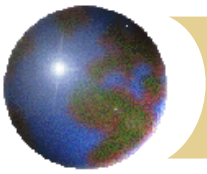


# *China Update*

John Hooker  
*Carnegie Mellon University*

CMU Osher Course  
September 2023



# *Fast-moving situation*

- ⊕ Chinese **culture** changes slowly...
  - ⊕ ...but **lifestyle** and the **economy** change almost daily.
  - ⊕ U.S. media provide an **incomplete** and **misleading** picture of what is happening on the ground.
- ⊕ So, we need an **update**...





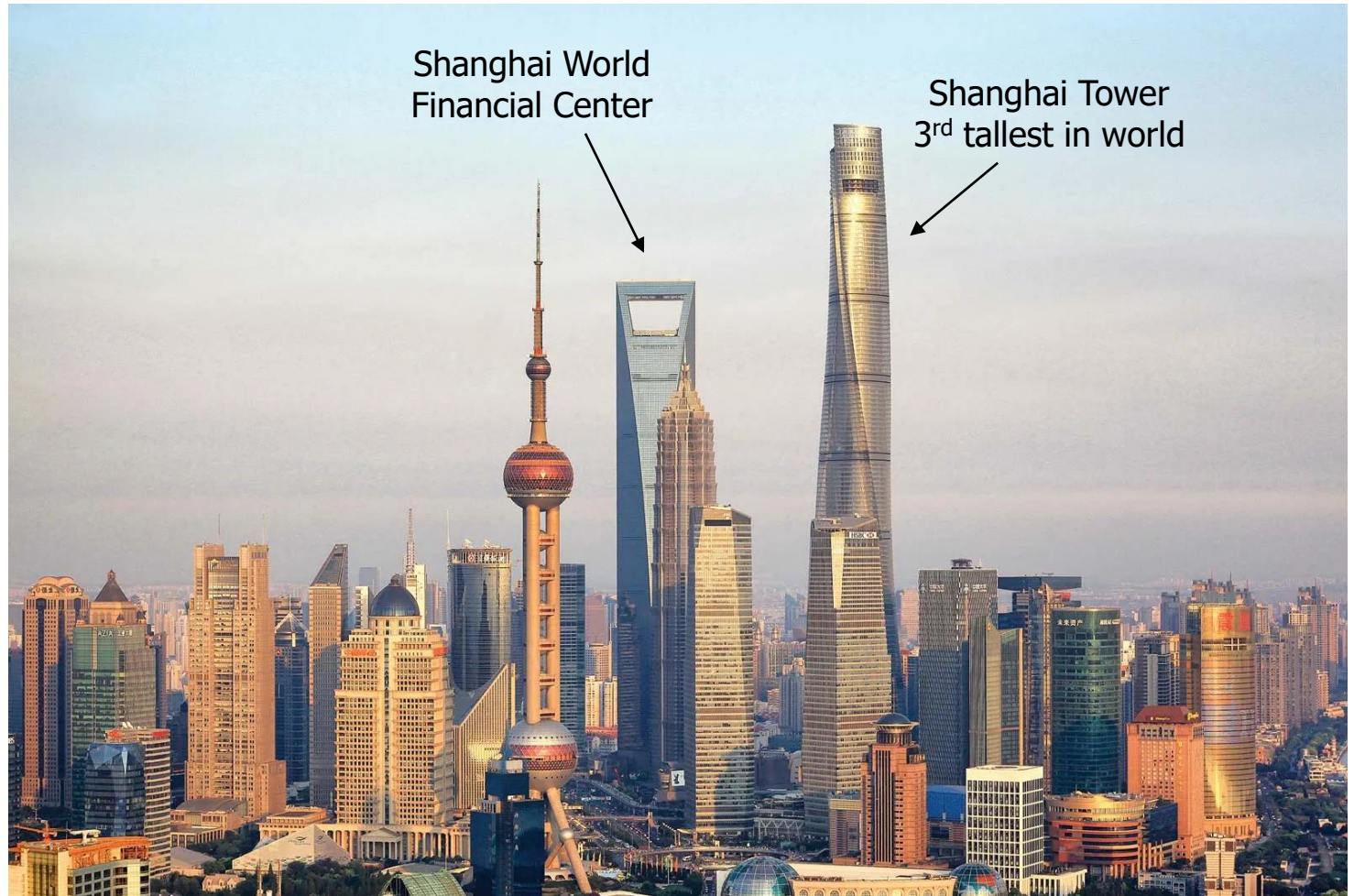
# Outline

- ❖ The new urban China
