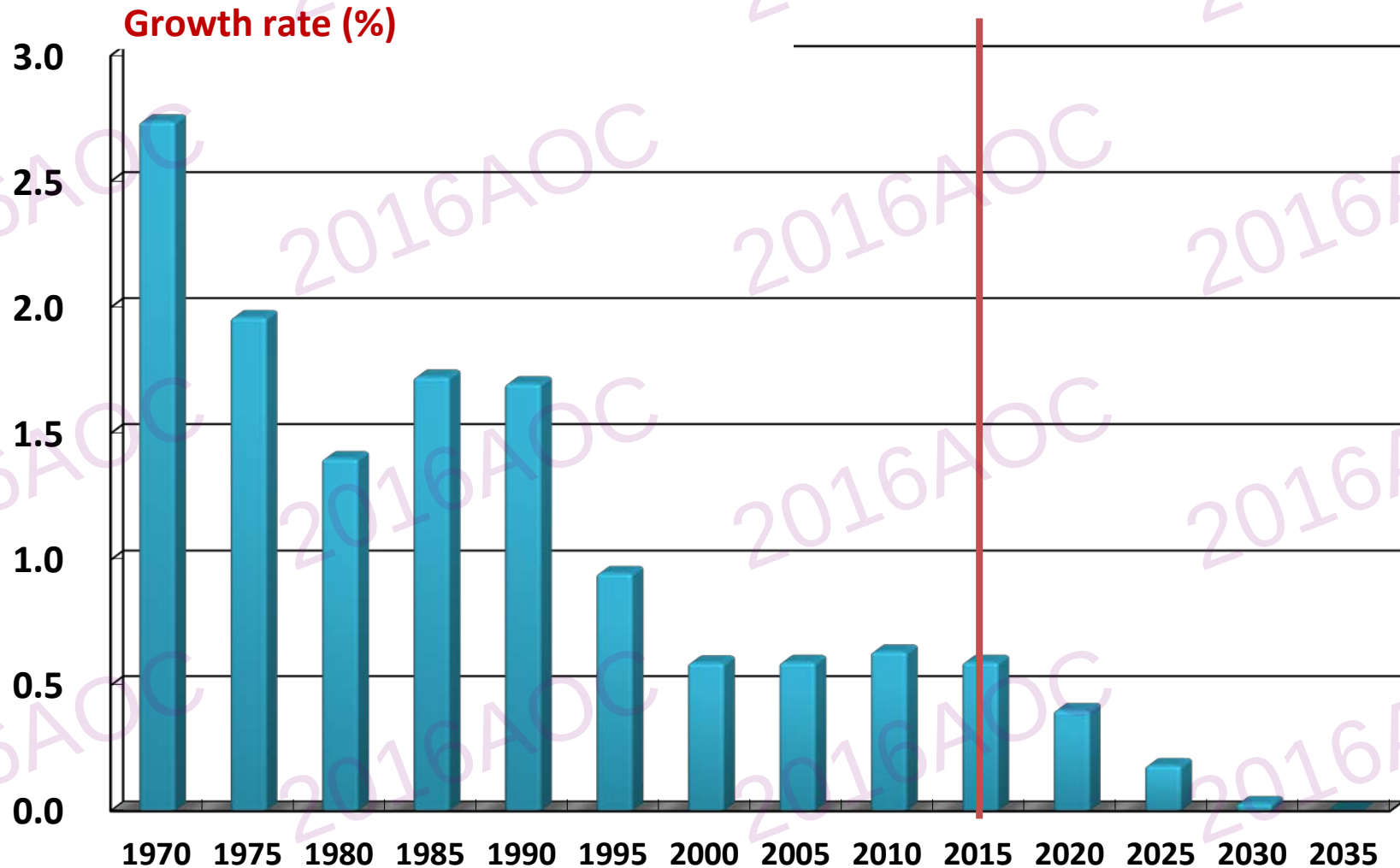
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人口增长速度逐渐放缓

Population growth rate slows down gradually. Overall population is expected to decrease at around 2035.

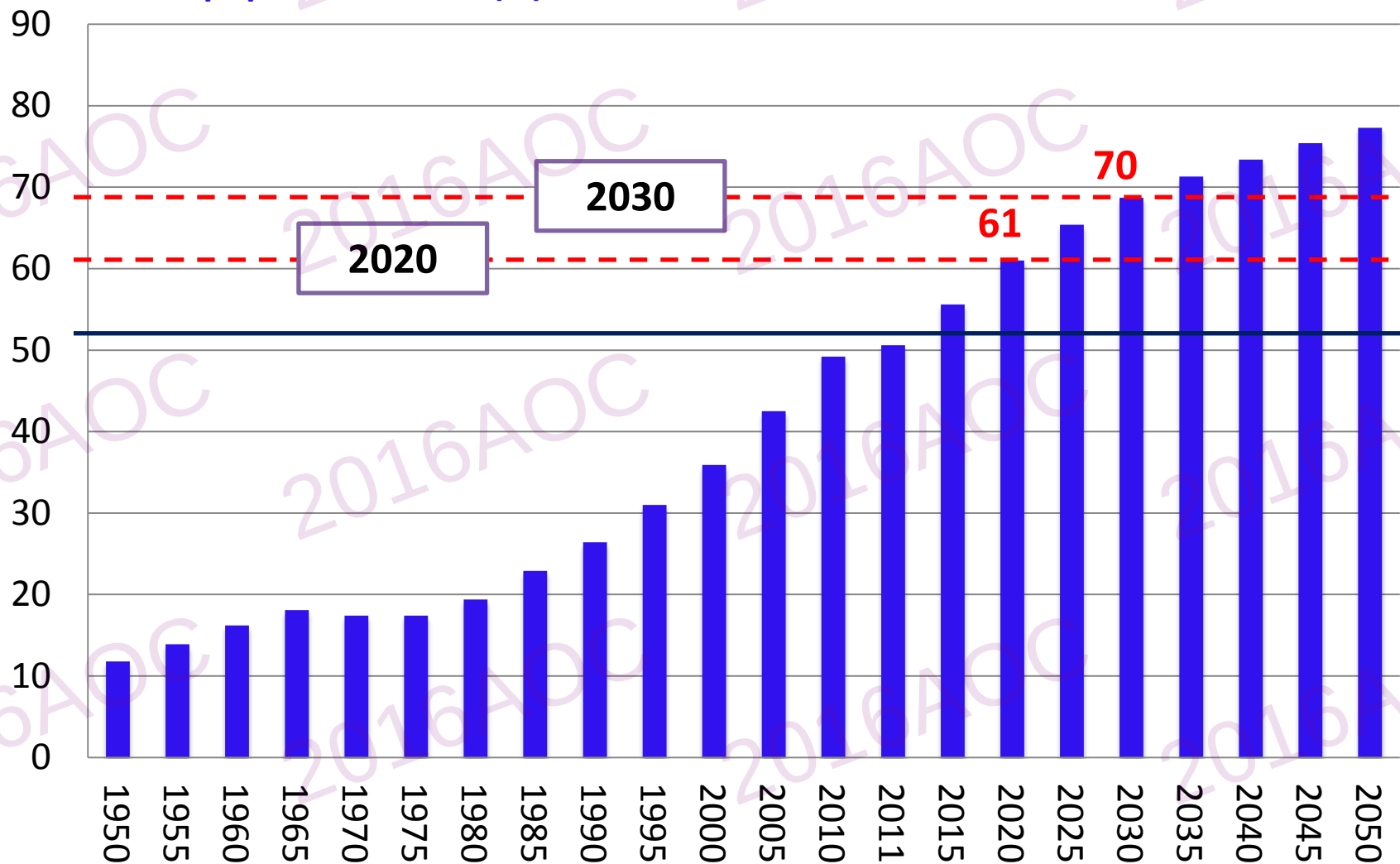


Source: UN, 2013

将依然处于快速城镇化进程中

However, urbanization will accelerate in the next several decades.

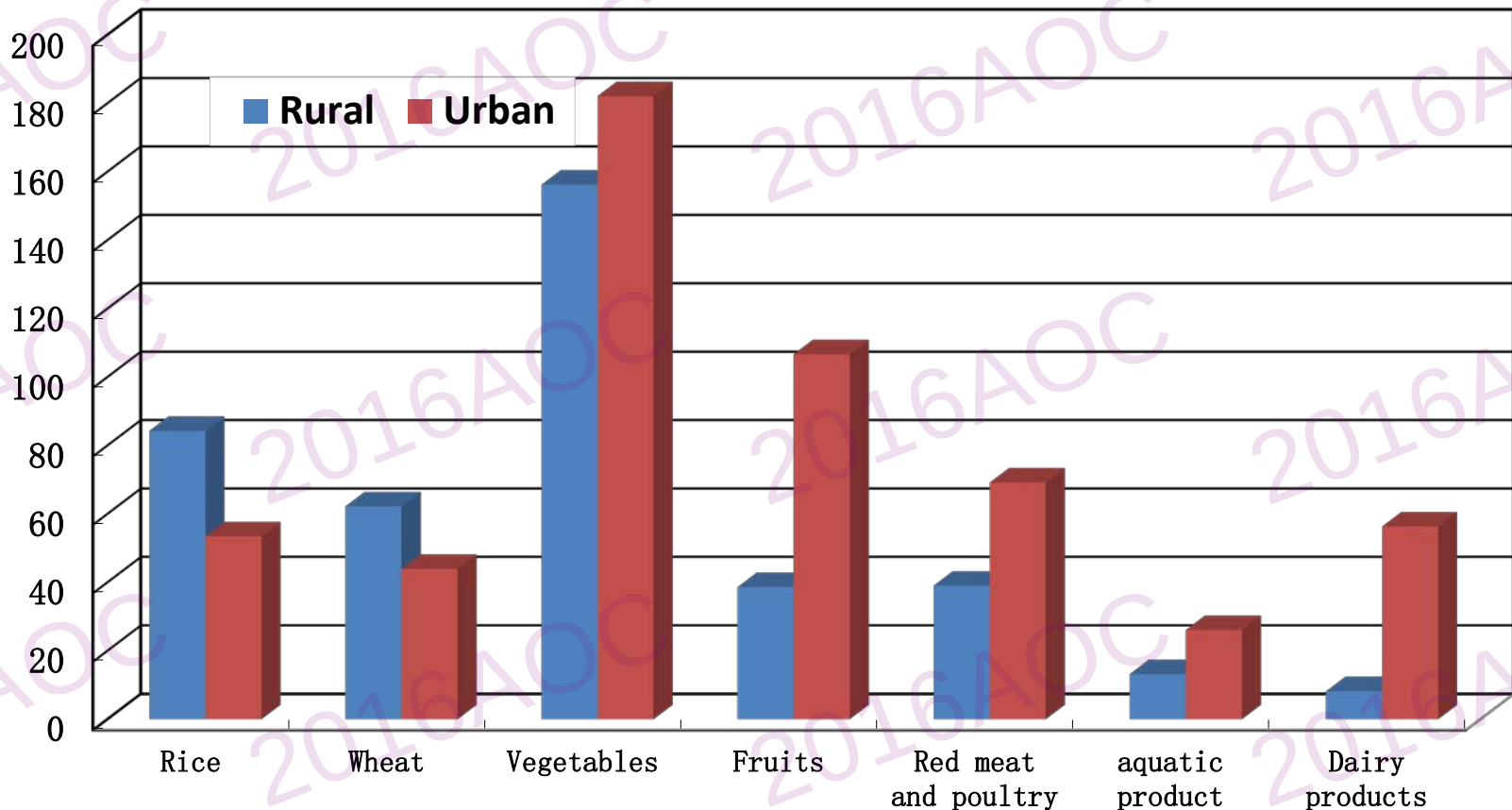
Urban population share (%)



