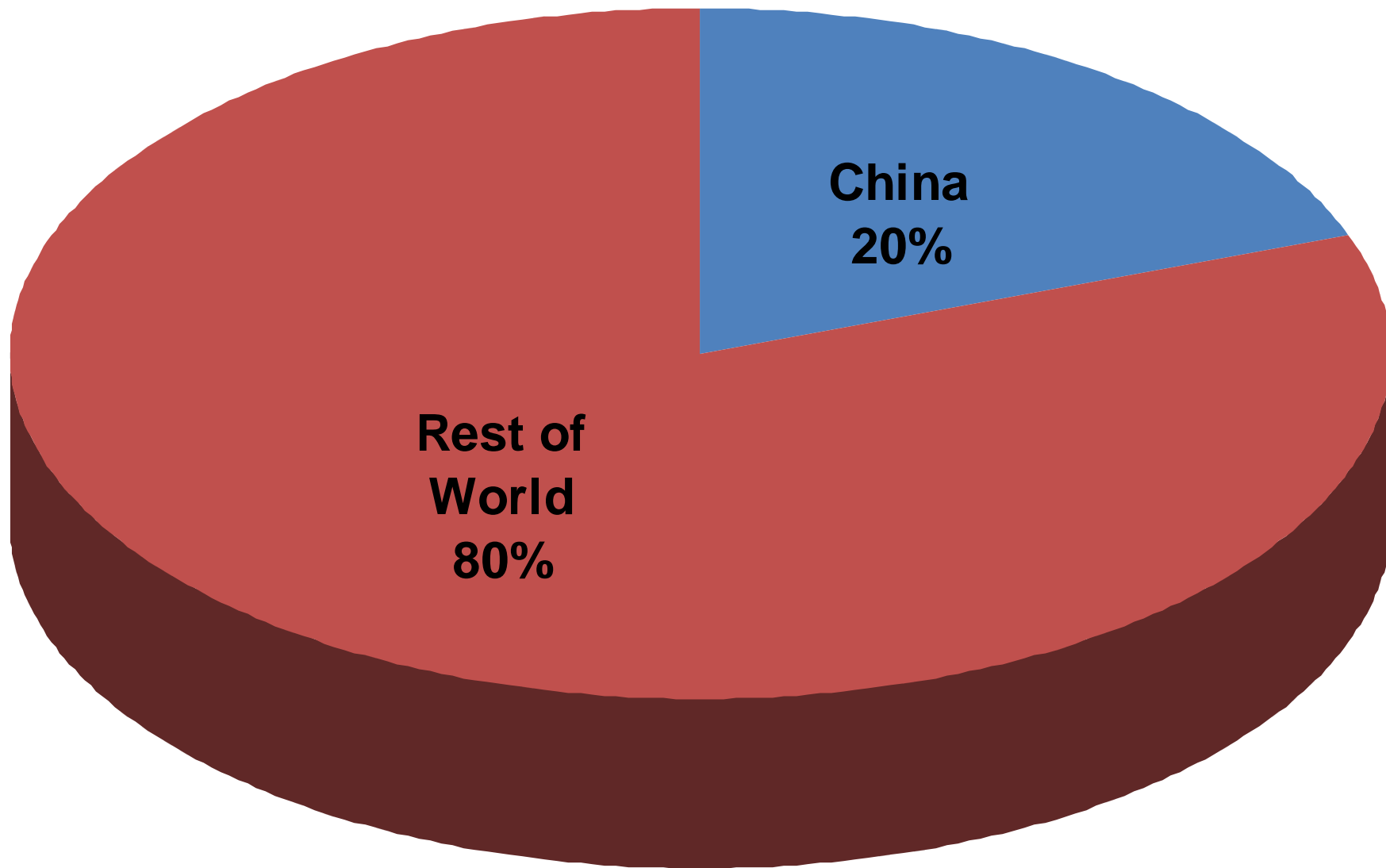


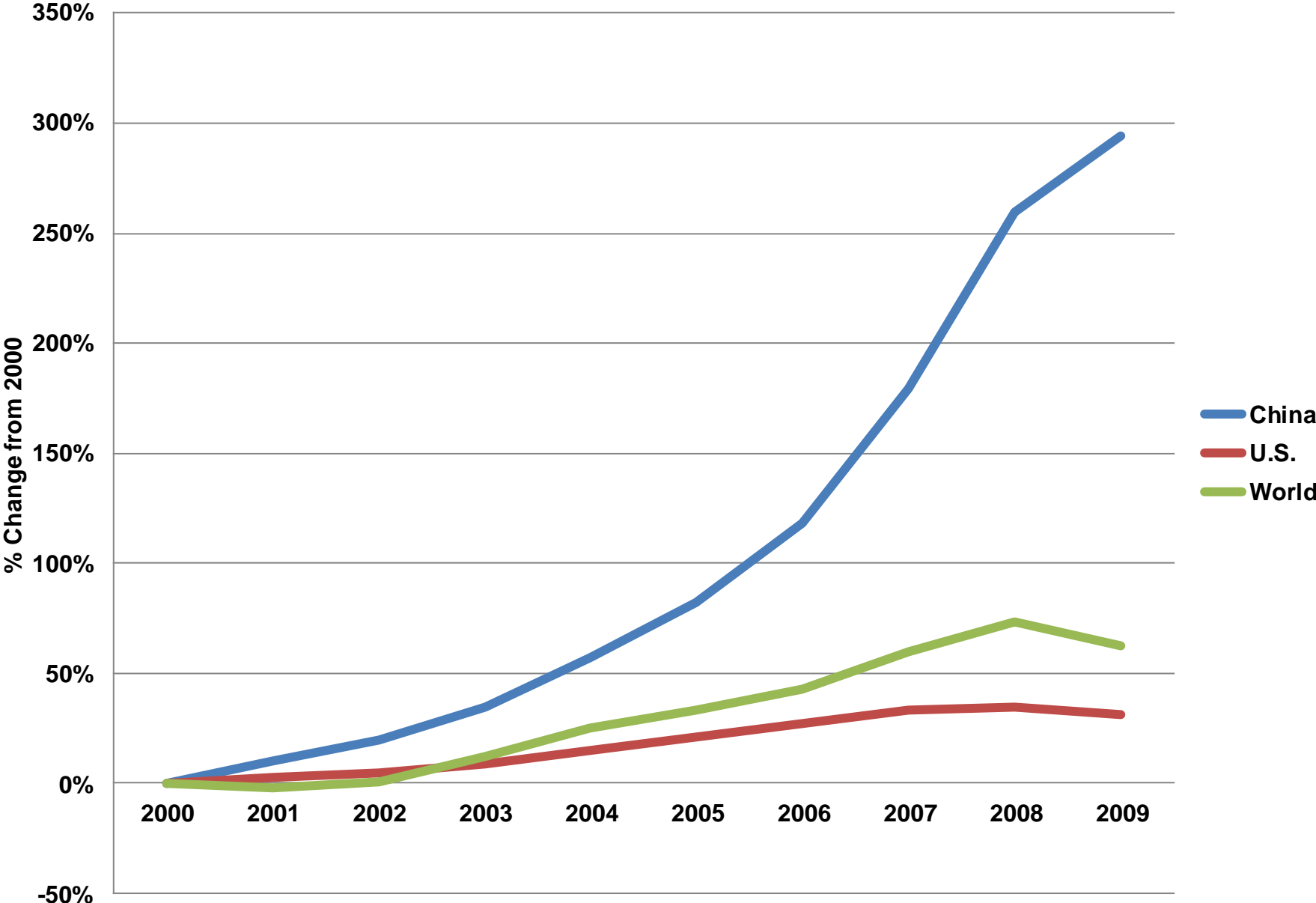
China and the World Production of Meat

Presentation to
The 2011 IUF Meat Conference
September 2011
Omaha, Nebraska

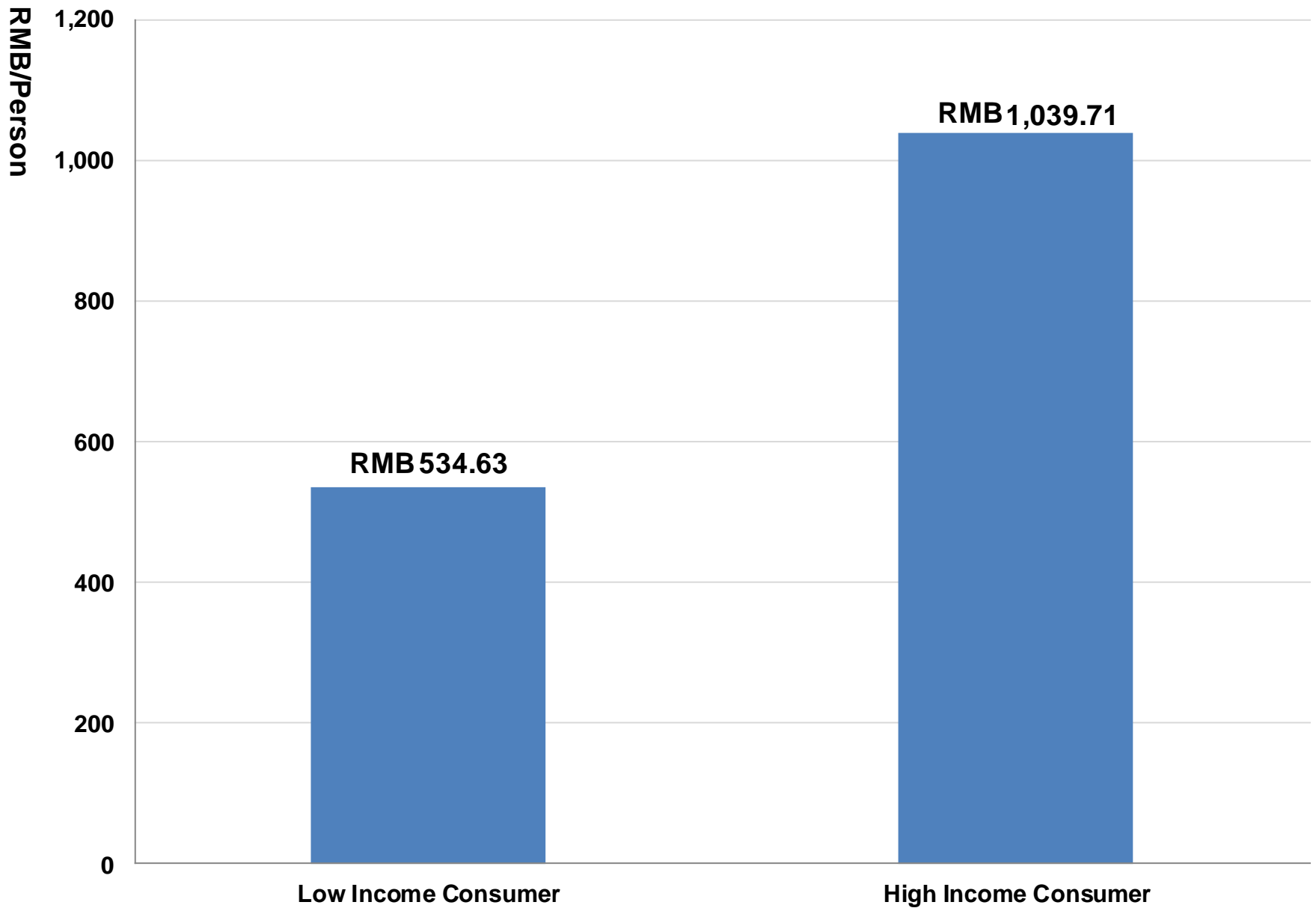
China: Share of World Population



GDP Per Capita (% Change from 2000)