- ❖ Economic superpower
- ❖ How we got here
- ❖ Wealth, consumerism, and the economic system
- ❖ Infrastructure and renewables
- ❖ Air quality and population trends
- ❖ The online world and protecting children
- ❖ Government, surveillance, and Covid
- ❖ The real estate bubble
- ❖ Oppression of Uighurs
- ❖ Chinese language(s)





# *The New Urban China*



It began here.

Shanghai,  
Pudong district



# *The New Urban China*

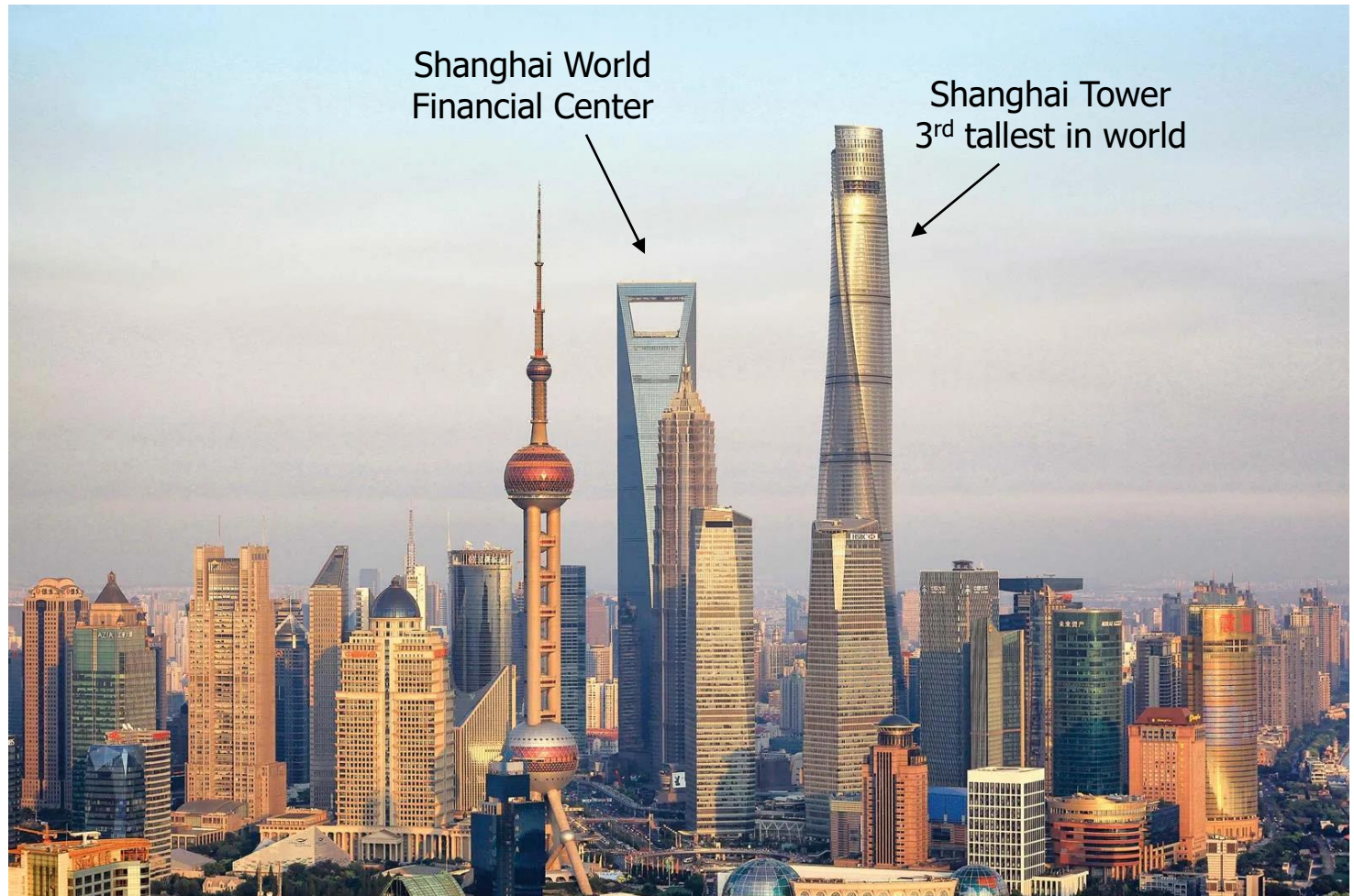
Of the world's  
93 tallest buildings:

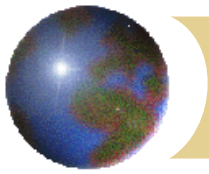
43 are in China

13 are in the U.S.

It began here.

Shanghai,  
Pudong district

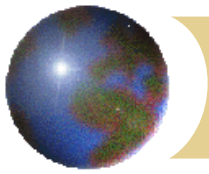




# *The New Urban China*



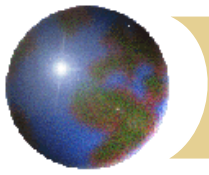
Wangjing SOHO complex,  
Beijing



# *The New Urban China*



Guangzhou



# *The New Urban China*



Chongqing





# *The New Urban China*



Hangzhou



# *The New Urban China*



Wuhan



# *The New Urban China*



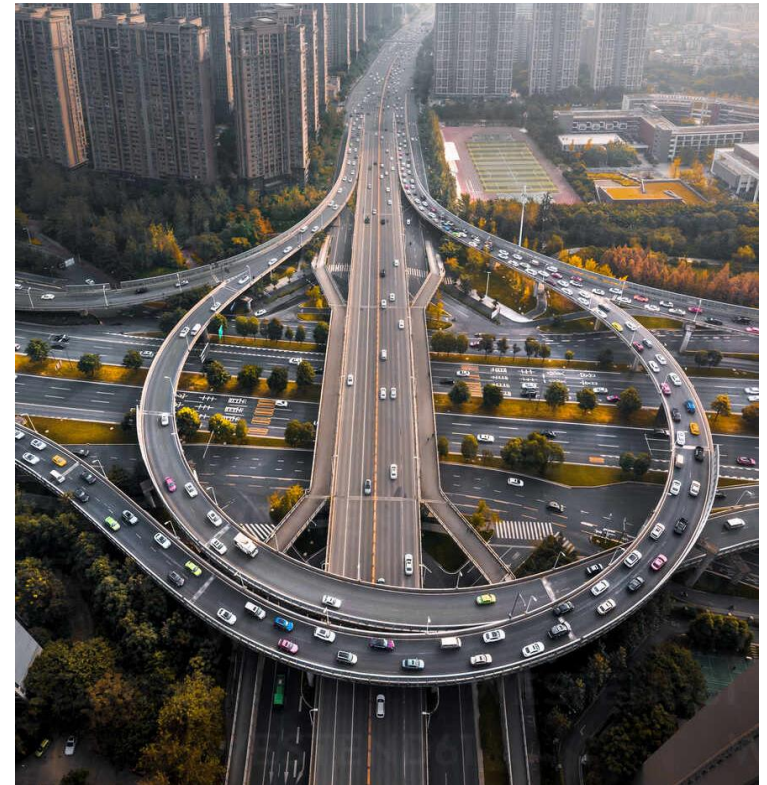
Shenzhen



# *The New Urban China*



Chengdu, 1993



Chengdu, today

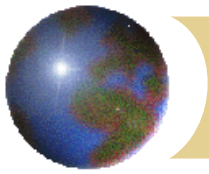


# *Economic Superpower*

✿ Population 1.42 billion (est.)