城乡居民食物消费存在显著差异

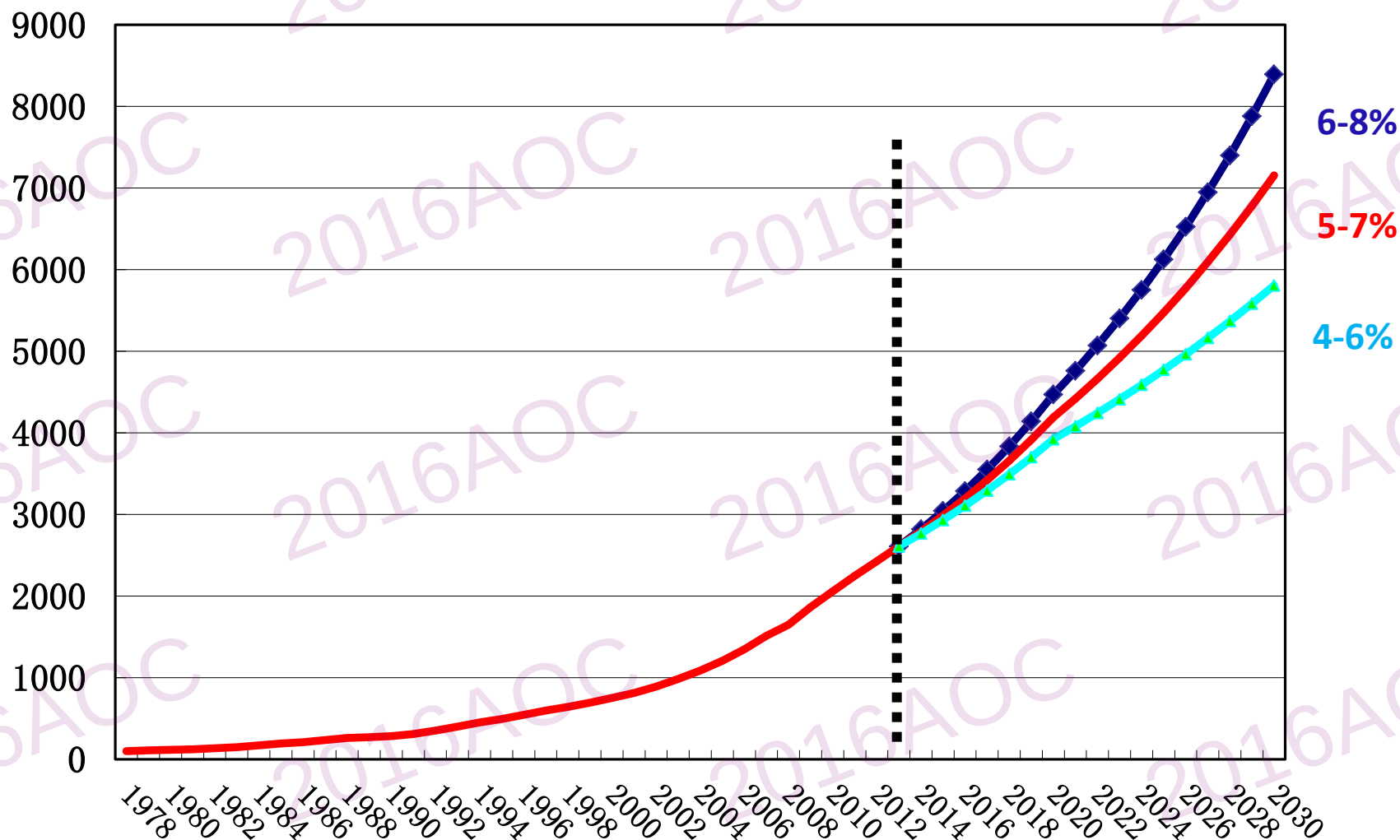
Urban residents consume more vegetable, fruits, meats and dairy products, less grain. Urbanization will be one of the major driving forces to affect the food demand

Per capita food consumption (kg) in 2014



未来中国经济将依然保持中高速增长

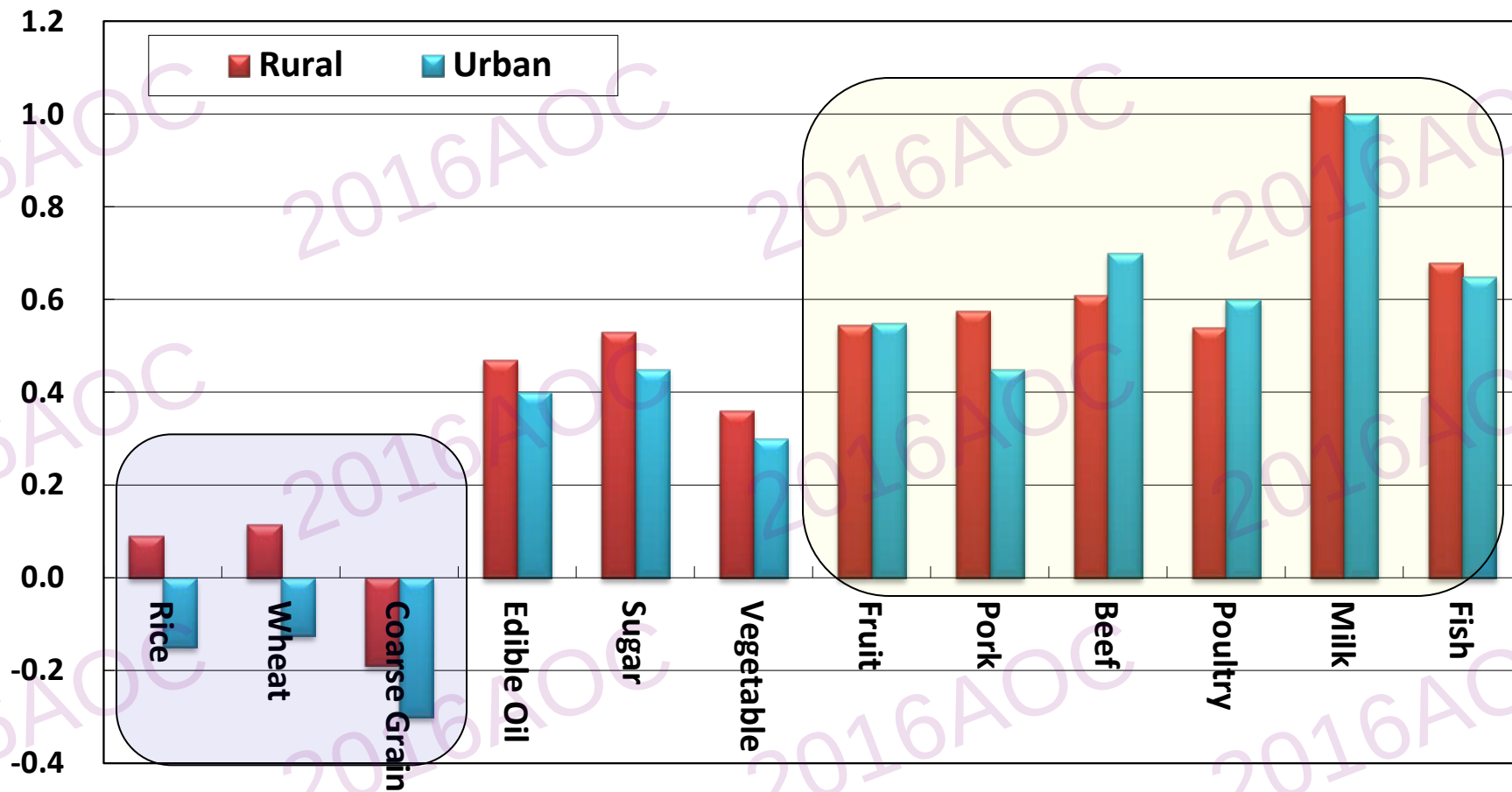
Economy is expected to maintain high growth rate in the coming decade (1978=100)



收入增长对人均食物消费的影响存在显著差异

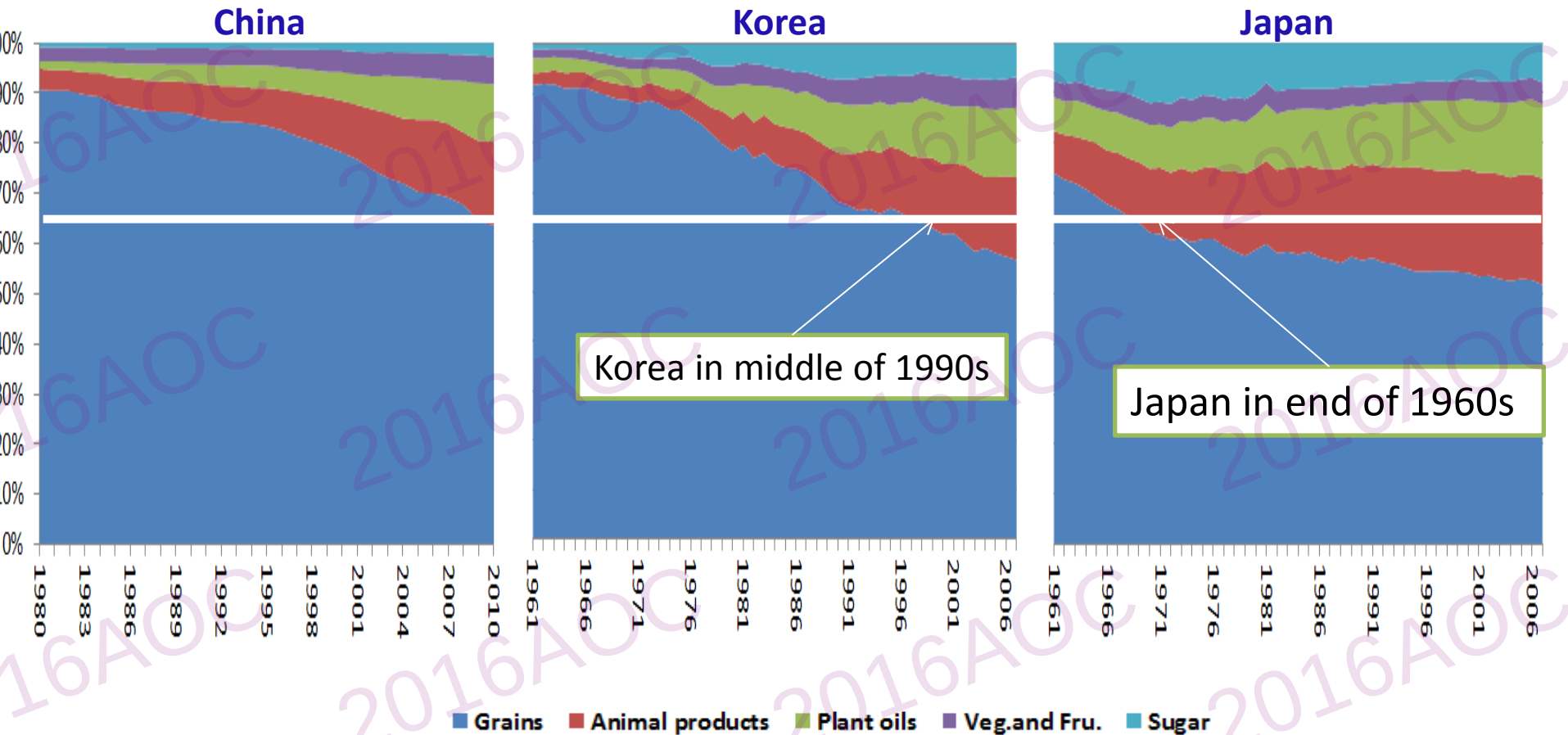
Impacts of rising income on food consumption

Income elasticities on different food of rural and urban residents



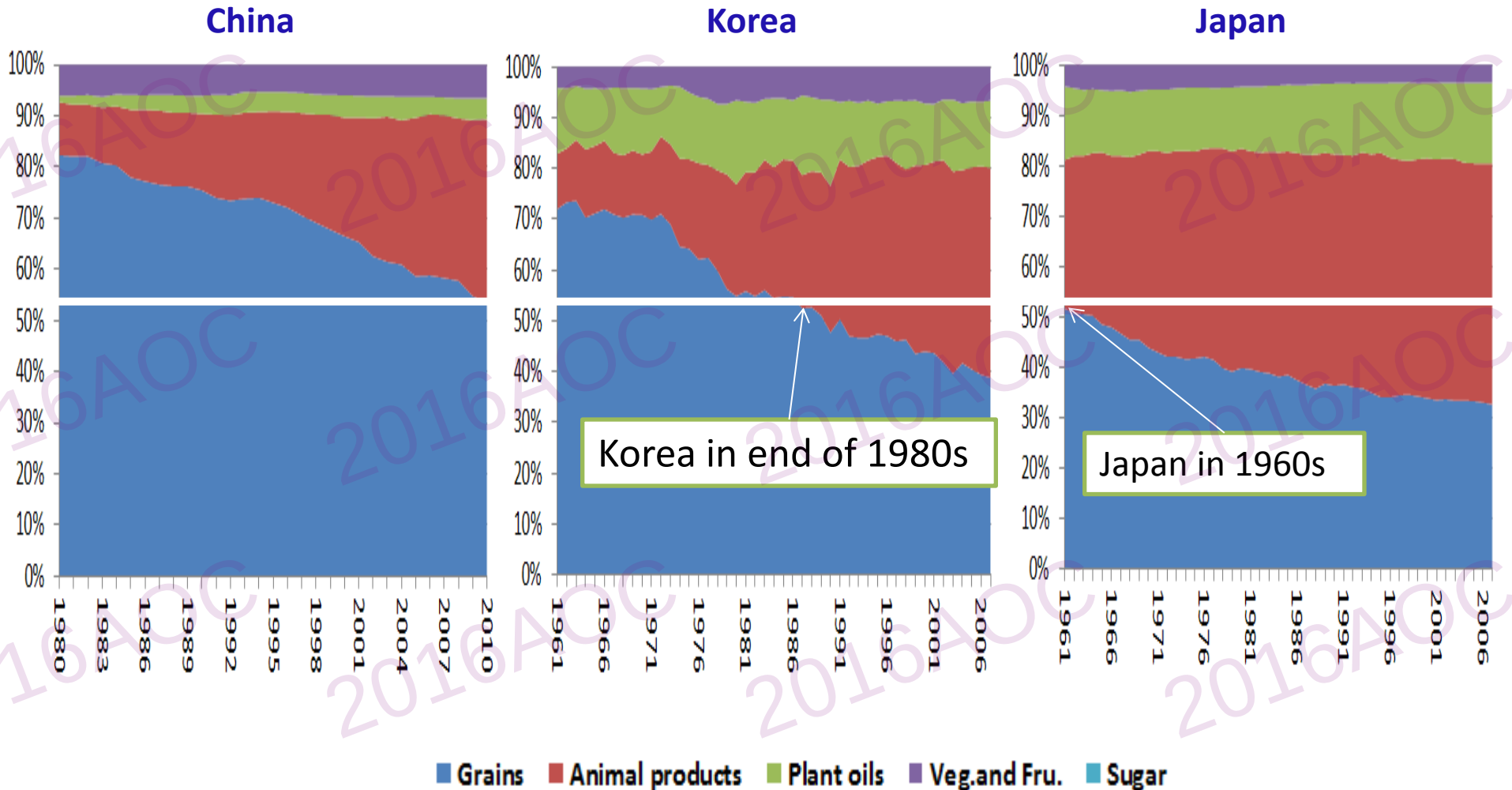
中日韩人均能量摄取食物结构 (%)