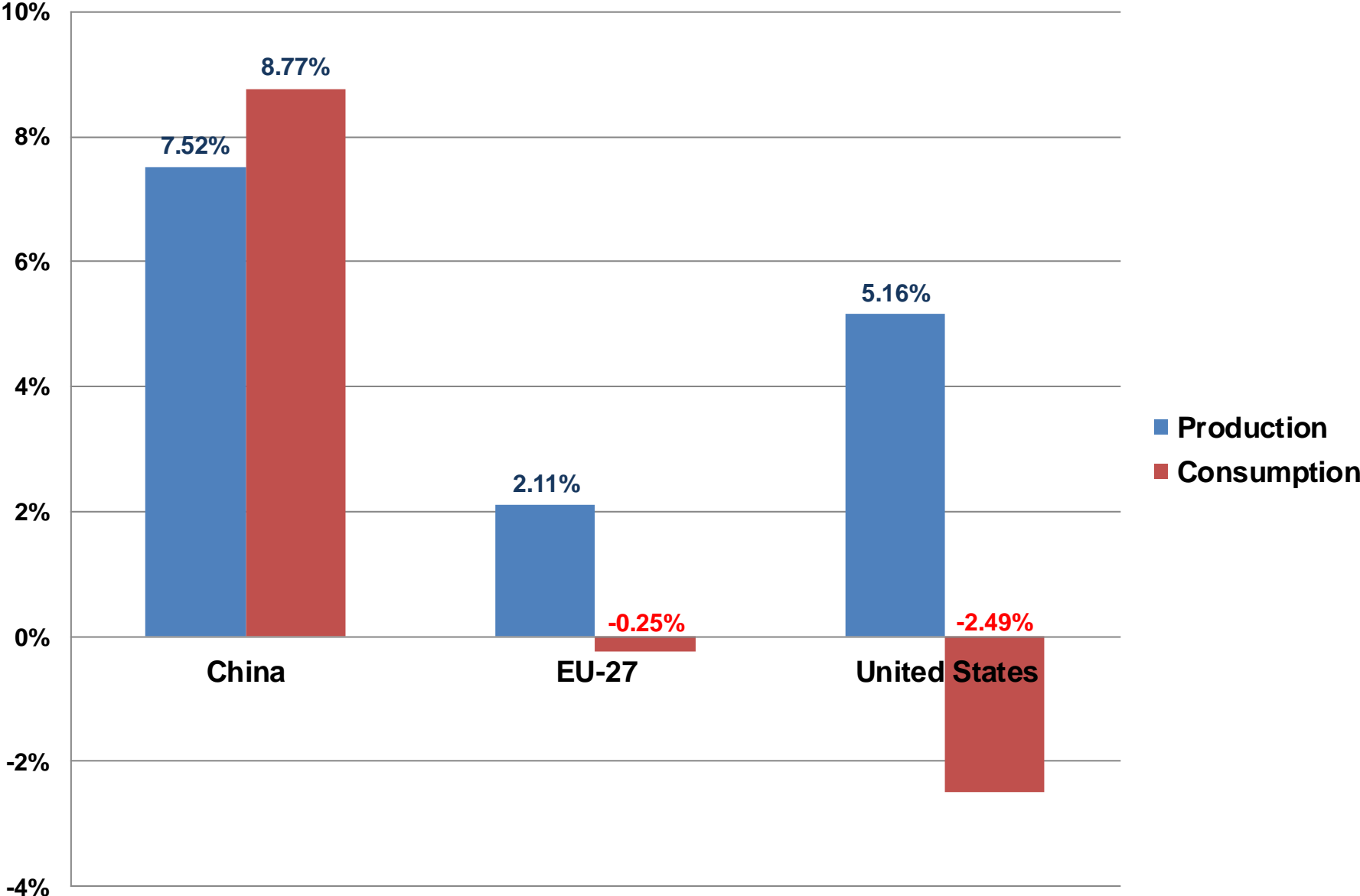


China: Monthly Income Spent on Meat and Poultry Products



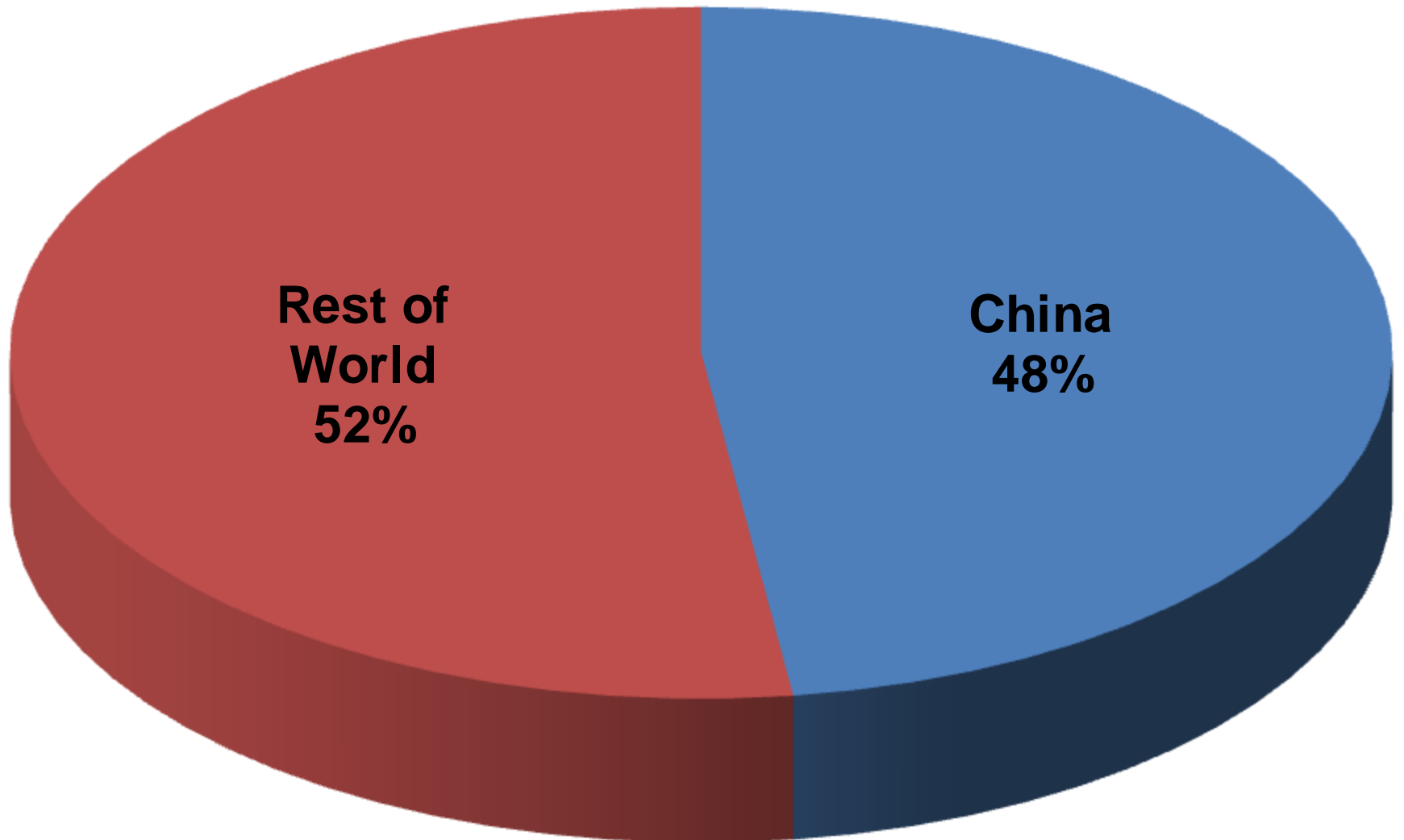
Change in Pork Production/Consumption

2006 v 2010



China: Share of World Pig Population

1



Source: FAO estimates

Agricultural Resources

- China has at most 275 million acres of farmable land, a lot of which is poor quality land that cannot be mechanized and should not be farmed
- The US has about 360 million acres in crops and about 400 million acres of pasture, total agricultural area of almost a billion acres
- Yet China feeds almost five times the population, the key to this success is the creative Chinese diet, and the use of labor to substitute for crop land and animal feed
- China has given up on the most land intensive products (beef and soybeans) and has begun to import corn

Table 1. Chinese pig production and slaughter, by farm size

Slaughtered	No. of Farms	(%) Share	Total Slaughtered(1,000)	(%) Share