- ✿ As of August 2023
- ✿ Just overtaken by India (1.43 billion)

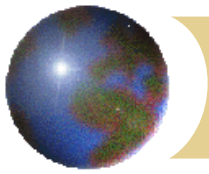




# *Economic Superpower*

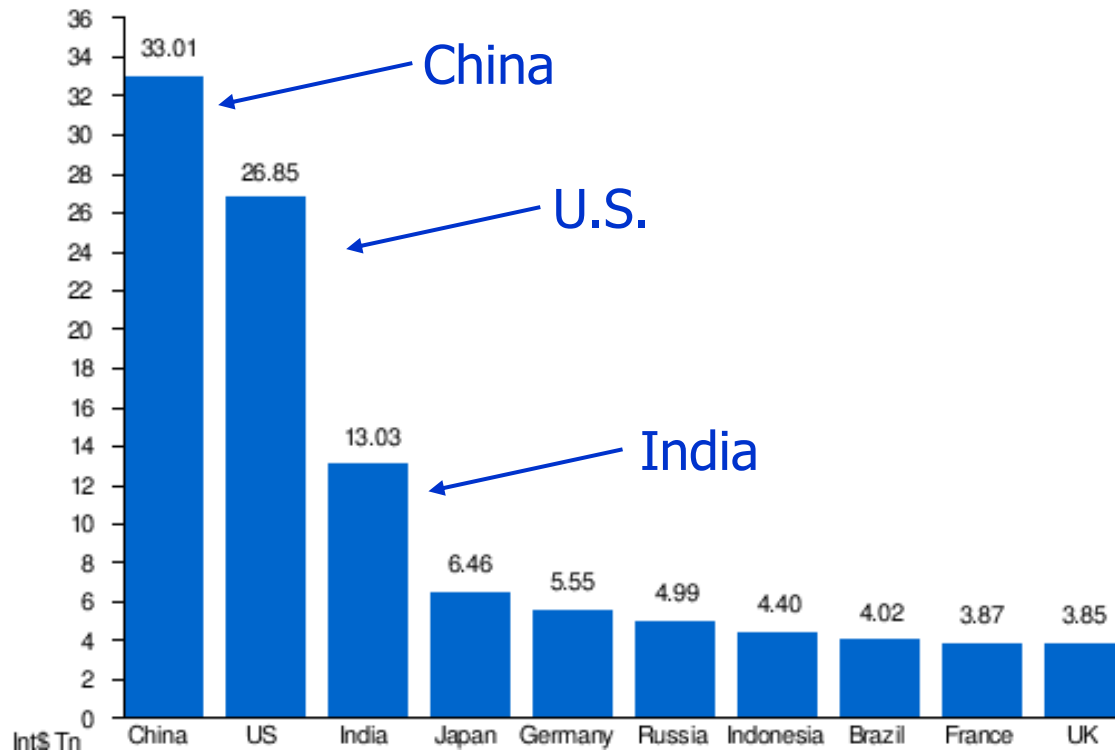
- ❖ **World's largest economy** since 2016
  - ❖ In GDP measured by purchasing power
    - World's largest economy in **8 of the last 10 centuries**.
  - ❖ 2nd largest in nominal GDP (US\$).
    - Chinese currency (**yuan** or **RMB** = rénmínbì) is **undervalued** relative to US\$.
    - Chinese GDP represents mostly **production**, as opposed to finance/insurance/rent seeking.