Comparison of Calorie intake by food sources between China, Korea and Japan



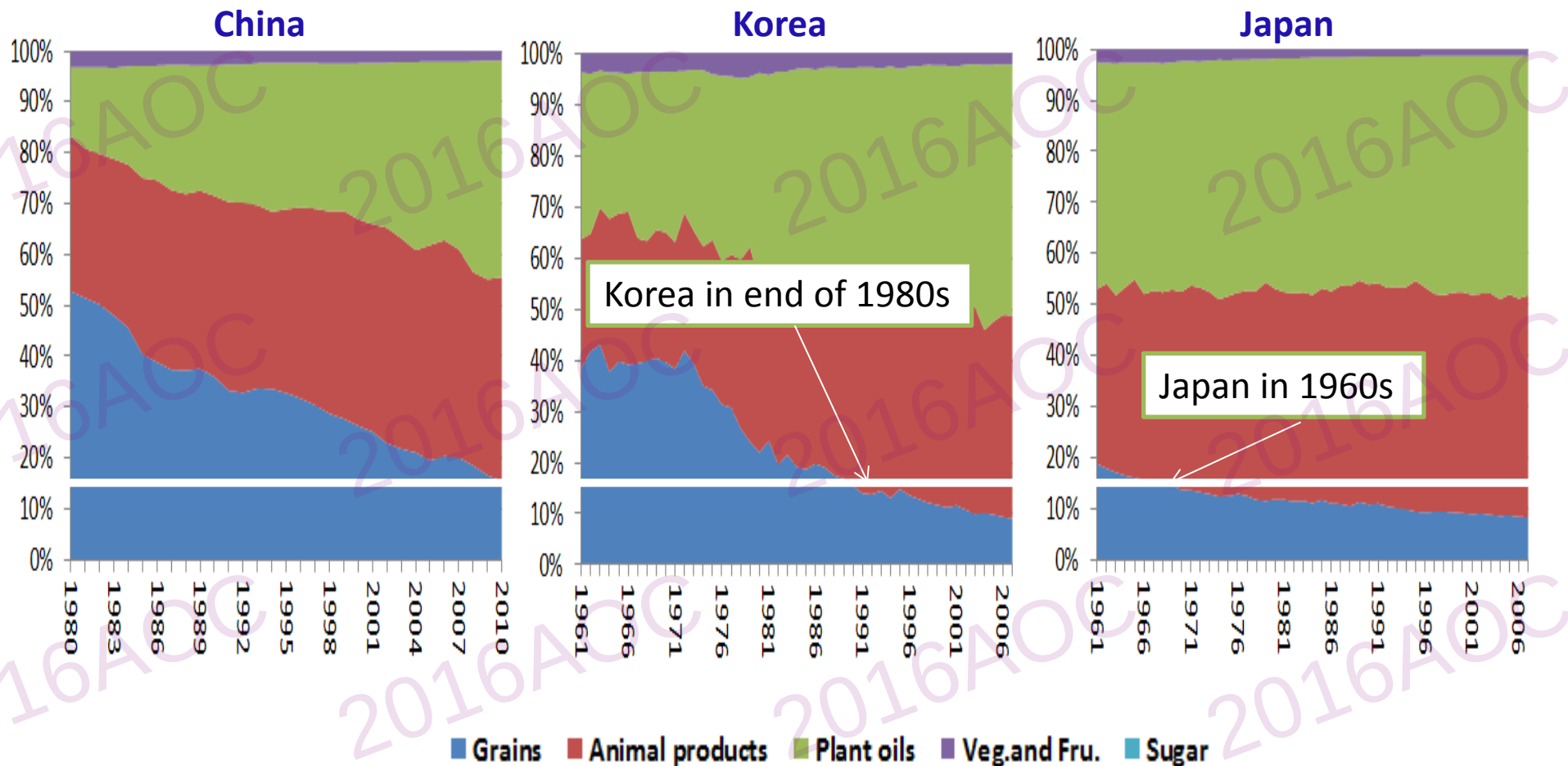
中日韩人均蛋白摄取食物结构 (%)

Comparison of protein intake by food sources between China, Korea and Japan

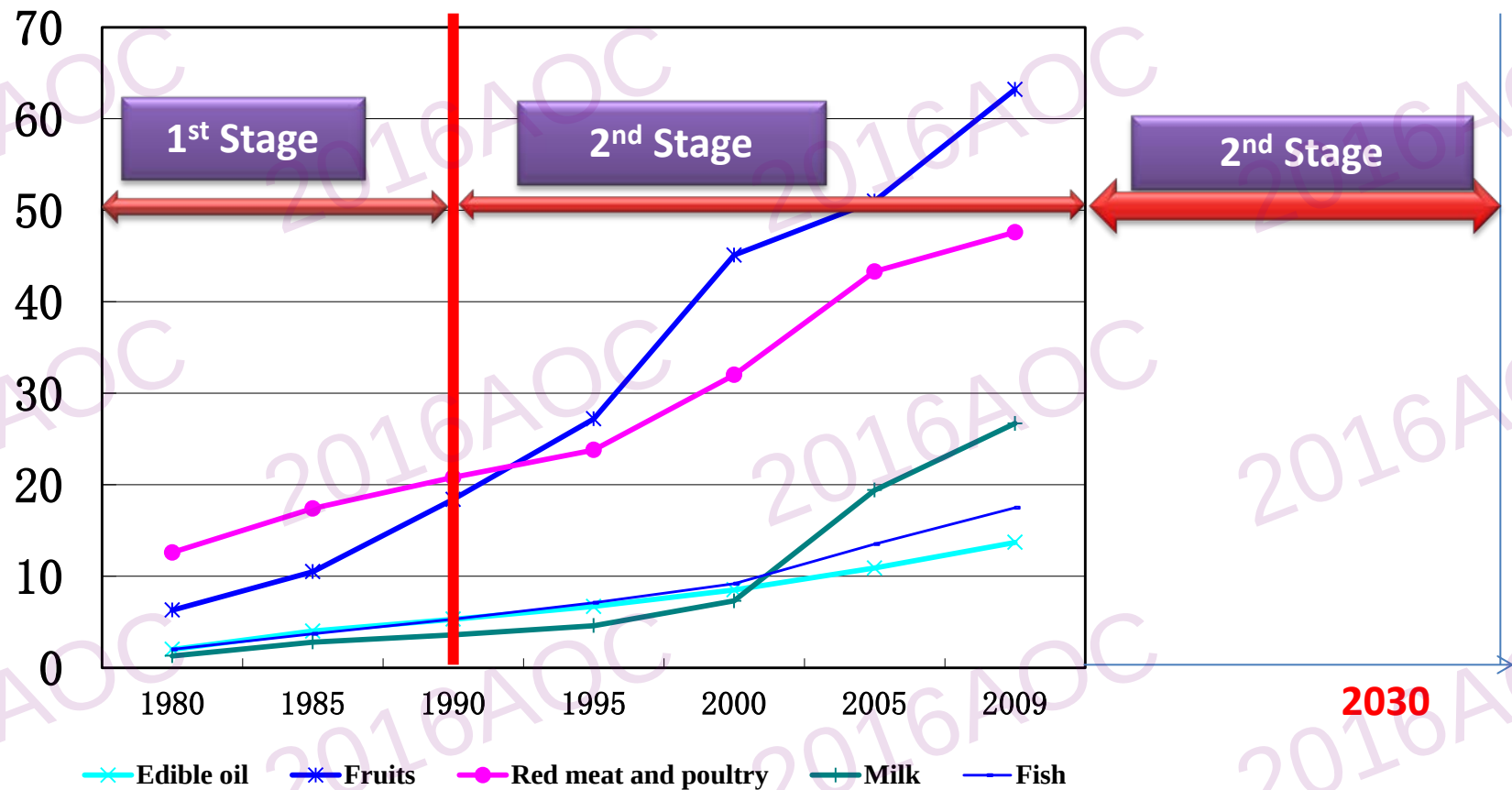


中日韩人均脂肪摄取食物结构 (%)

Comparison of fat intake by food sources between China, Korea and Japan

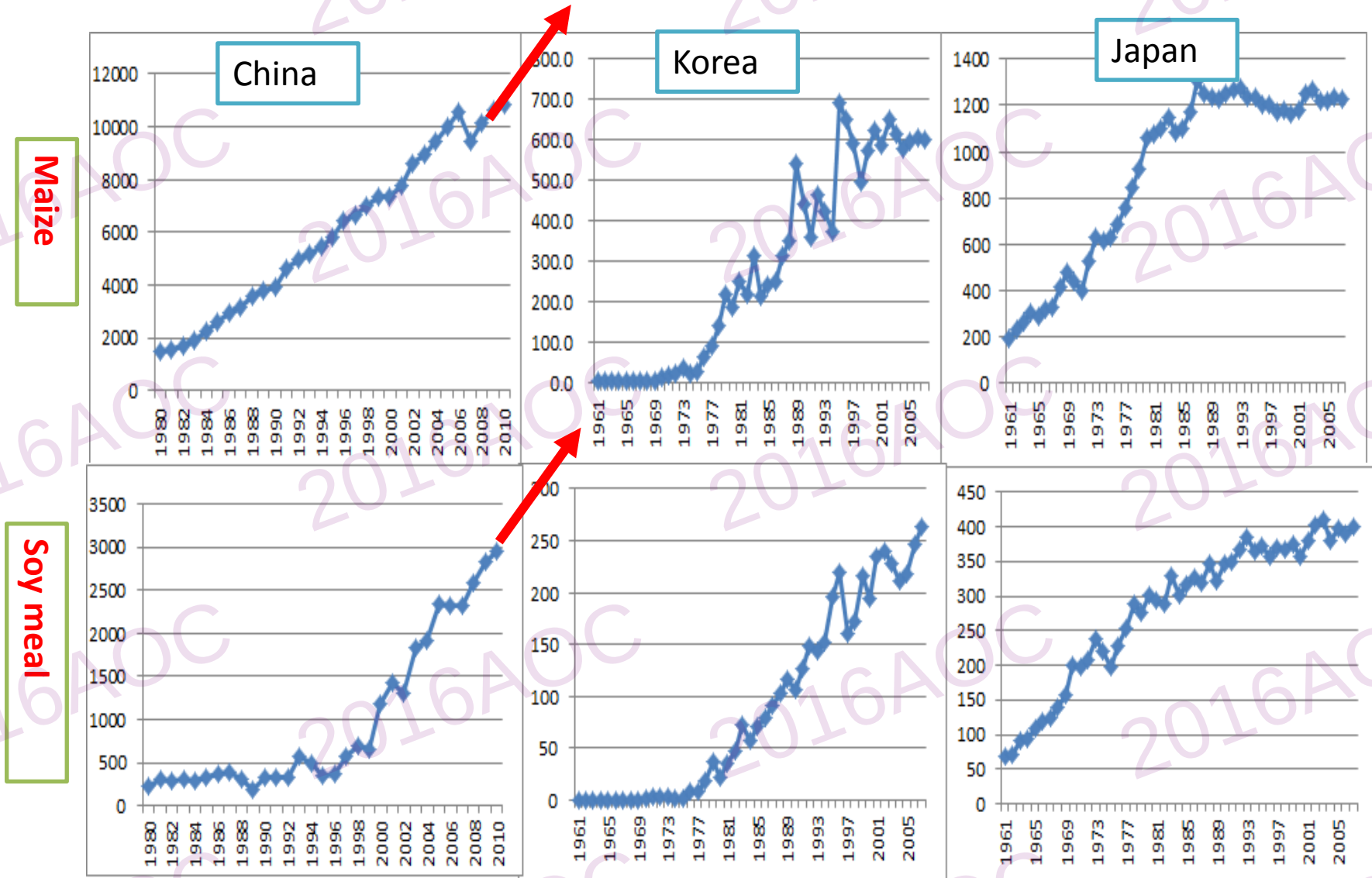


中国在未来15-20年将依然处于食物消费结构快速转型期
China will continue to experience fast structural change of food consumption in next 15-20 years.