1~9	101,963,901	94.483	347,731	52.867
10~49	4,815,474	4.462	120,945	18.388
50~99	851,429	0.789	58,999	8.970
100~499	249,016	0.231	59,639	9.067
500~2999	33,844	0.031	36,477	5.546
3000~9999	3,388	0.003139	17,420	2.648
10000~49999	911	0.000844	14,181	2.156
Above 50000	30	0.000028	2,358	0.359
	107,917,993	100	657,750	100

Backyard units



http://www.agrarhaszon.hu/galeria/image/products/1039_pigs_china.jpg

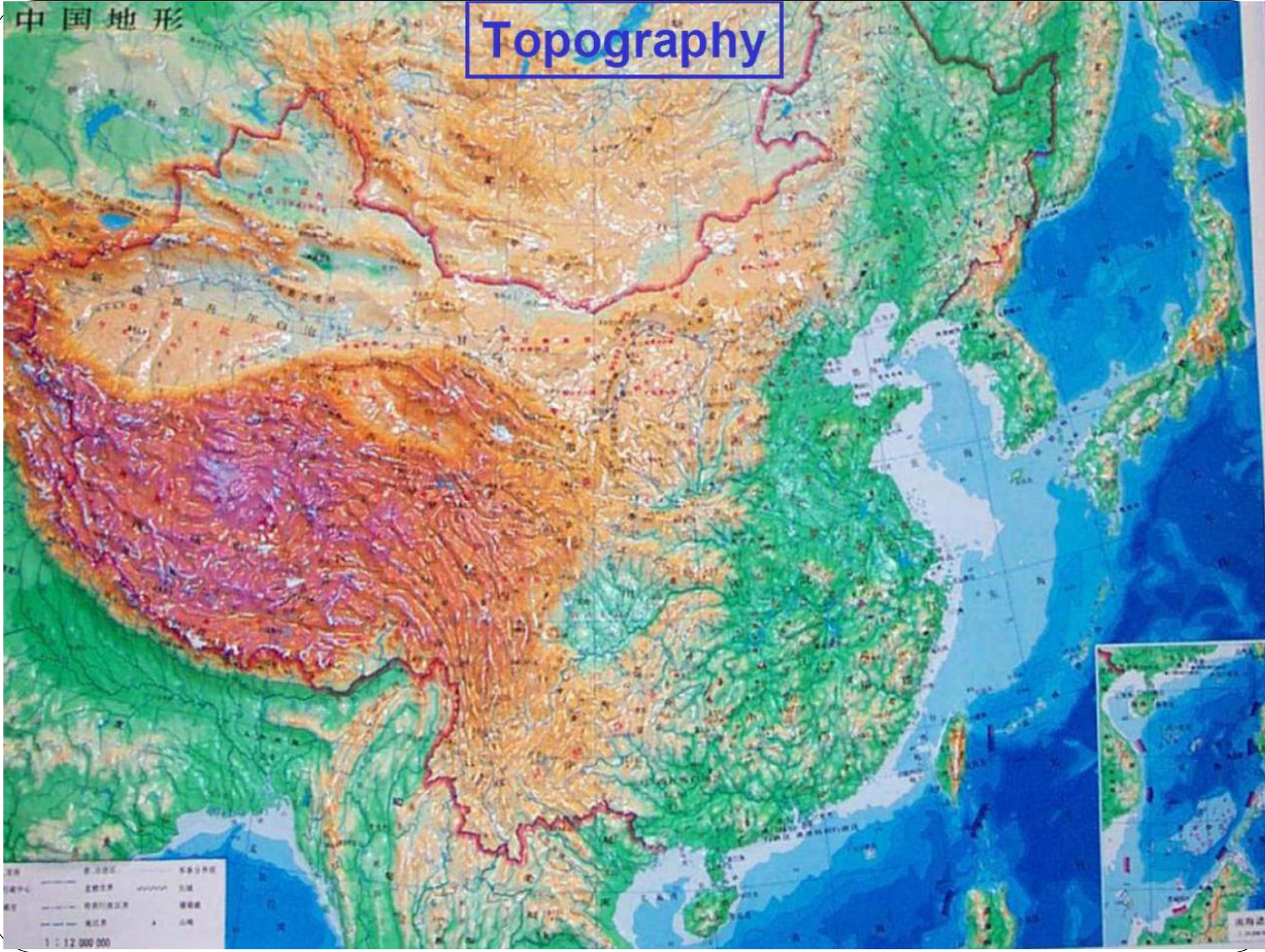
- At least half of the pork in China comes from smaller units these farms turn labor into feed
- With 9% to 11% economic growth, China has better things to do with labor than raise pigs on household waste
- This system requires labor, small slaughterhouses, wet markets and a willingness to buy non standardized product
- Backyard pig production disappears quickly once households can afford a car to drive to the grocery store and to find employment
- Current mortality in Chinese pork production is reported to be very high due to disease