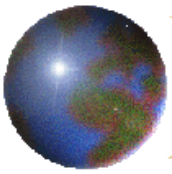


# *Economic Superpower*

Estimated GDP in PPP by Country, 2023

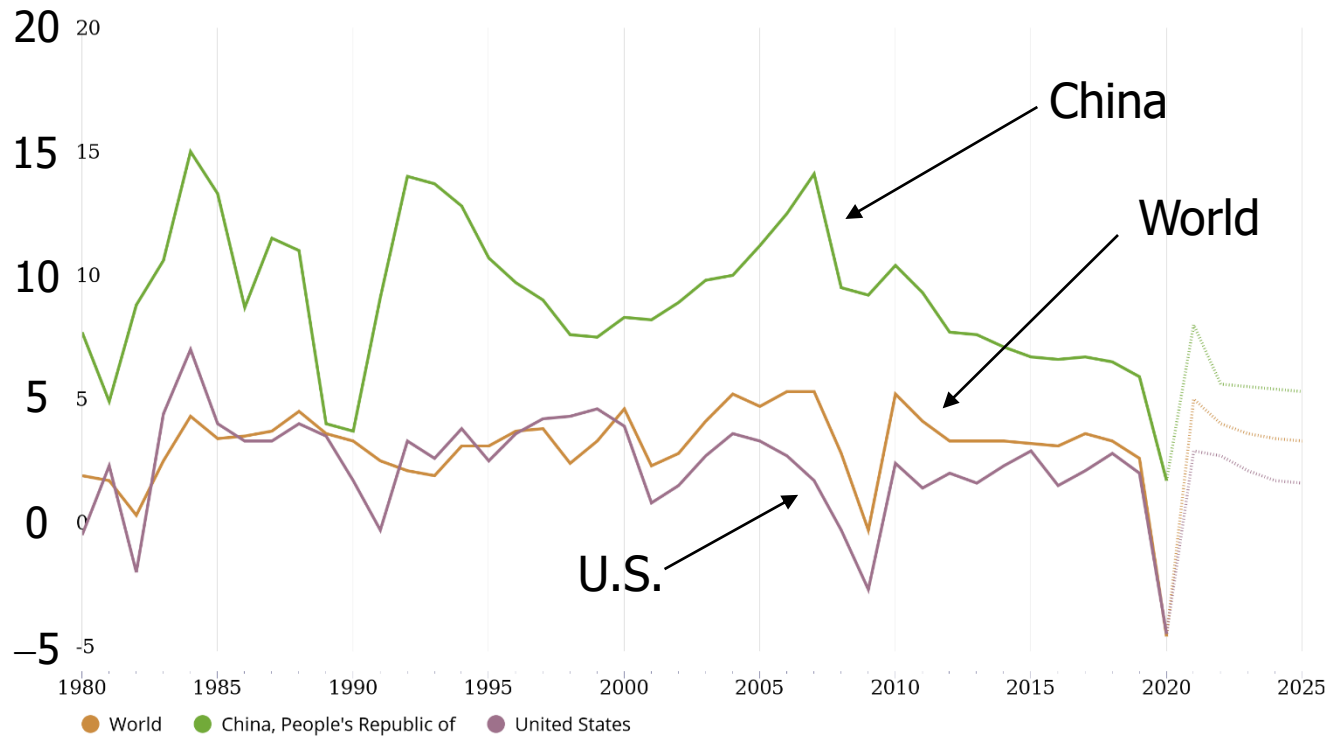


Source: IMF



# *Economic Superpower*

Real & projected GDP growth rate (%), 1980-2025



Source: IMF



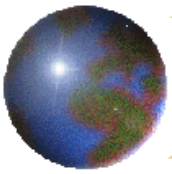


# *Economic Superpower*

## 2023 GDP growth rates

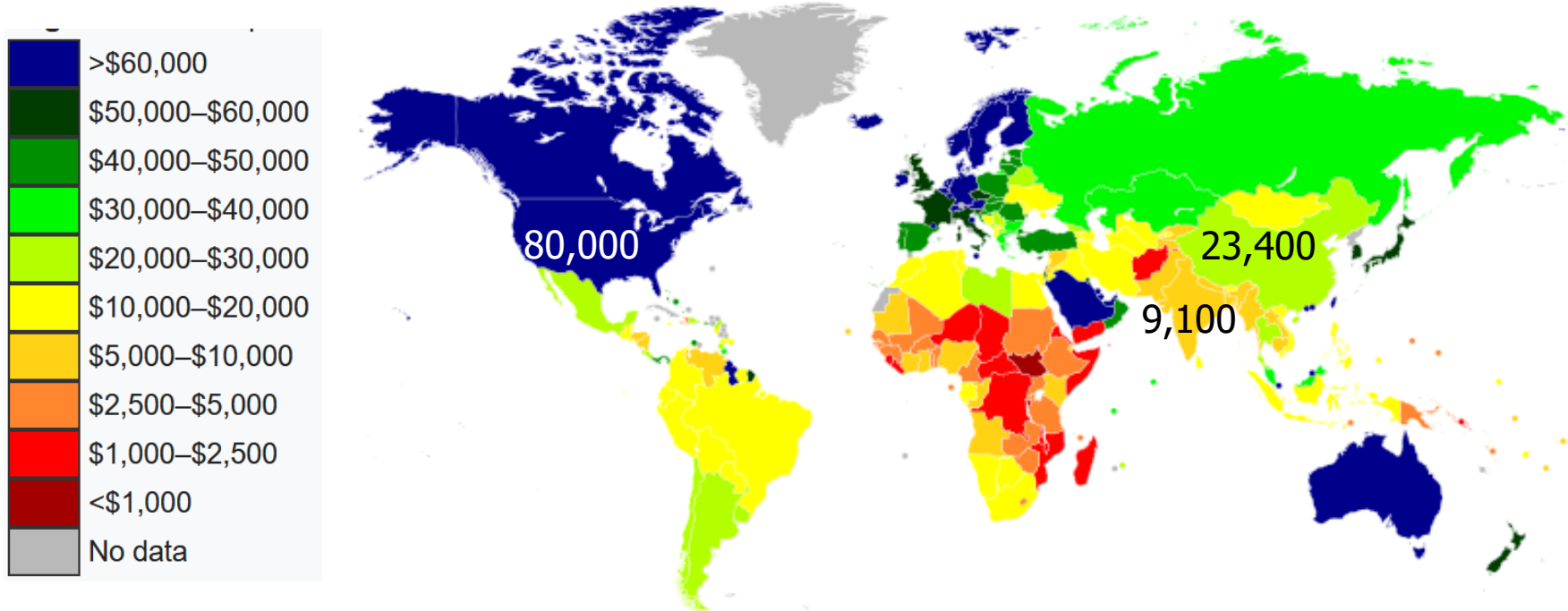
Country	Quarter-on-Quarter		Year-on-Year	
	Qtr 1	Qtr 2	Qtr 1	Qtr 2
China	2.2%	<b>0.8%</b>	5.5%	5.3%
U.S.	2.0%	2.1%	1.8%	2.5%

Too soon to conclude Chinese economy is tanking!

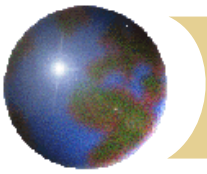


# *Economic Superpower*

Projected per capita GDP in PPP by country, 2023



Source: IMF



# *Economic Superpower*

- ❖ World's largest **sovereign wealth fund**, by far
  - ❖ Foreign exchange reserves \$3.38 trillion (June 2023)
    - 2<sup>nd</sup> largest: **Japan**, \$1.25 trillion
    - 13<sup>th</sup> largest: **U.S.**, \$0.24 trillion
  - ❖ U.S. debt holdings: \$859 billion in Treasuries (Jan 2023)
    - 12% of U.S. government debt
    - This is **not** a security risk to U.S.
    - China doesn't **need** to hoard dollars, due to its trade surplus with U.S. (\$383 billion in 2022).