中日韩饲料粮需求变化（千吨）

Based on above analysis, all evidences indicate that China's meat demand will increase remarkably in next 2 decades....**So, More Feed Be Needed!**



日本和韩国与中国在2010-2020年间购买力平价（PPP）相同时期 人均食品消费变化（%）

Change of food consumption by the same period of income (PPP)

年份	日本			韩国			日韩平均 增长率(%)
	1961	1969	1961 - 1969 增长率(%)	1978	1989	1978 - 1989 增长率(%)	
大米	112.8	92.9	-17.6	143.8	107.2	-25.5	-21.5
小麦	33.4	41.1	23.1	40.8	54.2	32.8	27.9
全部谷物	157.7	146.4	-7.2	221.9	186.7	-15.863	-11.5
蔬菜	97.4	131.4	34.9	216.8	193.8	-10.6	12.1
水果	29.7	50.5	70.0	21.3	54.2	154.5	112.2
猪肉	2.2	6.0	172.7	4.9	11.1	126.5	149.6
牛肉	1.6	2.5	56.3	3.2	4.9	53.1	54.7
禽肉	1.4	4.0	185.7	2.3	5.7	147.8	166.8
畜禽肉	7.6	15.8	107.9	11.3	22.1	95.6	101.7
牛奶	18.4	32.6	77.2	2.8	14.9	432.1	254.7
鸡蛋	9.1	15.4	69.2	5.5	8.2	49.1	59.2
水产品	49.6	61.6	24.2	37.9	48.0	26.6	25.4