Disease is endemic, this leads to overuse of antibiotics and residues



中国地形

Topography



比例尺 1:12,000,000

首都	北京	军事分界线
行政中心	国界线	长城
城市	铁路	公路
河流	运河	海峡

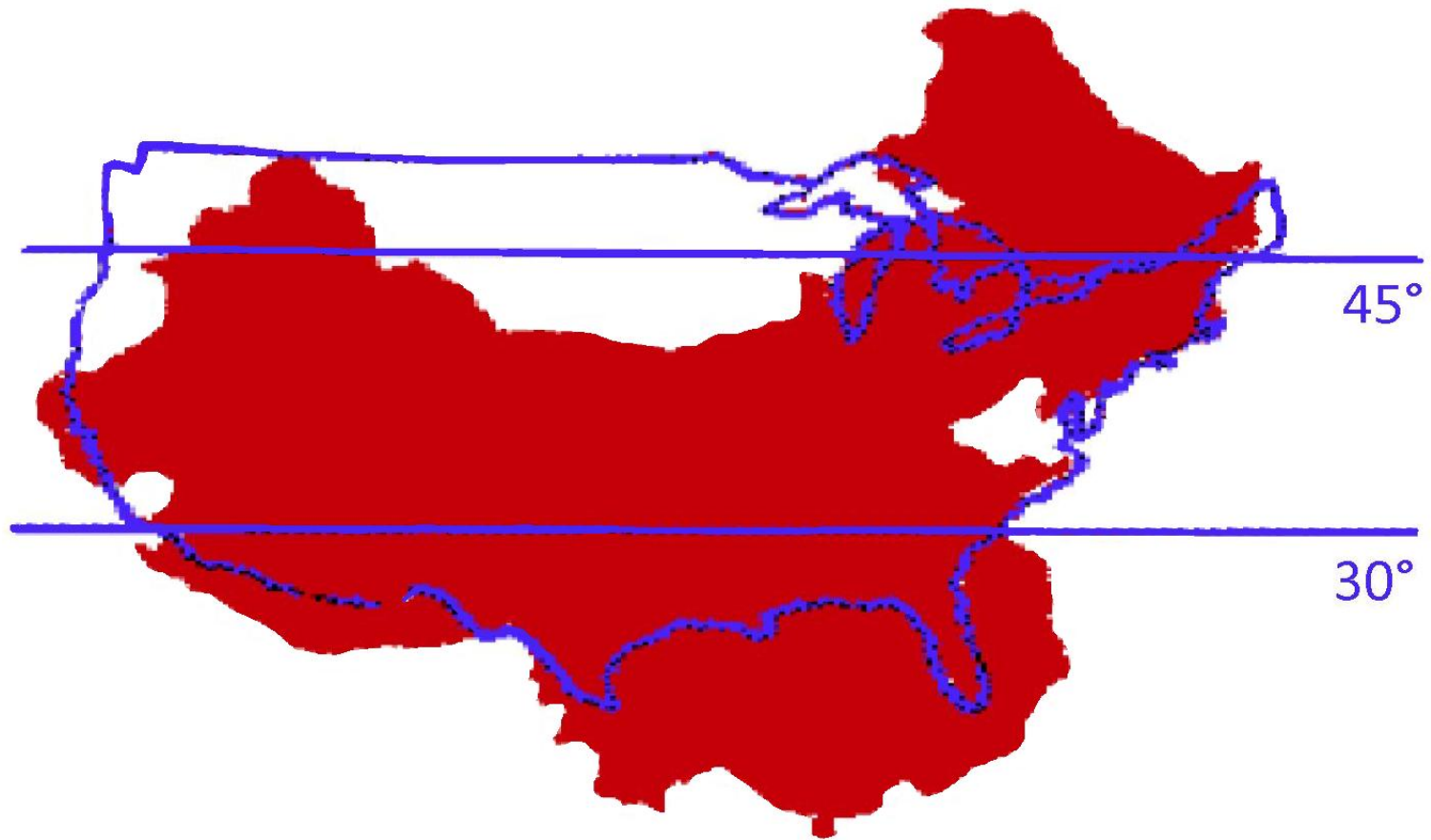


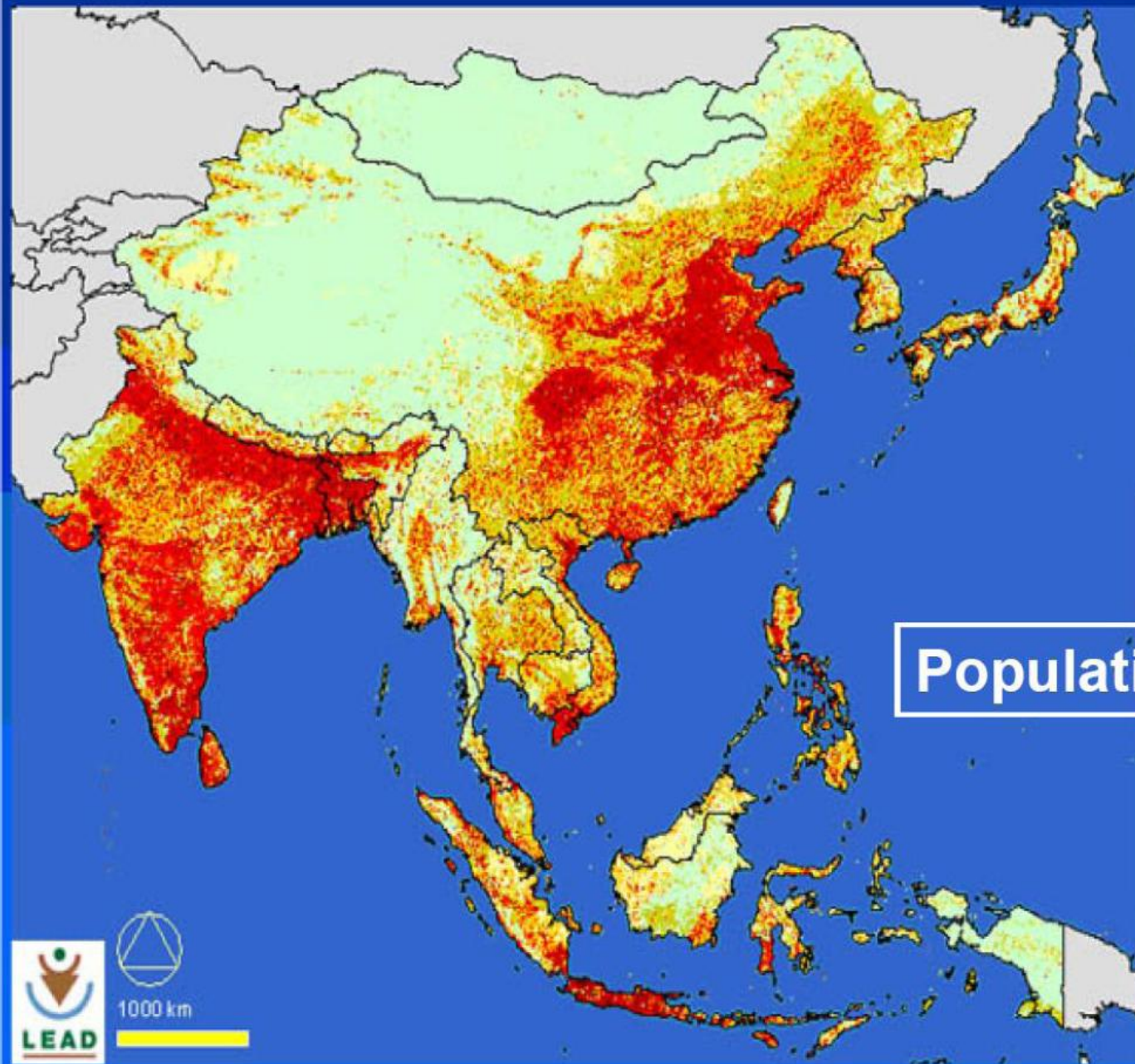
How do you mechanize this?





China-US Comparison





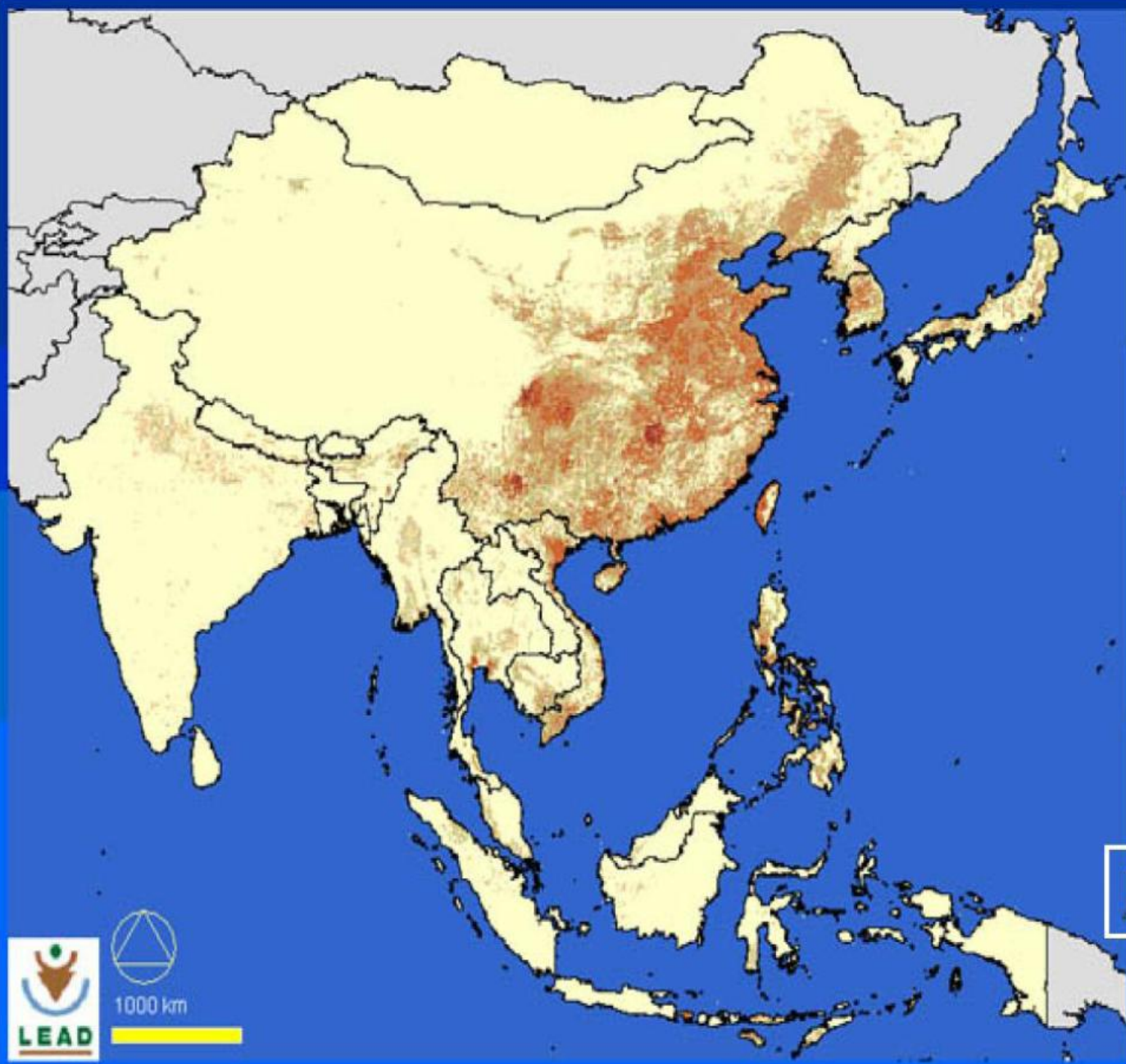
Legend

Lightest Green	0 - 2
Light Yellow	3 - 5
Yellow-Green	6 - 25
Yellow	26 - 50
Orange	51 - 100
Red	101 - 500
Dark Red	501 - 2500
Brown	2501 - 25000
Bright Green	25001 - 200000
White box	No Data















Population Density



1000 km



Legend

-  < 2
-  2 - 10
-  10 - 20
-  20 - 40
-  40 - 60
-  60 - 120
-  120 - 200
-  200 - 400
-  400 - 800
-  800 - 1600
-  1600 - 3200
-  3200 - 6400
-  > 6400
-  No Data