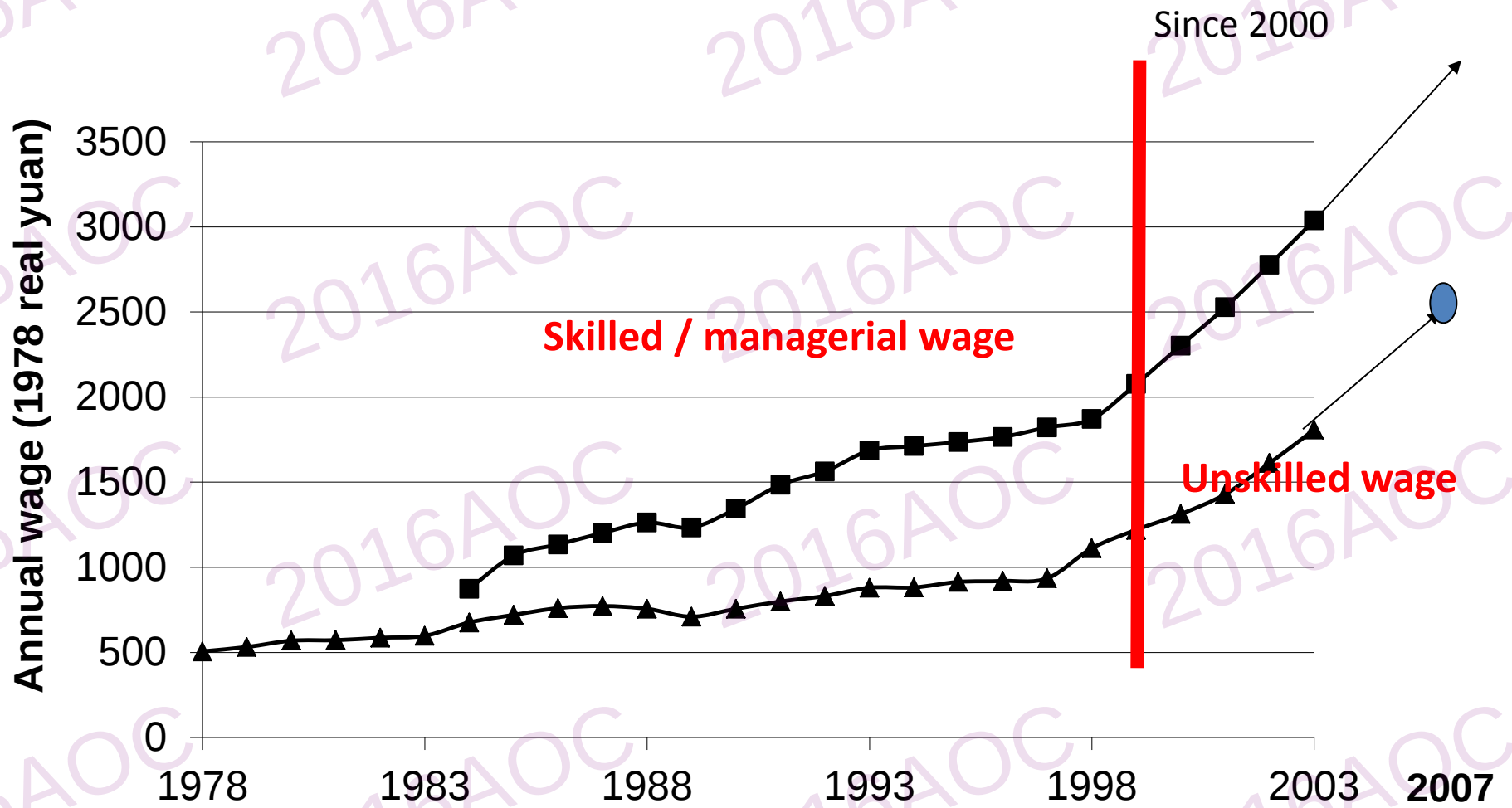
数据来源：杨军等（2013）《中国软科学》

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在2000年后非熟练劳动力工资快速增长

Wage of unskilled labor rose quickly after 2000

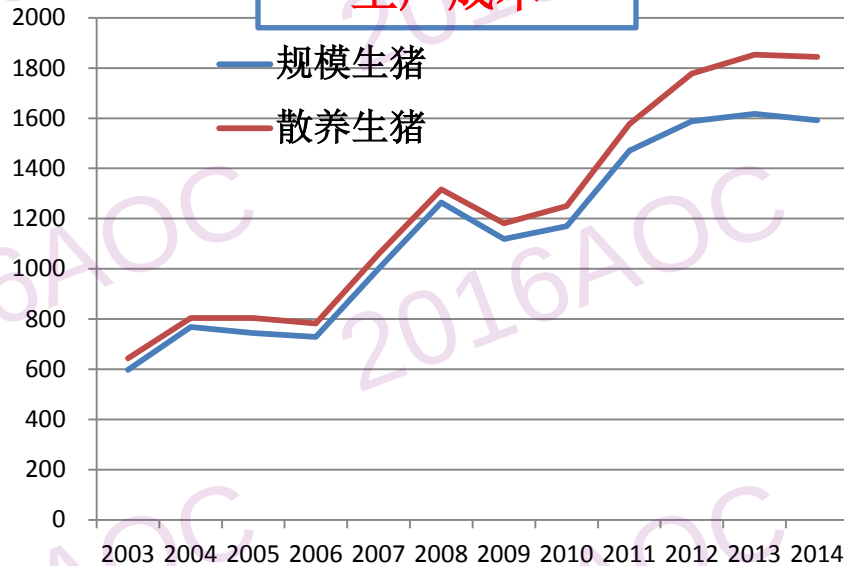


Source: CCAP's surveys

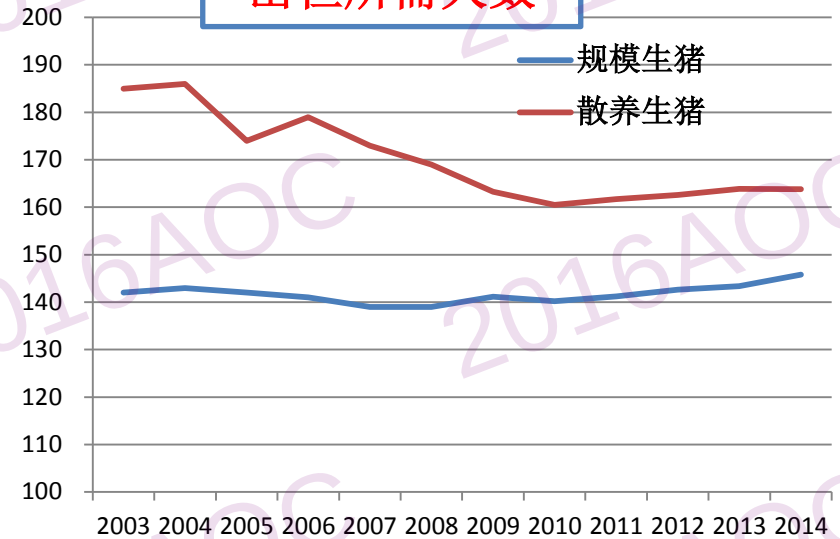
每头猪生产成本、天数和净利润

Prod. cost, days for mature and net profits of one swine

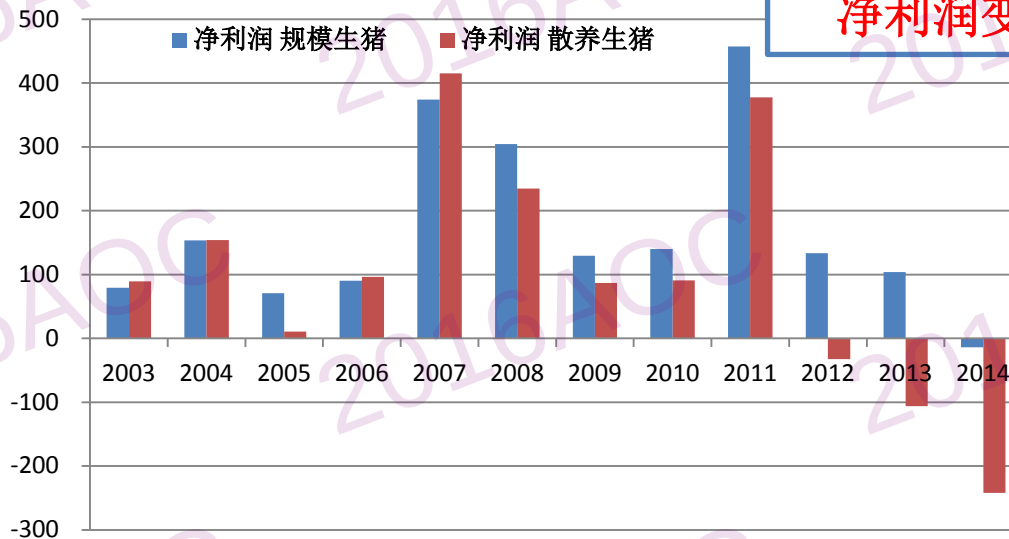
生产成本



出栏所需天数



净利润变化



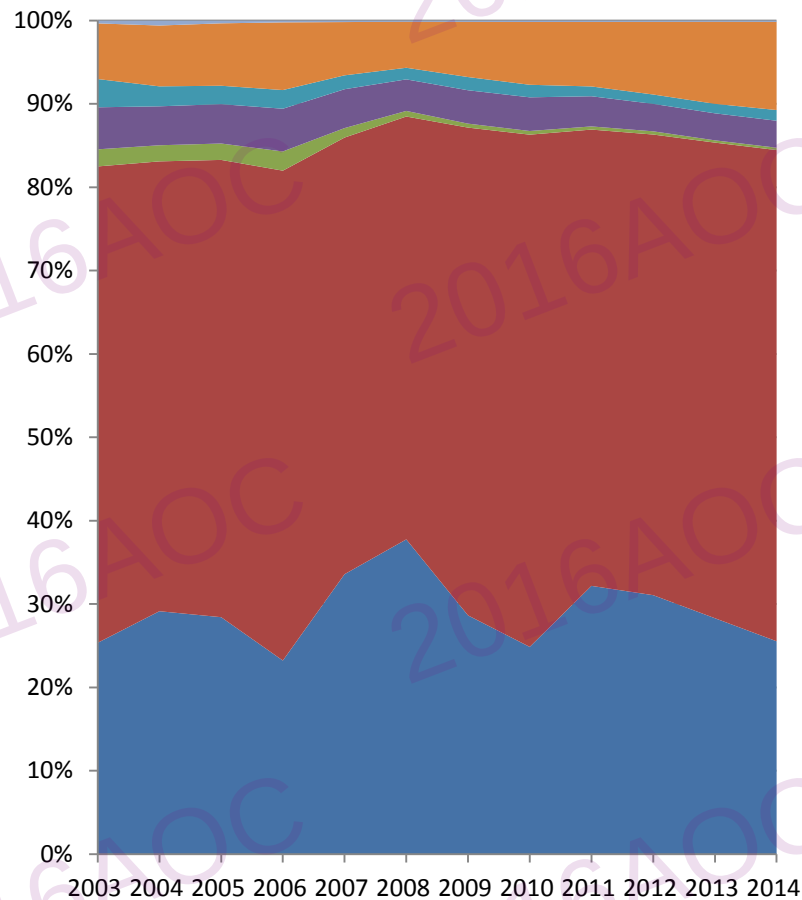
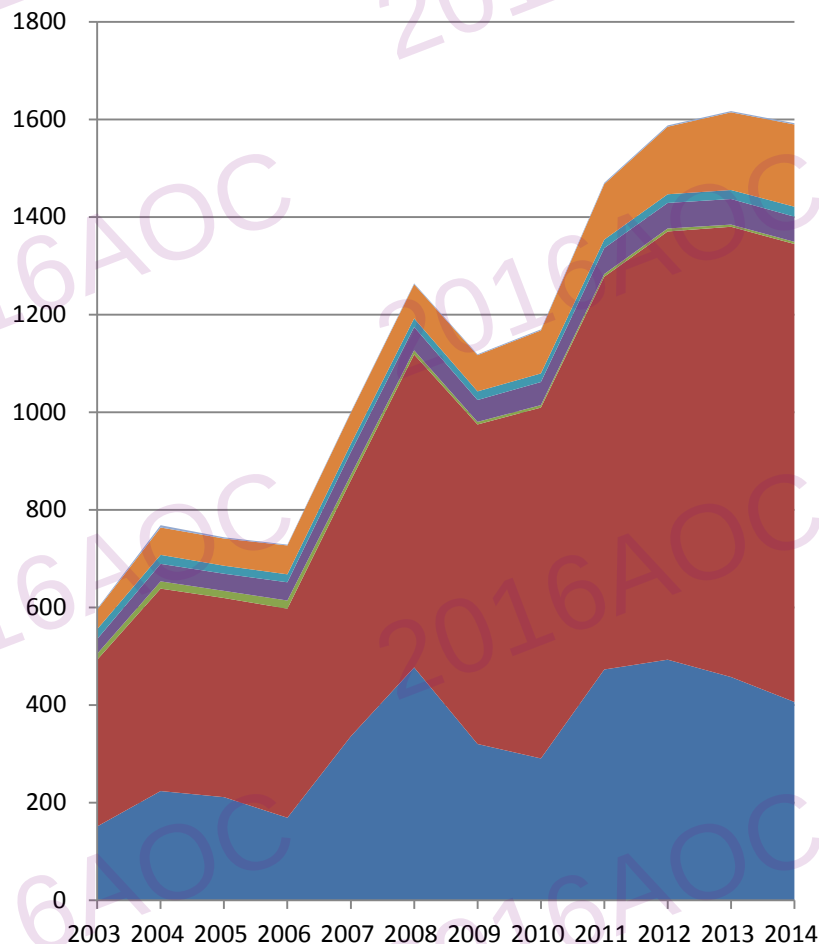
规模化养殖的生产成本、出栏所需天数都显著低于散养生猪。

规模化养殖的利润显著高于散养生猪。

→ 这将促进养殖方式的重大变革

规模养殖每头猪生产成本分解（元）

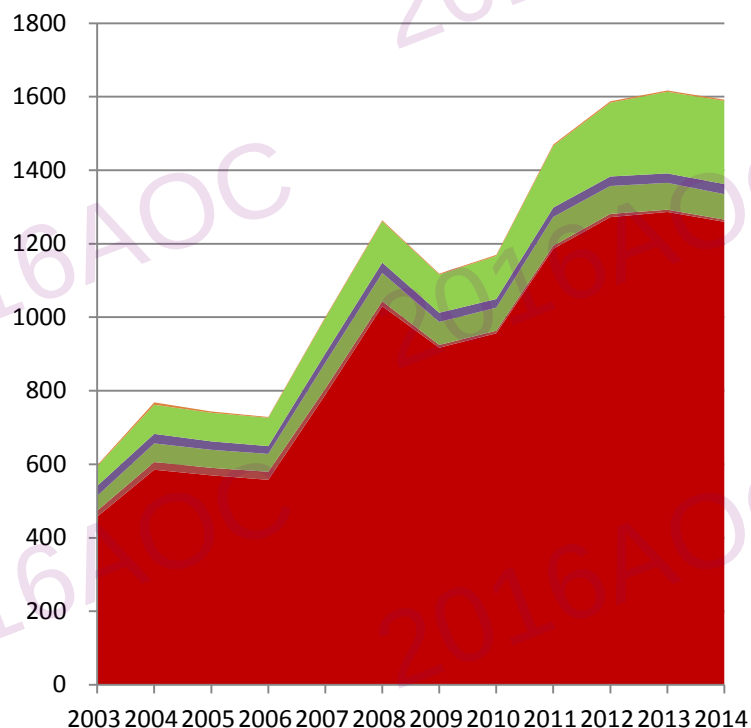
Decomposition of production cost of per swine (yuan)



2014年，仔猪成本占25.5%，精饲料占58.9%，人工成本占10.6%，其他为5%

规模养殖每头猪生产成本（仔猪成本进一步分解，元）

Further decomposition of production cost of per swine



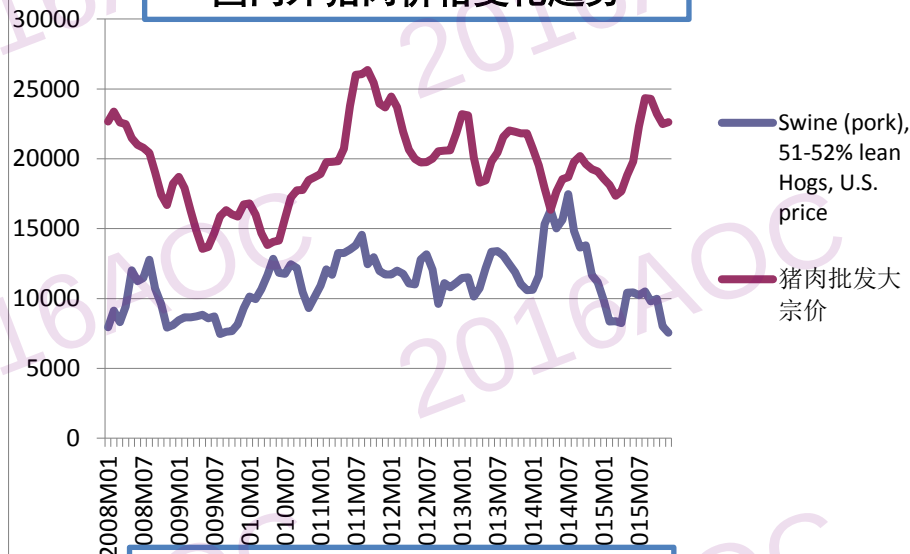
将仔猪成本分解后，在2014年：
精饲料占**79.1%**，人工成本占**14.2%**，其他为**6.7%**。

养殖业的主要成本依然取决于饲料成本和劳动力成本两项。

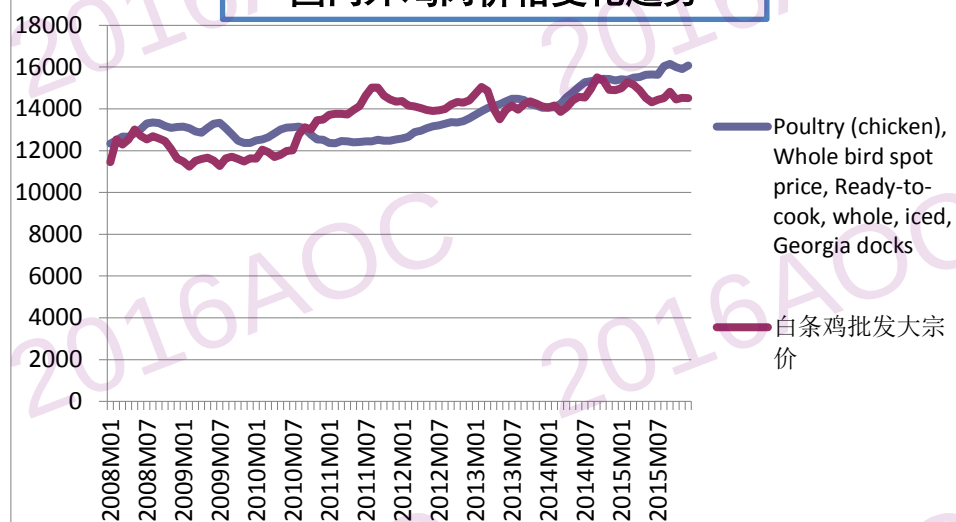
国内主要畜产品价格比较（元/吨）

Comparison of domestic and international price (yuan/ton)