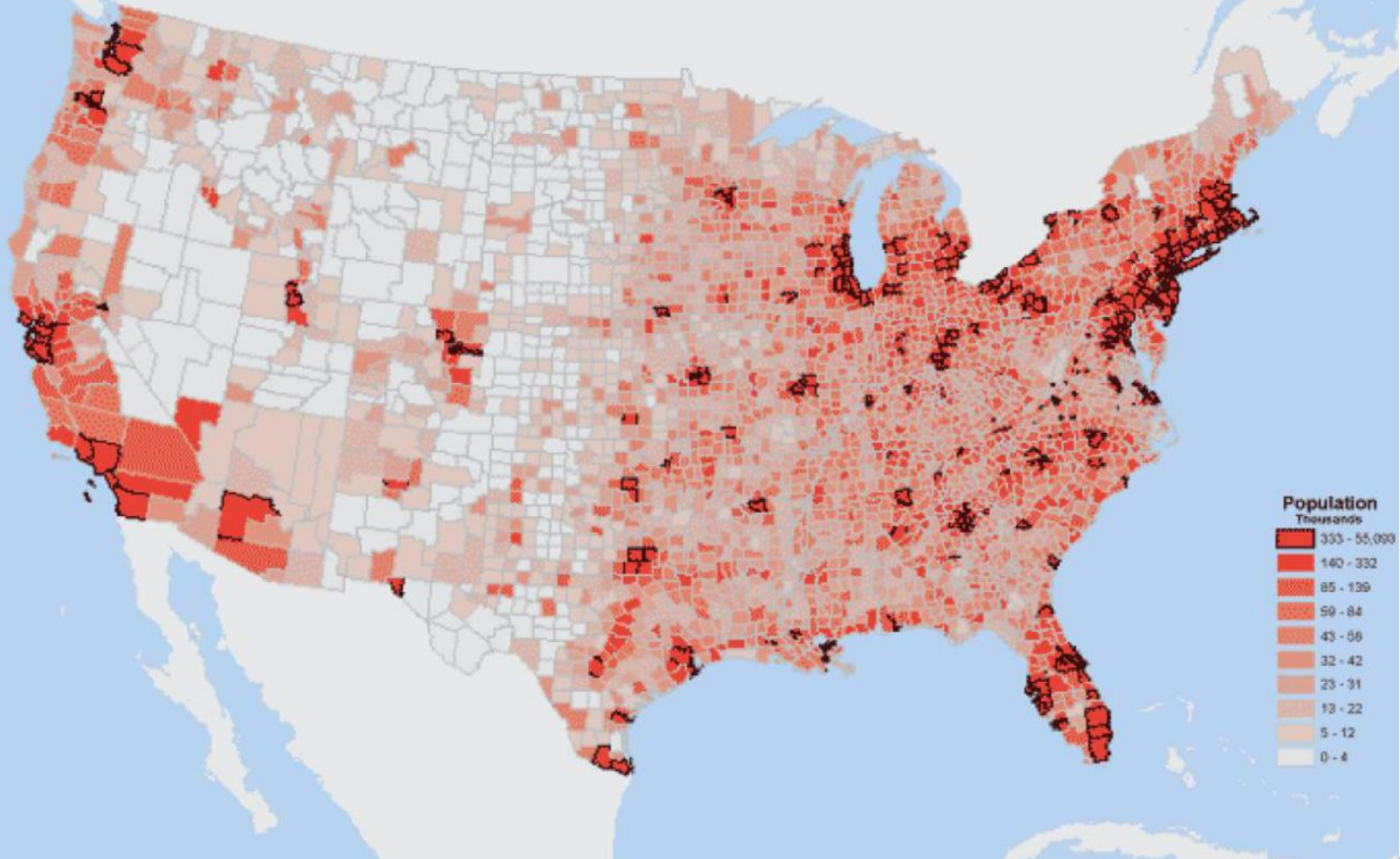
Pig Density



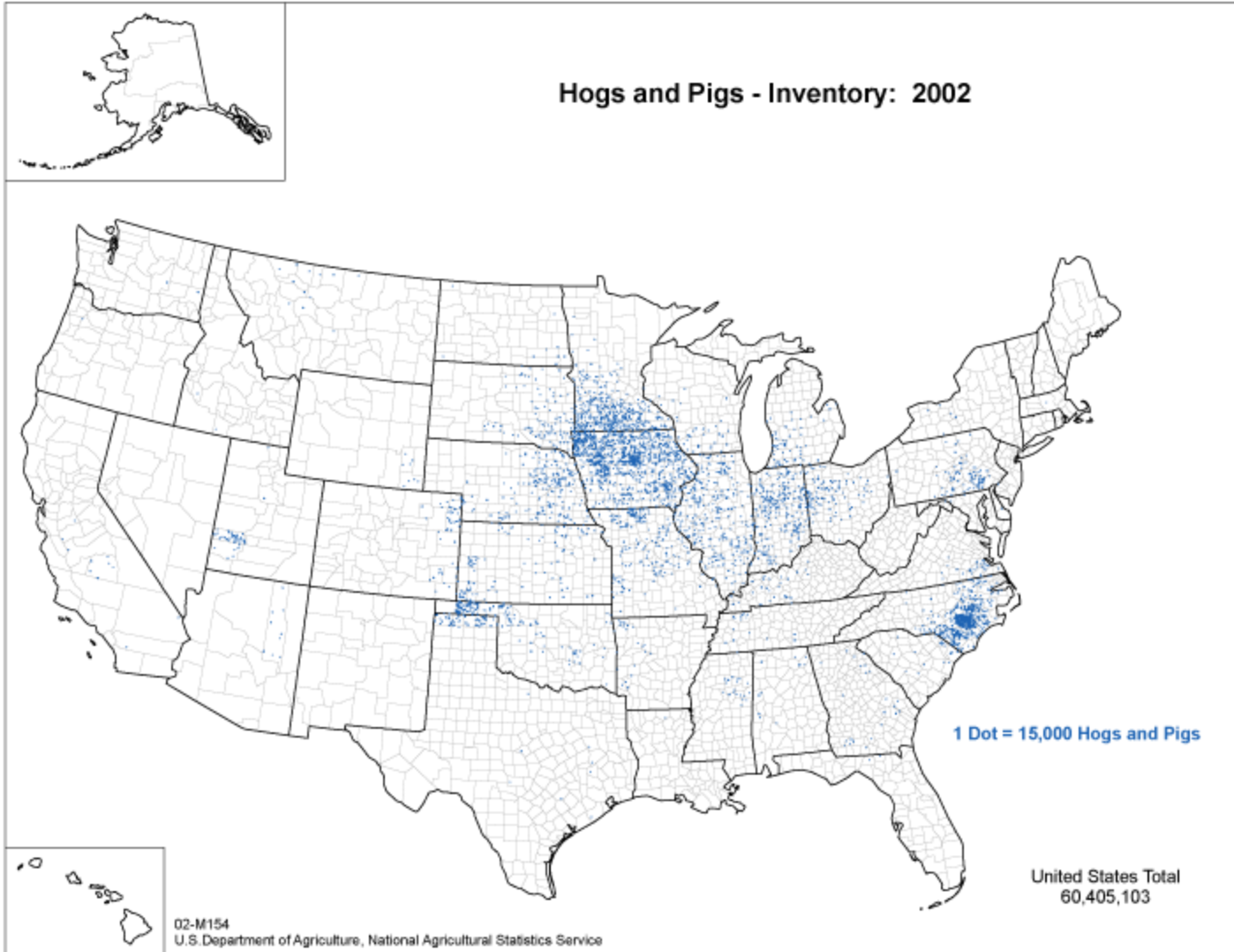
1000 km



Population Density



Hogs and Pigs - Inventory: 2002



Miles of new construction
outside every city



Rate and scale of development

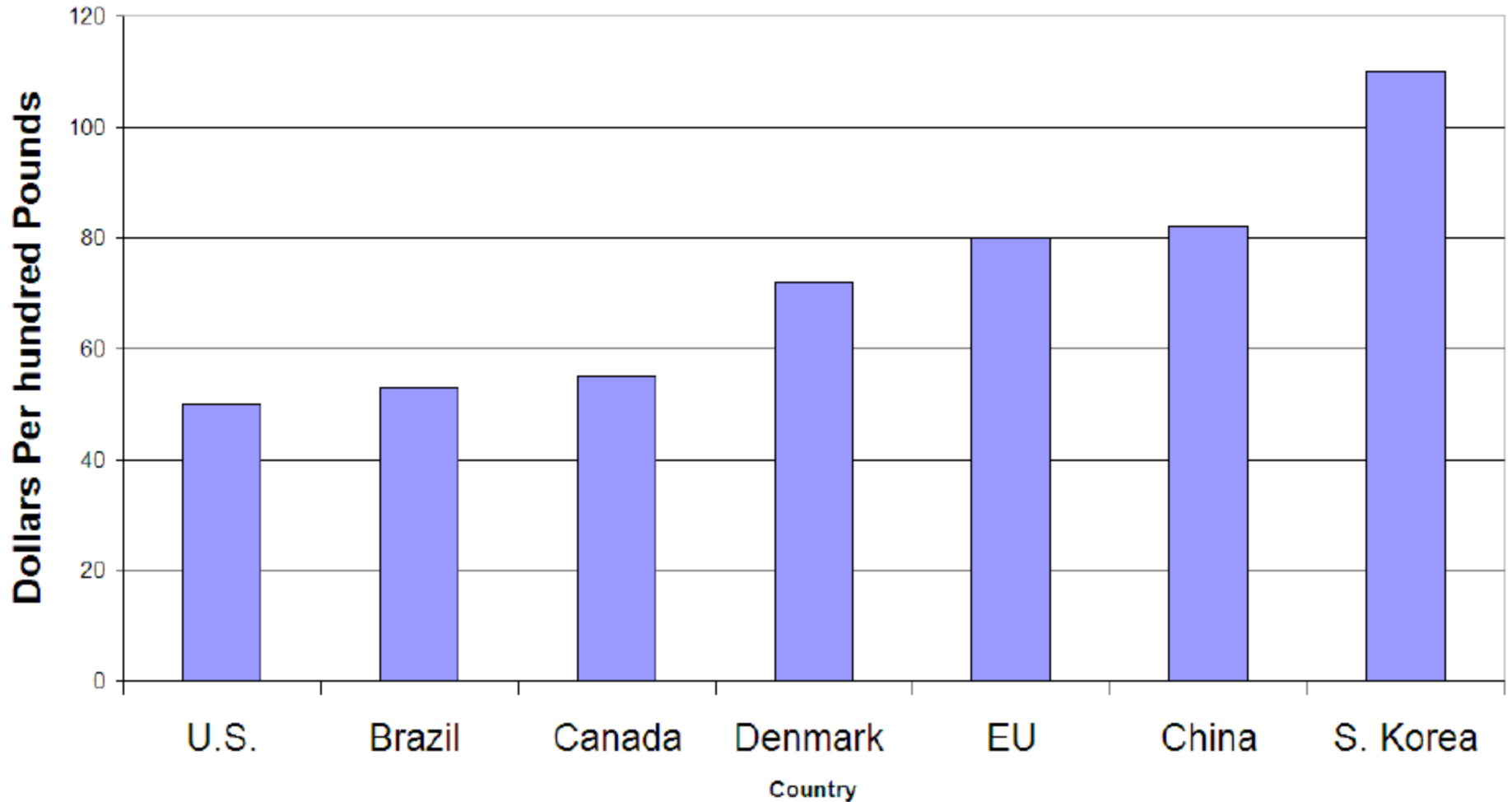
- Markets forces, entrepreneurship and centralized government have combined to generate faster growth than Japan or South Korea at the same stage of development
- The scale is at least ten times greater than any other land scarce country
- Vast movement of labor out of agriculture, the loss of workers will be noticed as the impact of the one child policy becomes more obvious
- Unproductive land being planted to trees
- High quality land moving into development