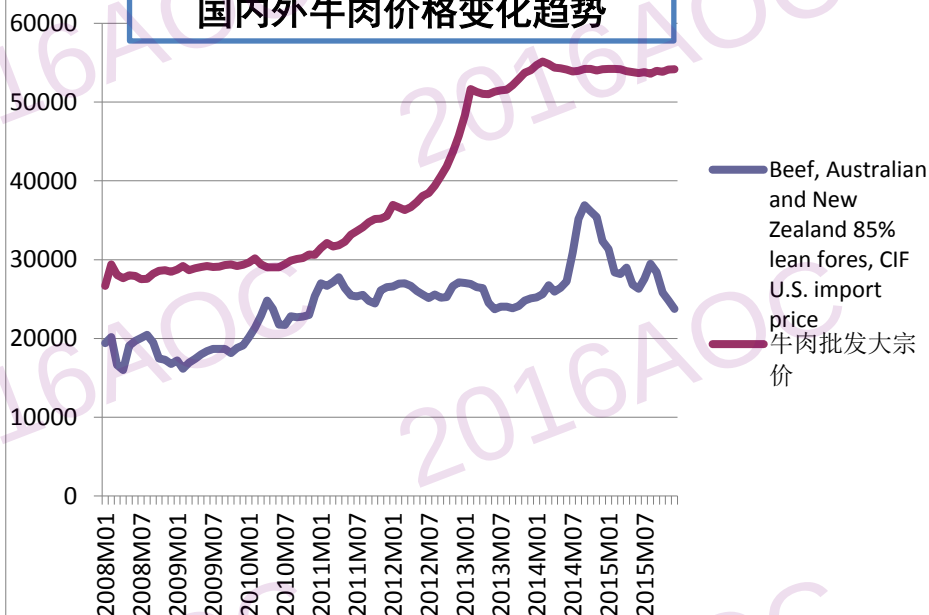
国内外猪肉价格变化趋势



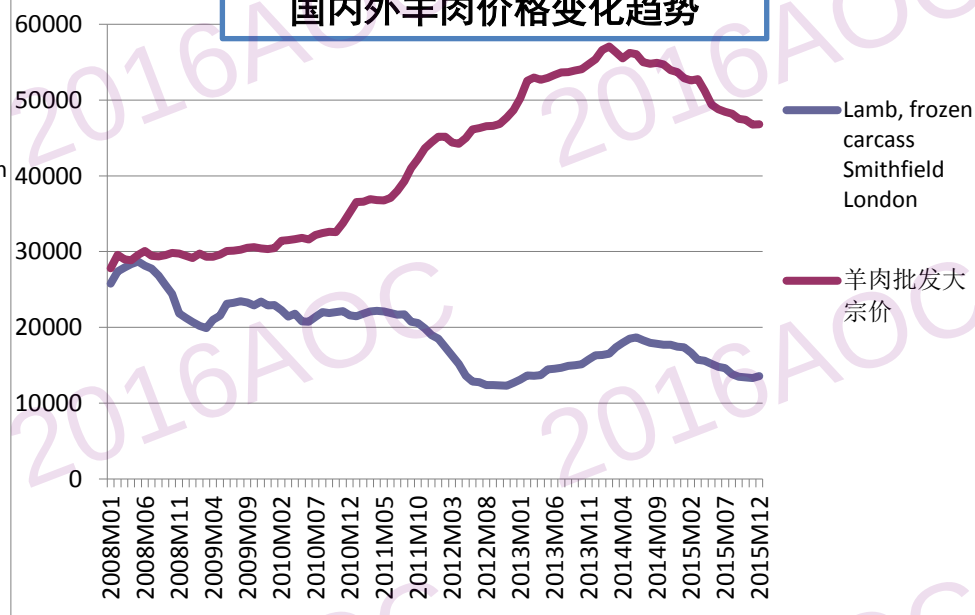
国内外鸡肉价格变化趋势



国内外牛肉价格变化趋势

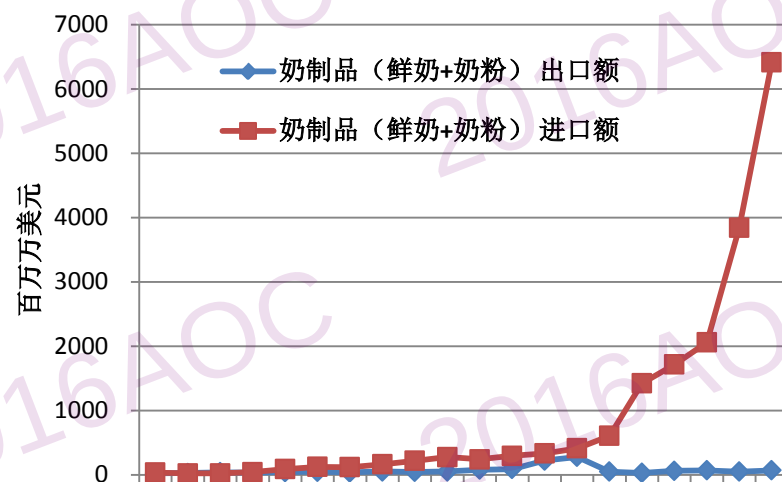
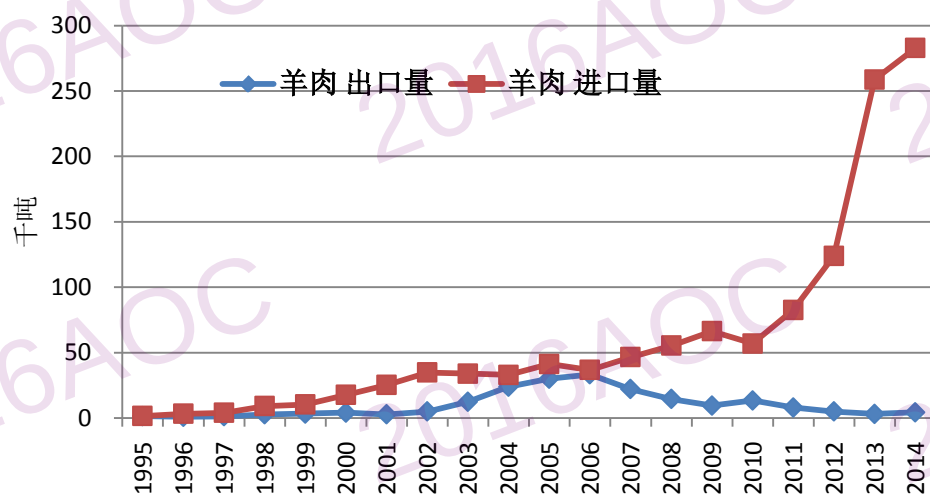
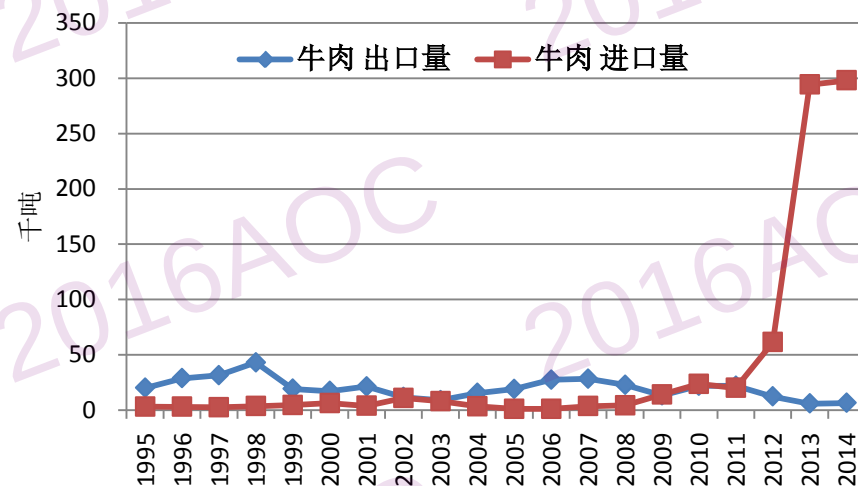
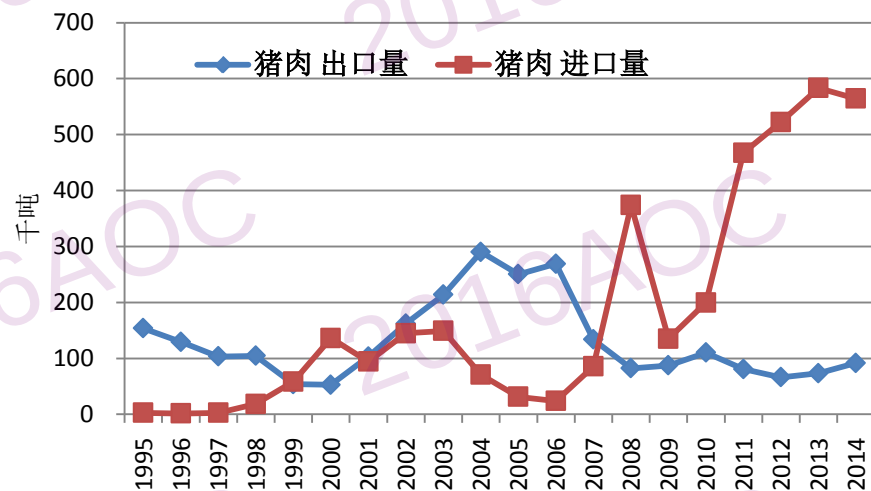


国内外羊肉价格变化趋势



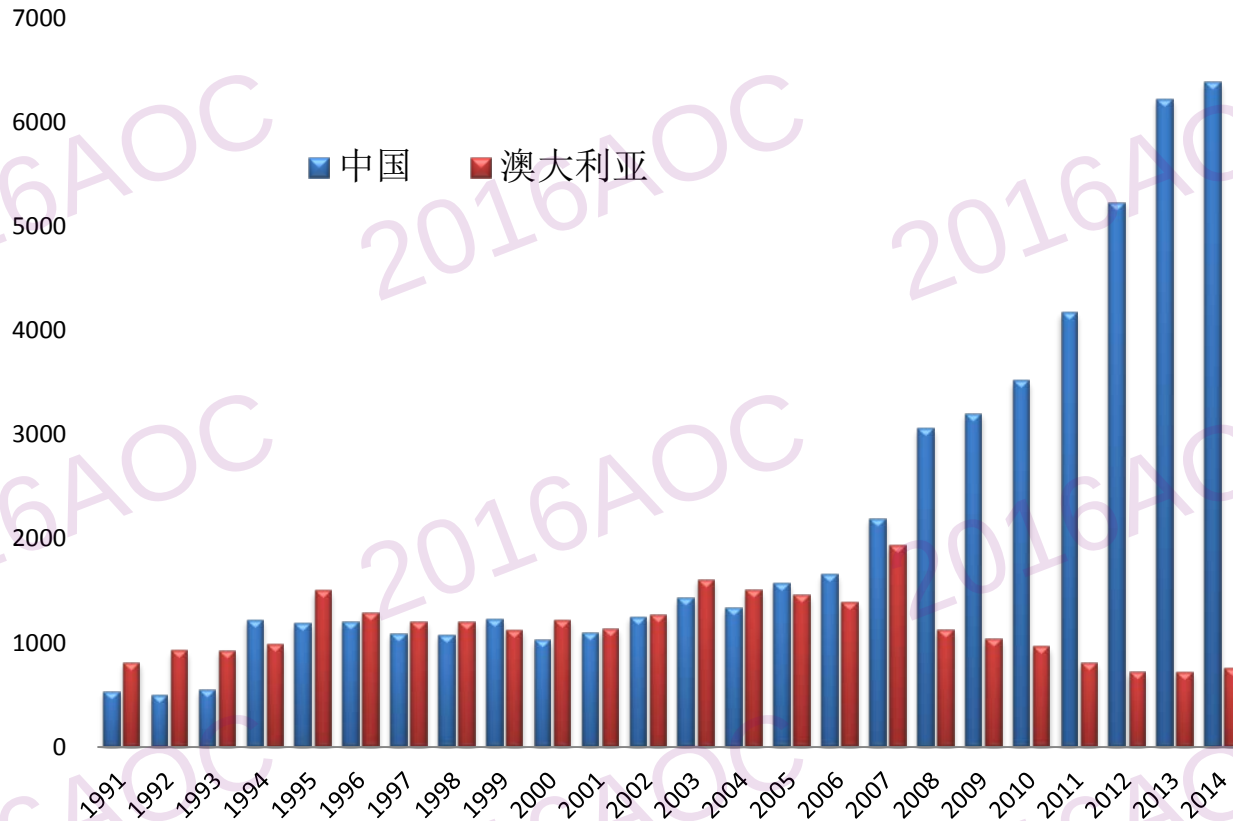
畜产品进出口变化

Change of import and export of livestock products



中澳两国牛肉生产成本比较（元/100公斤）

Comp. of production cost of beef in China and Australia

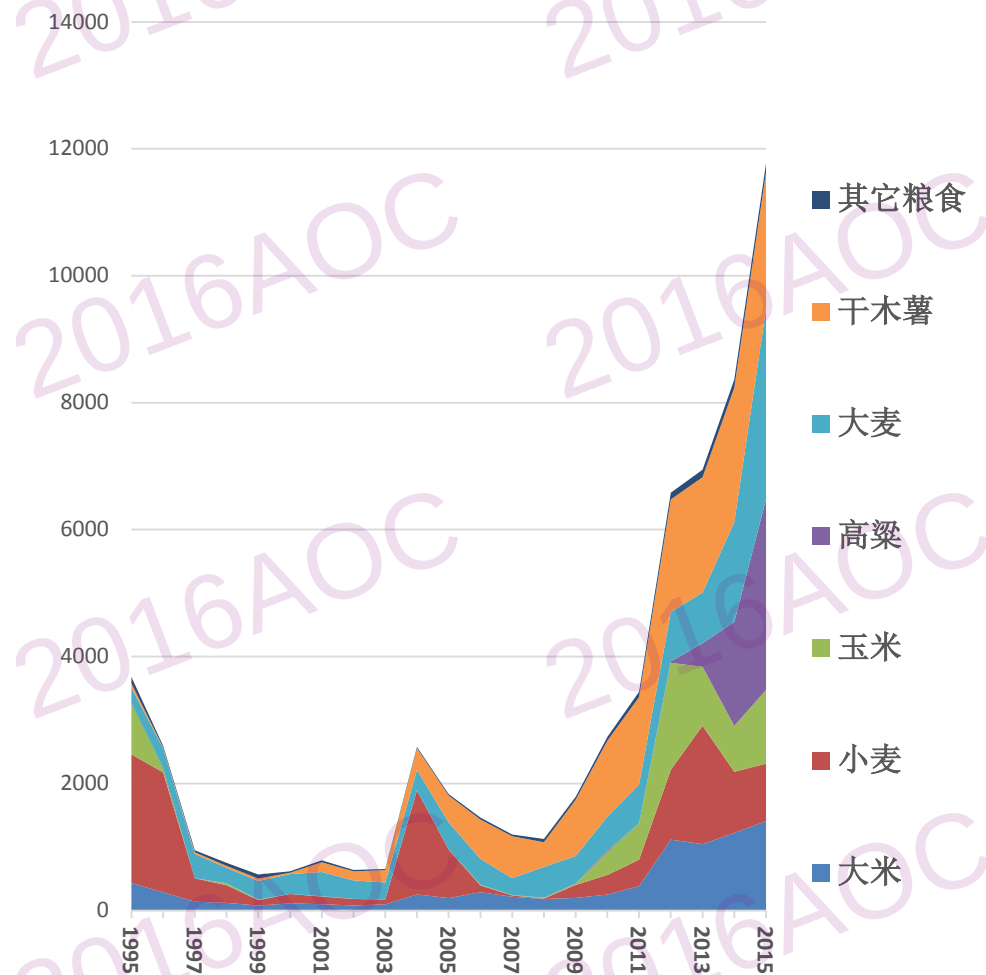


从生产成本上讲…
我国牛肉每公斤成本接近澳大利亚的10倍！

数据来源：《全国农产品成本收益汇编》、FAO数据库和AAGIS

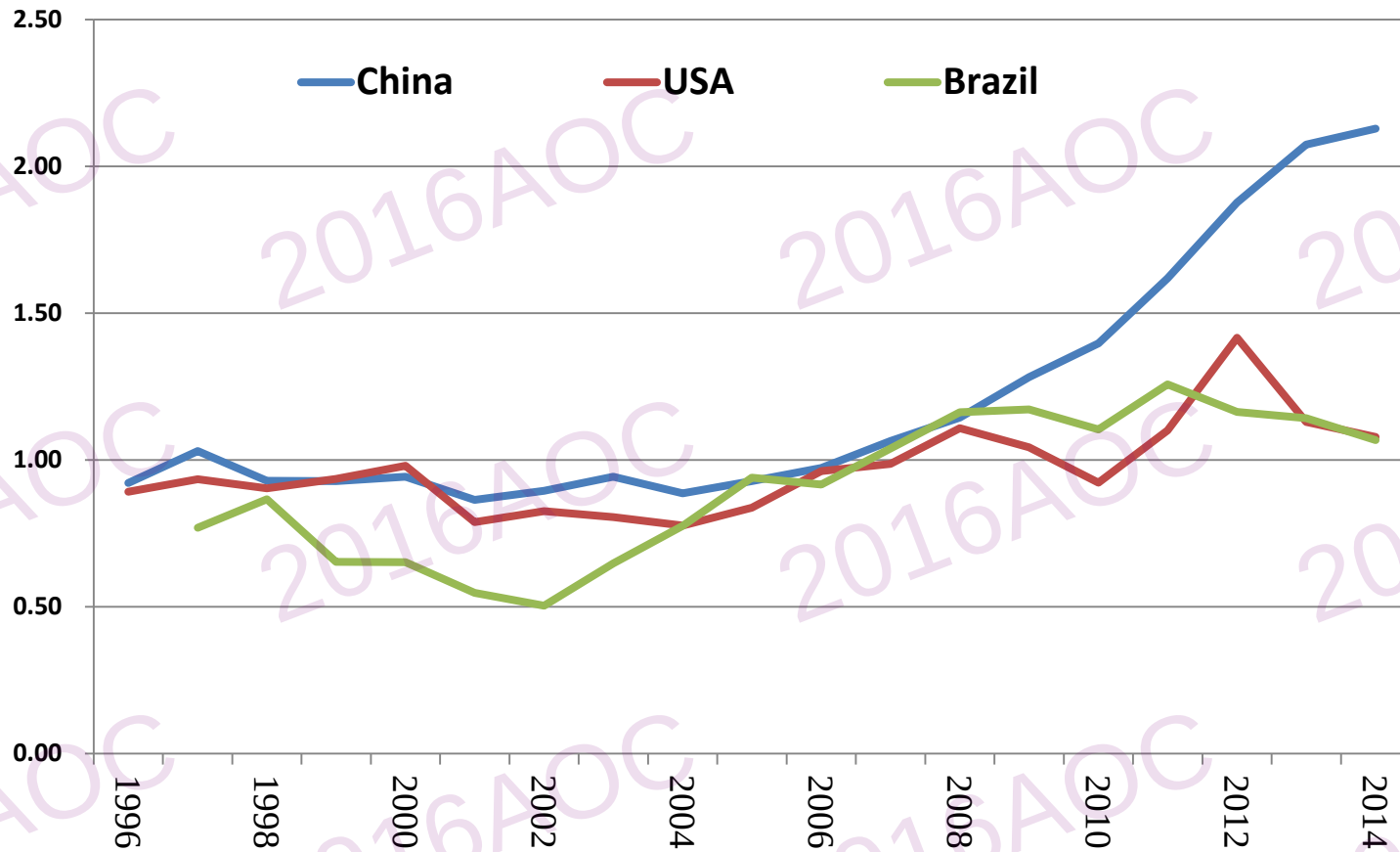
我国粮食进口及其结构（百万美元）

Change of import of grains in China (million US dollar)



中国、美国和巴西玉米生产成本比较（元/公斤）

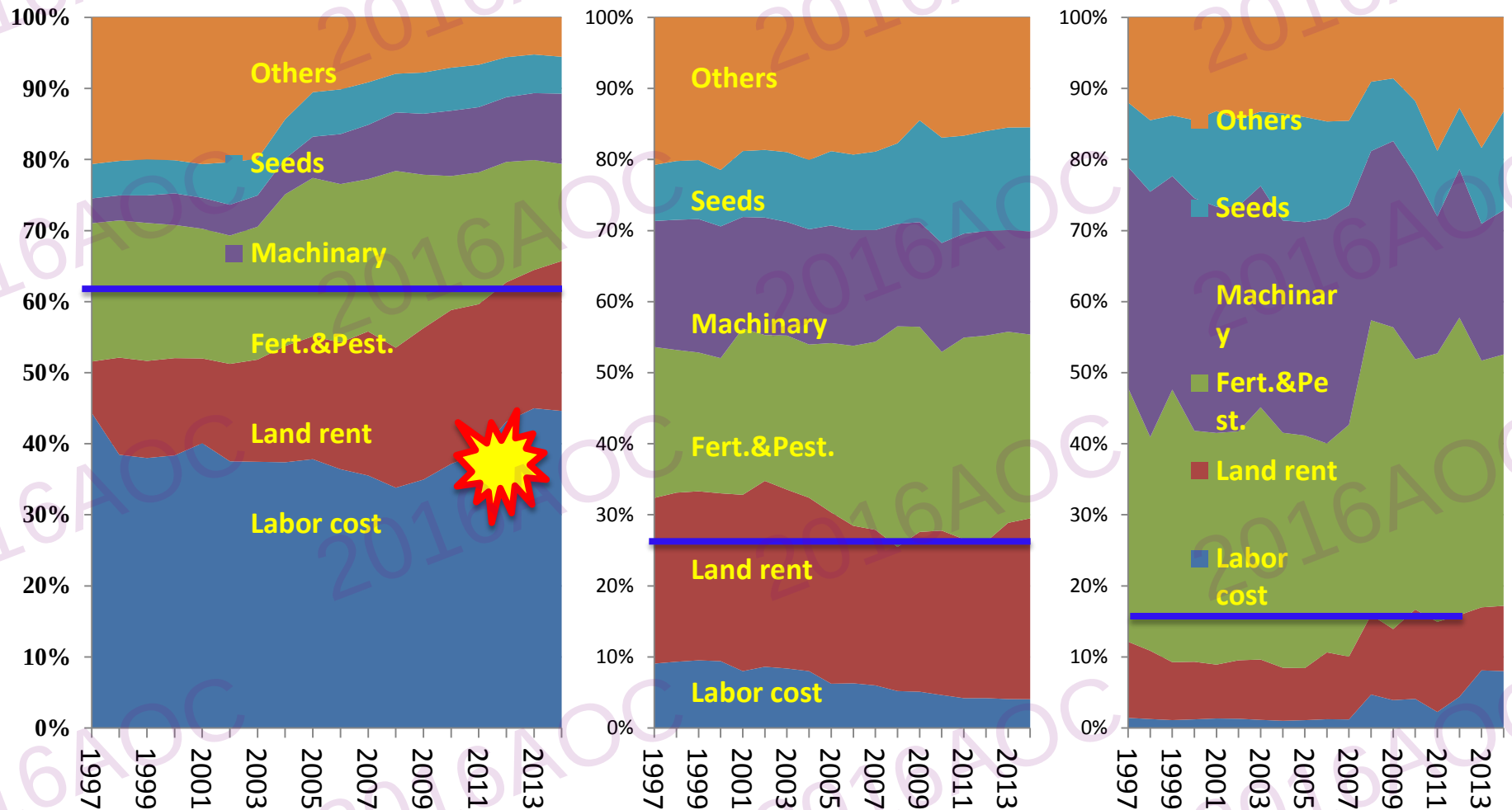
Comparison of production cost (yuan/per kg) among China, USA and Brazil



Recently, the cost of per unit increased quickly, much higher than USA and Brazil. The cost in USA and Brazil is about **50-60%** lower than that of China

中国、美国和巴西玉米生产成本构成比较 (%)

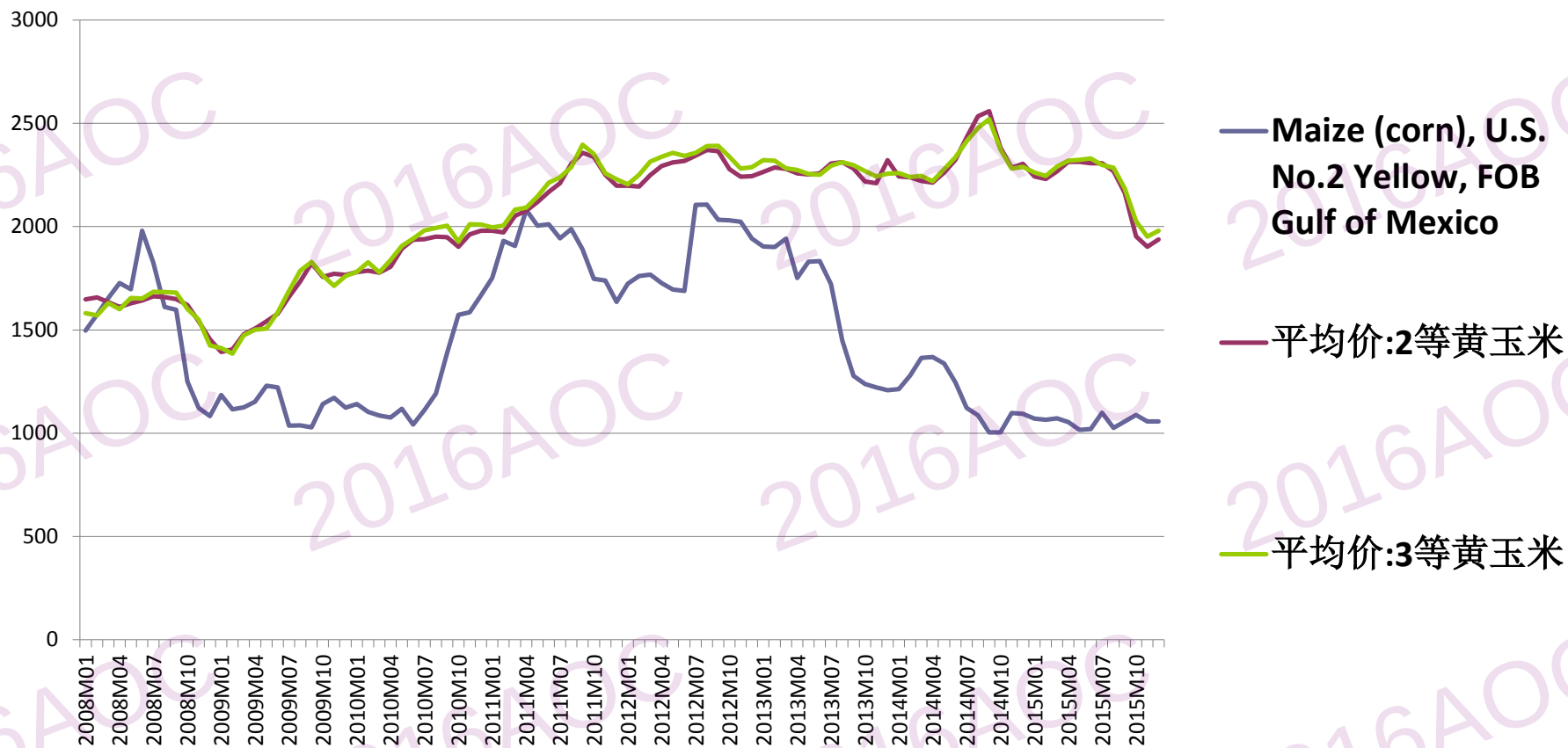
Comparison of inputs of maize production between China, USA and Brazil



Cost of labor and land keeps rising in China and accounts for **66%** in 2014. On the contrary, the cost share declines in USA and maintain almost constant in Brazil.