Economic fundamentals

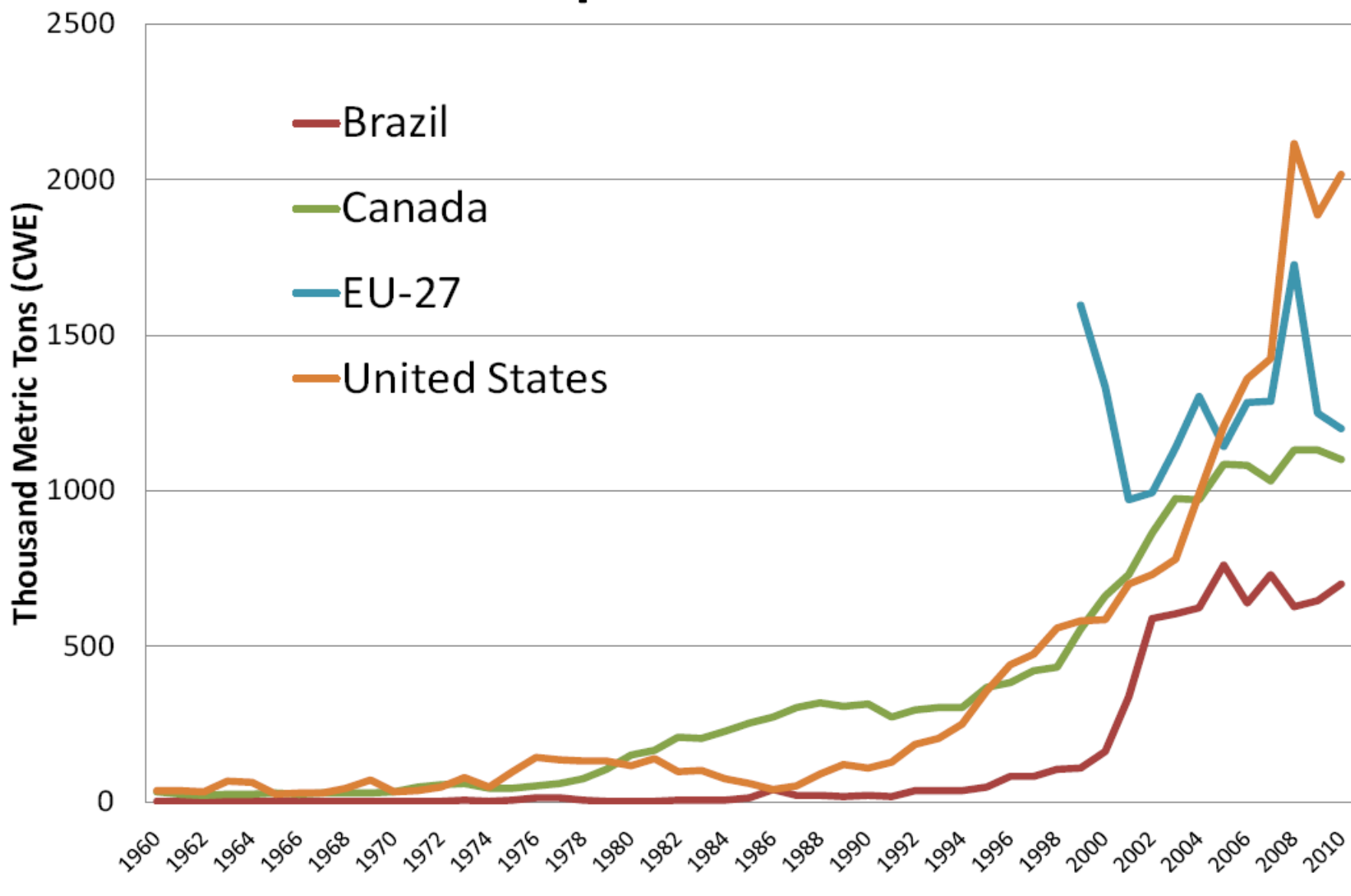
- Once a country starts to import animal feeds, its internal prices rise to reflect world prices plus transportation costs
- It costs as much to move grain from the US to China as it costs to produce this grain in the US
- It is far more efficient to import boneless boxed cuts than the bulky grain needed to produce hogs
- This advantage is emphasized by taste differences, China and US consumers are like night and day



Estimated Production Costs per Hundred Pounds of Liveweight, as of March 1st, 2010



Pork Exports 1960:2010



US Pork Exports and Net Exports as a Percent of Production

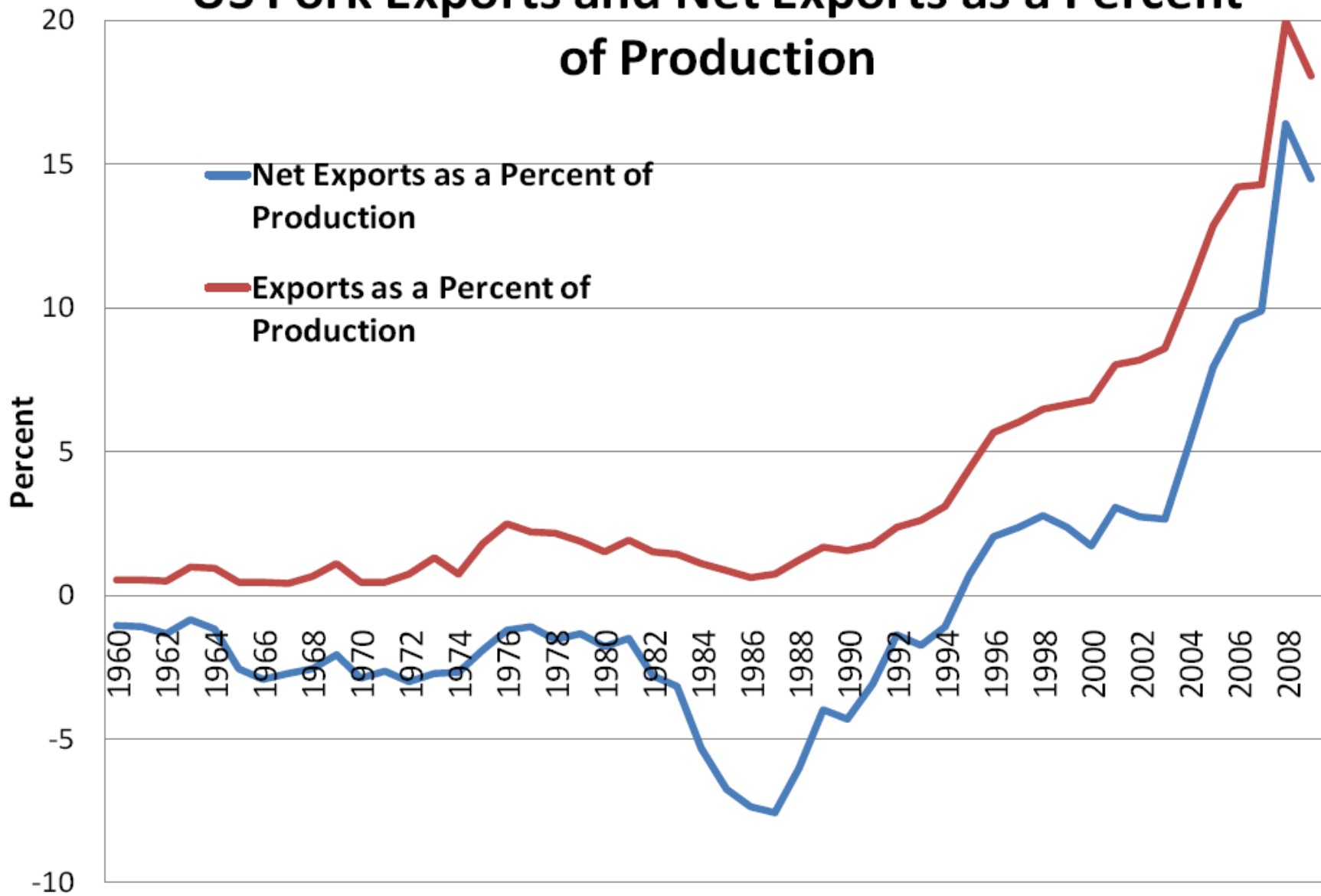
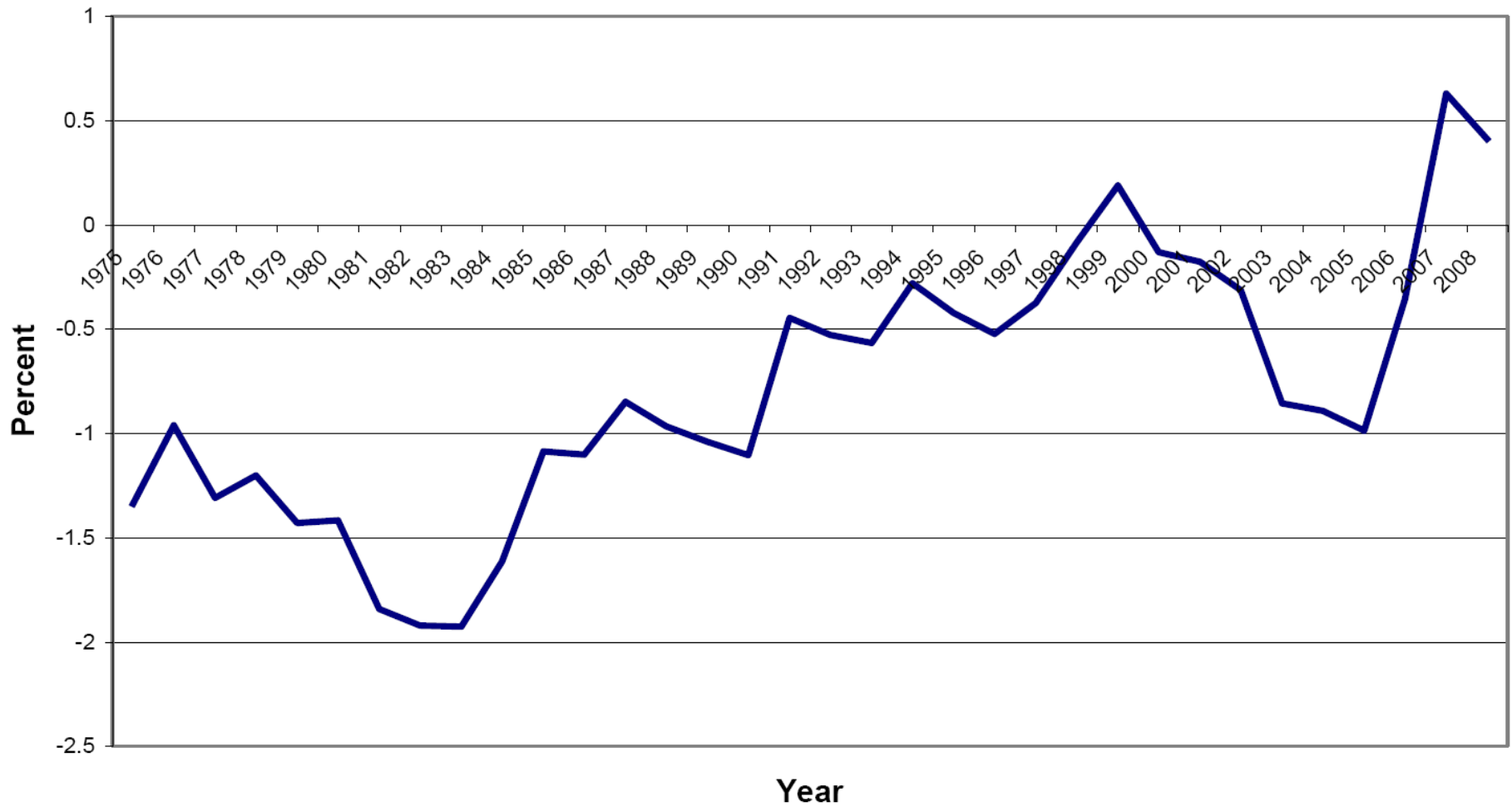


Figure 4. Net Chinese Pork Imports as a Percent of Chinese Pork Consumption

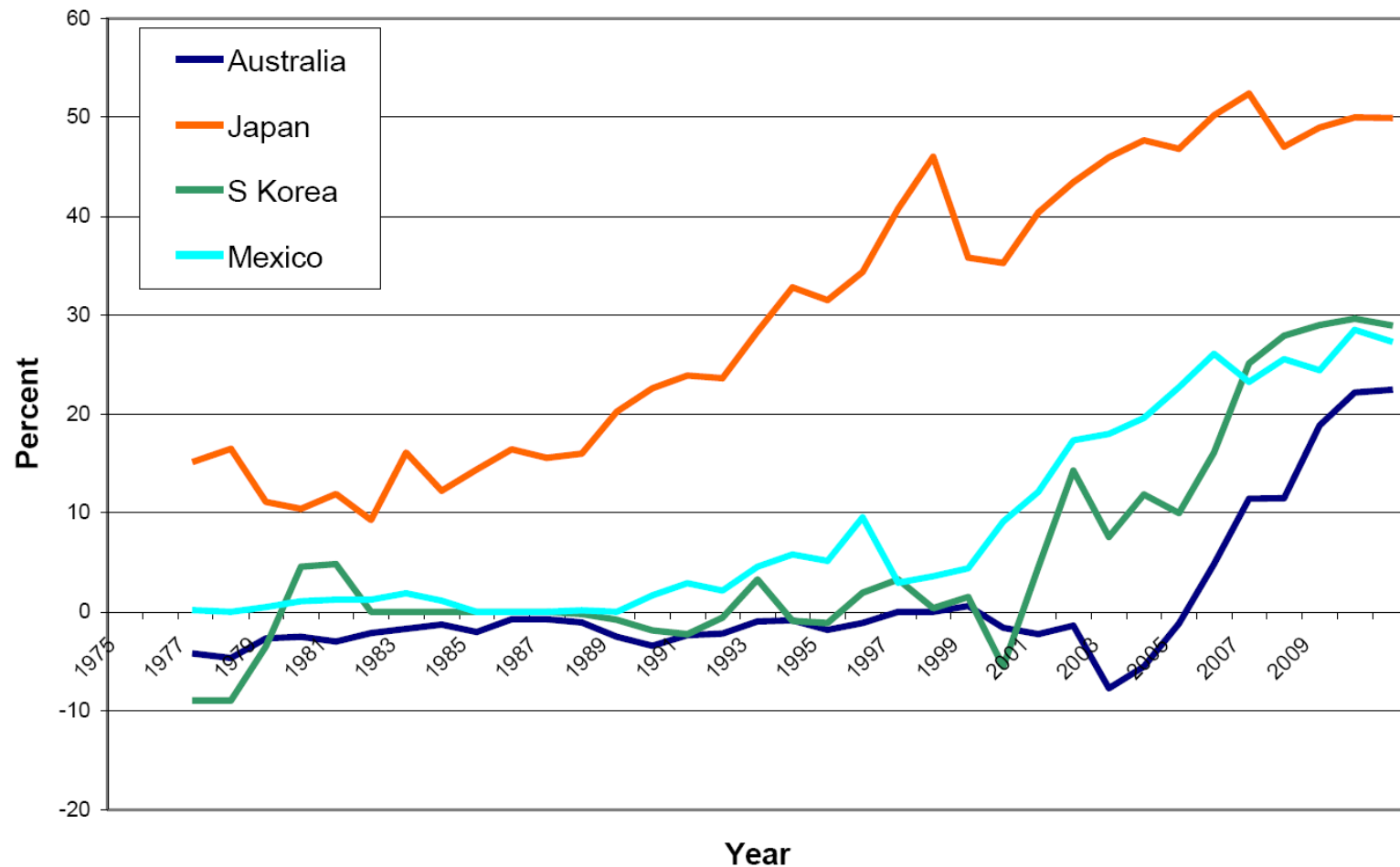


What happens next?

- In the short run, import opportunities will be based on the grey market
- China increases incentives for producers
- China releases meat and grain reserves
- These are short term fixes -- scarcity to reappear in several years if not sooner

What other countries have done within a 10-20 year period

Figure 8. Net Imports as a Percent of Total Consumption



Long run

- China will face food price inflation and high food prices unless it imports

Year to date, hog and pork prices have increased 53% and 40% YoY, respectively, driven by a supply shortage, affected by pig mouth-feet fever, bad weather, and increasing feed costs.

- It is in Chinas best interests to open its food market for competition, the government will understand this eventually
- Imported quantities will be enormous
 - “Take your best guess and multiply by 10”
- Some of our employers may become Chinese owned

What it means:

- Increased meat imports to China good for Chinese workers and workers in exporting nations
- Need to monitor Chinese ownership
- Good for bargaining in export countries