国内外玉米价格变化（元/吨）

Enlarged gap between domestic and global maize price
(Yuan/ton)



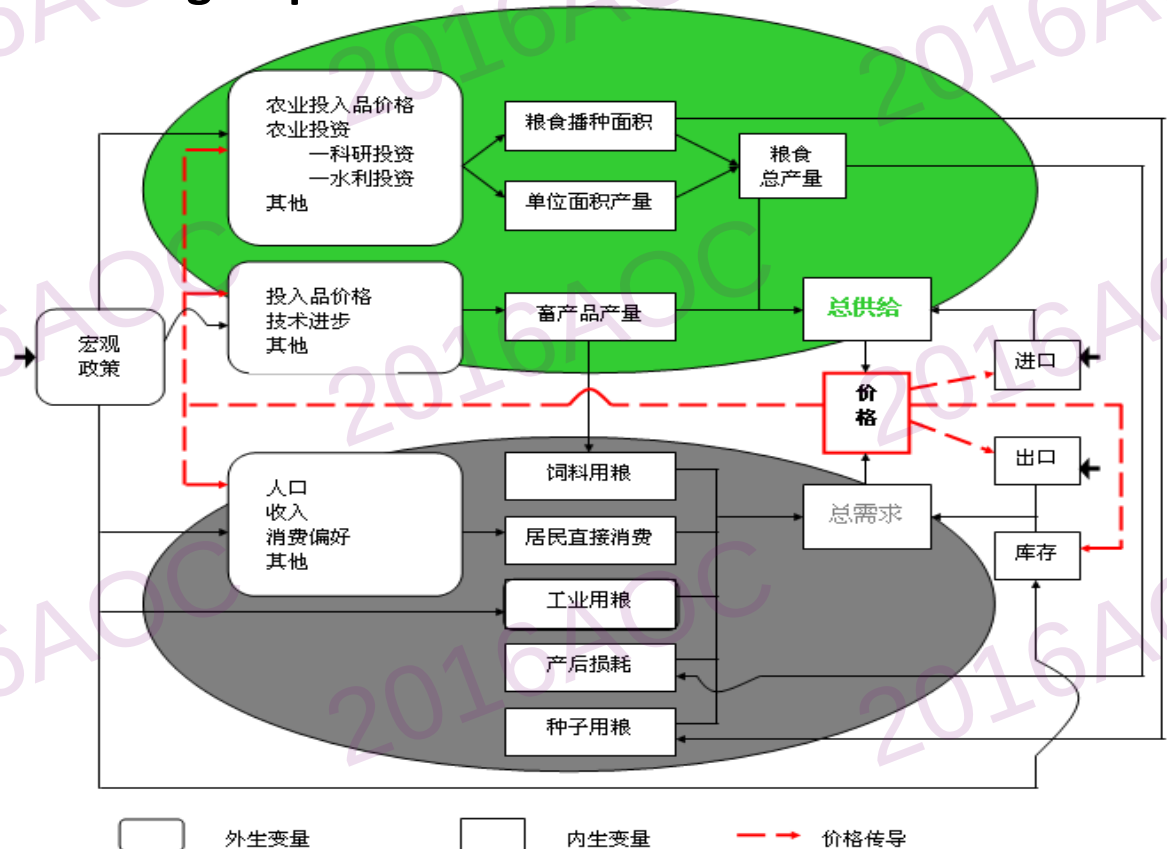
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分析方法和方案设计

Methodology and Scenarios

- **China's Agricultural Policy Simulation and Projection Model (CAPSiM)**
 - Partial equilibrium model
 - Commodities: 22 agricultural products
 - 31 provinces and 11 farmer groups



基准方案

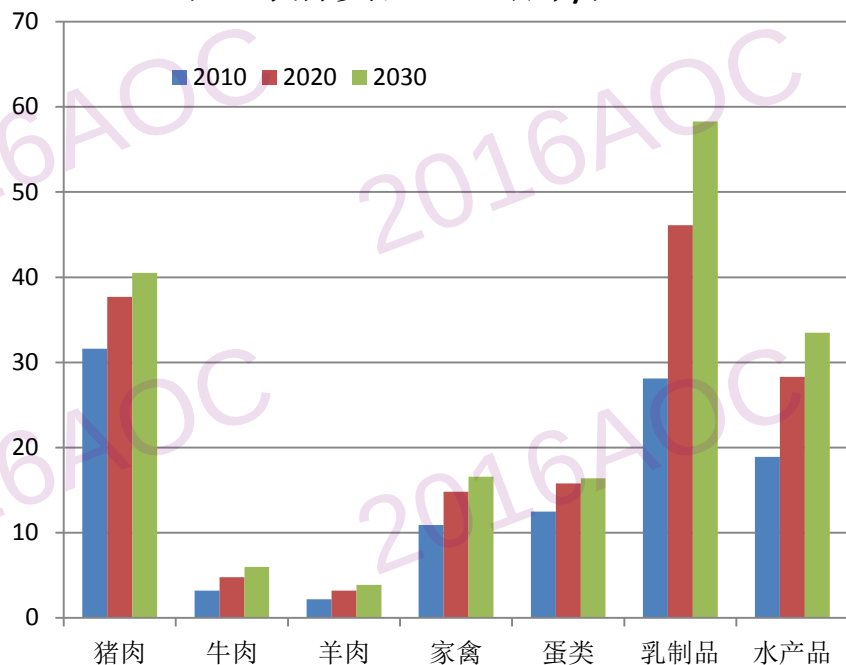
Baseline scenario

- **GDP growth rate**: 7.5% annually in 2012-2015, 7.0% in 2015-2020, 5.9% in 2020-2025 and 5.0% in 2025-2030.
- **Rural and urban income**: 8.33% annually for rural and 6.83% for urban.
- **Population** : 0.61% in 2012-2015, 0.44% in 2016-2020, 0.22% in 2021-2025 and 0.06% in 2026-2030.
- **Urbanization rate**: 56% in 2015, 64% in 2025% and 67% in 2030.
- **Rural labor cost and land rent**: 6% annually for labor cost, 2.5% for land rent.
- **Agricultural R&D**: Investment keeps rising in the future.
- **Global food price**: Long-term agricultural global food price is assumed based OECD-FAO agricultural outlook 2013-2020 and USDA's agricultural projections to 2022.

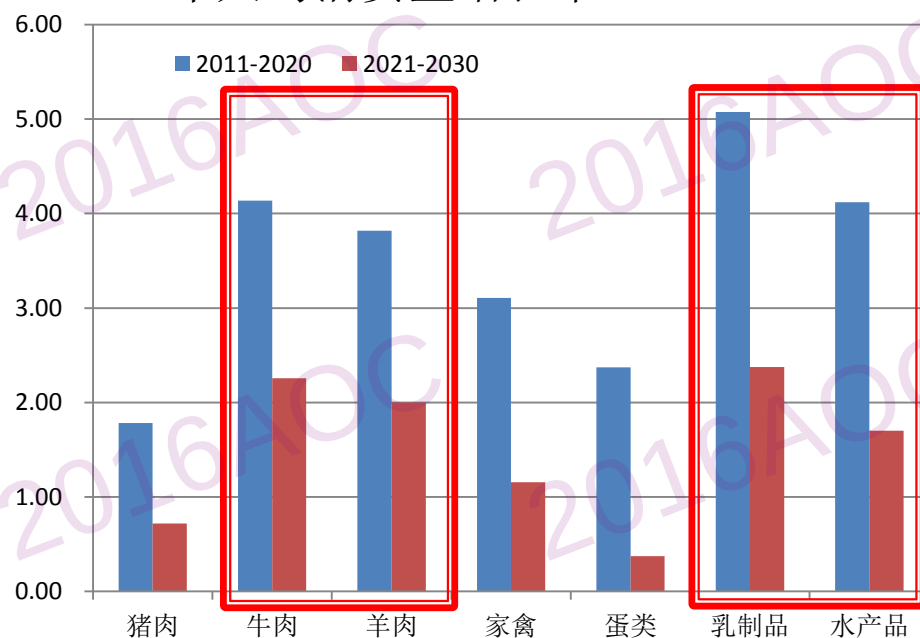
年人均畜产品消费量变化

Change of per capita livestock consumption

人均消费量（公斤/人）

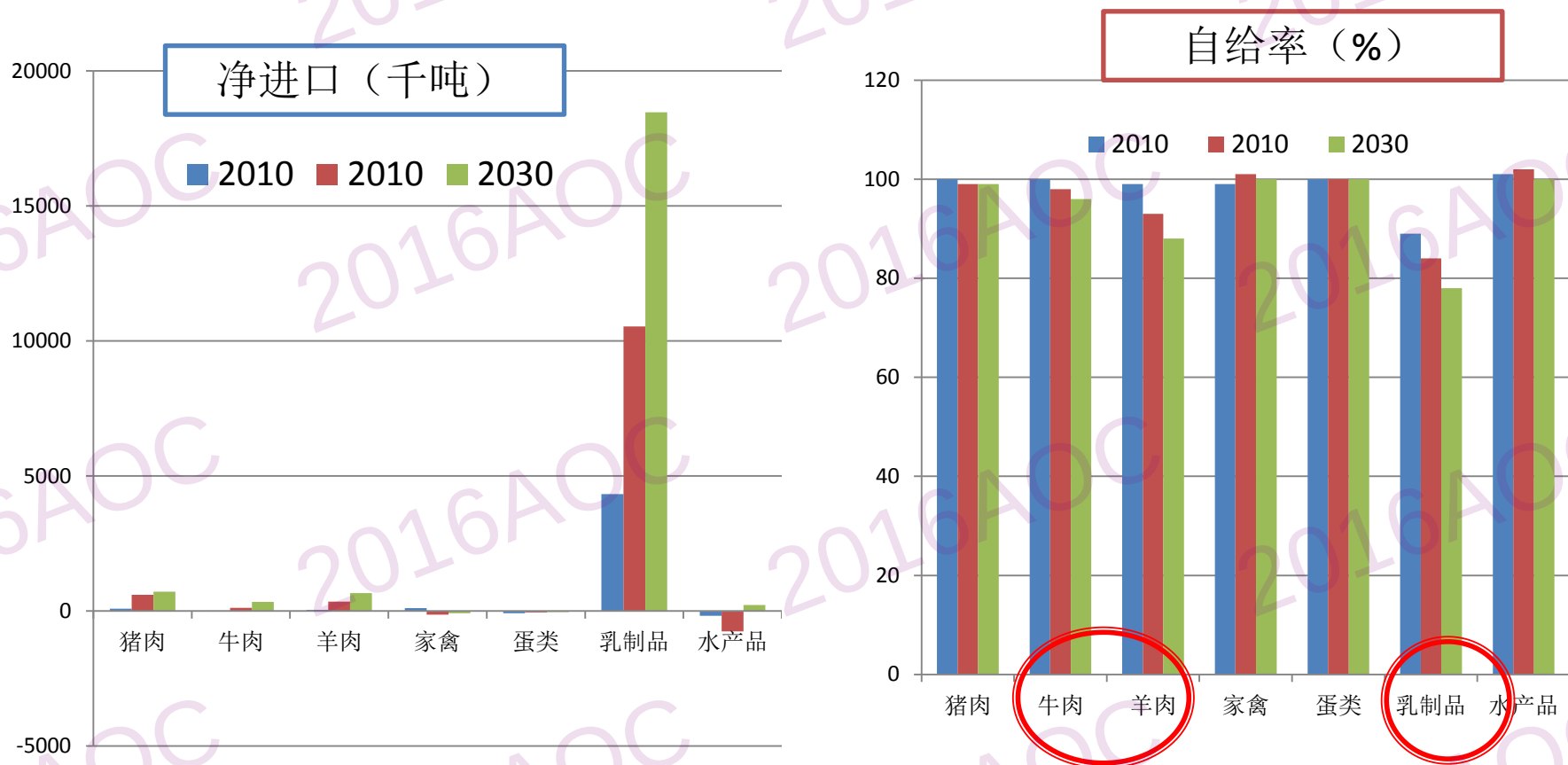


年人均消费量增长率（%）



水畜产品净进口和自给率变化

Change of net import, self-sufficiency of livestock products



饲料需求预测（千吨）

Change of feed demand (thousand tons)

	2010	2020	2030
商用饲料总计	202630	259323	279740
蛋白质饲料	60346	78722	87544
-豆粕	42580	69906	78104
能量饲料	142326	180600	192197
-玉米	118100	153412	173800

我国饲料商业饲料: 2011-2020年间，年均增长约567万吨，2021-2030年，年均增长204万吨。

豆粕和玉米分别作为最重要的蛋白和能量饲料，其需求将依然保持较快增长。

- 豆粕需求: 2011-2020年间，年均增长约273万吨，2021-2030年，年均增长82万吨。
- 玉米需求: 2011-2020年间，年均增长约353万吨，2021-2030年，年均增长204万吨。

汇报主要内容： Outline of presentation

1. 中国农业发展简要回顾 (Historical Change of China's Agriculture)
2. 中国肉类产品消费变化趋势 (Future change of food demand (Key question: What will be the case in the next 10-20 yeas?))
3. 畜产品生产面临的主要挑战 (Challenges confronted by China's livestock production)
-  4. 未来畜产品供需分析 (Future perspectives of China's food demand and supply)
5. 主要结论和政策建议 (Main conclusion and policy implications)

主要结论 1

Main conclusions (I)

- 未来20年间，我国食物消费结构依然处于转型升级时期，对高附加值农产品（高营养、安全和口味好等）需求快速增长。虽然水畜产品的人均需求增长速度不断减缓，但是依然保持较快增长。
- 畜产品的消费结构也将发生显著改变。对牛肉、羊肉、奶制品和水产品的需求增长速度将显著高于猪肉和禽肉。

主要结论 2

Main conclusions (II)

- 我国畜产品生产面临较严峻挑战，这种挑战主要体现在以下方面：
 - 生产成本不断上涨（主要取决于饲料粮和劳动力成本）
 - 环境标准显著提高（社会对环境要求，以及国家对环境监管严格程度都将显著提高）
 - 贸易自由化开放程度不断提高，竞争压力显著加大。

主要结论3

Main conclusions (III)

贸易自由化和全球经济一体化是不可逆转的发展趋势！主动迎接贸易自由化的挑战，而不是回避。充分利用全球资源和市场，实现我国农业生产向高端农业（高端技术和人才）和高附加值农业转型。

进口饲料还是进口肉？从我国农业资源状况以及所处特殊经济发展阶段（快速工业化和城镇化），农业资源和环境资源将更为稀缺。基于我国实际，提高饲料供给能力，促进畜牧产业转型升级，以有效降低成本和提高产品质量：

- 技术进步（转基因玉米）
- 牧草业发展

Thanks for Attention

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