# How We Got Here

- ✪ China is returning to prosperity of Song Dynasty
  - After **recovering** from **2+ centuries of decline**: Qing Dynasty, European colonialism, Sino-Japanese Wars, Maoist disasters
  - While **U.S. growth slows**, inequality grows during neoliberal period



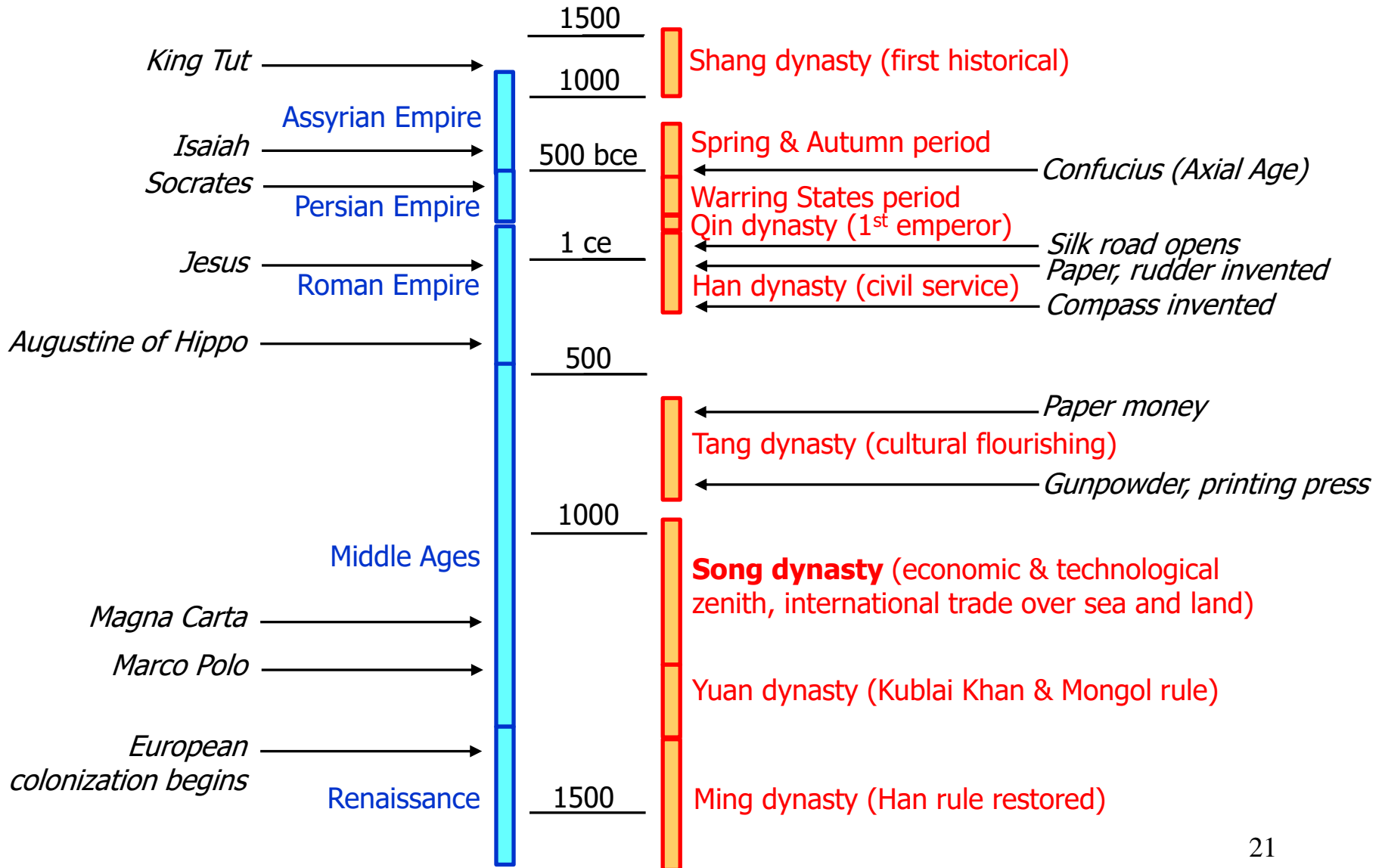
**Deng Xiaoping** (1904-97)  
Architect of the modern  
Chinese economy, 1978-97

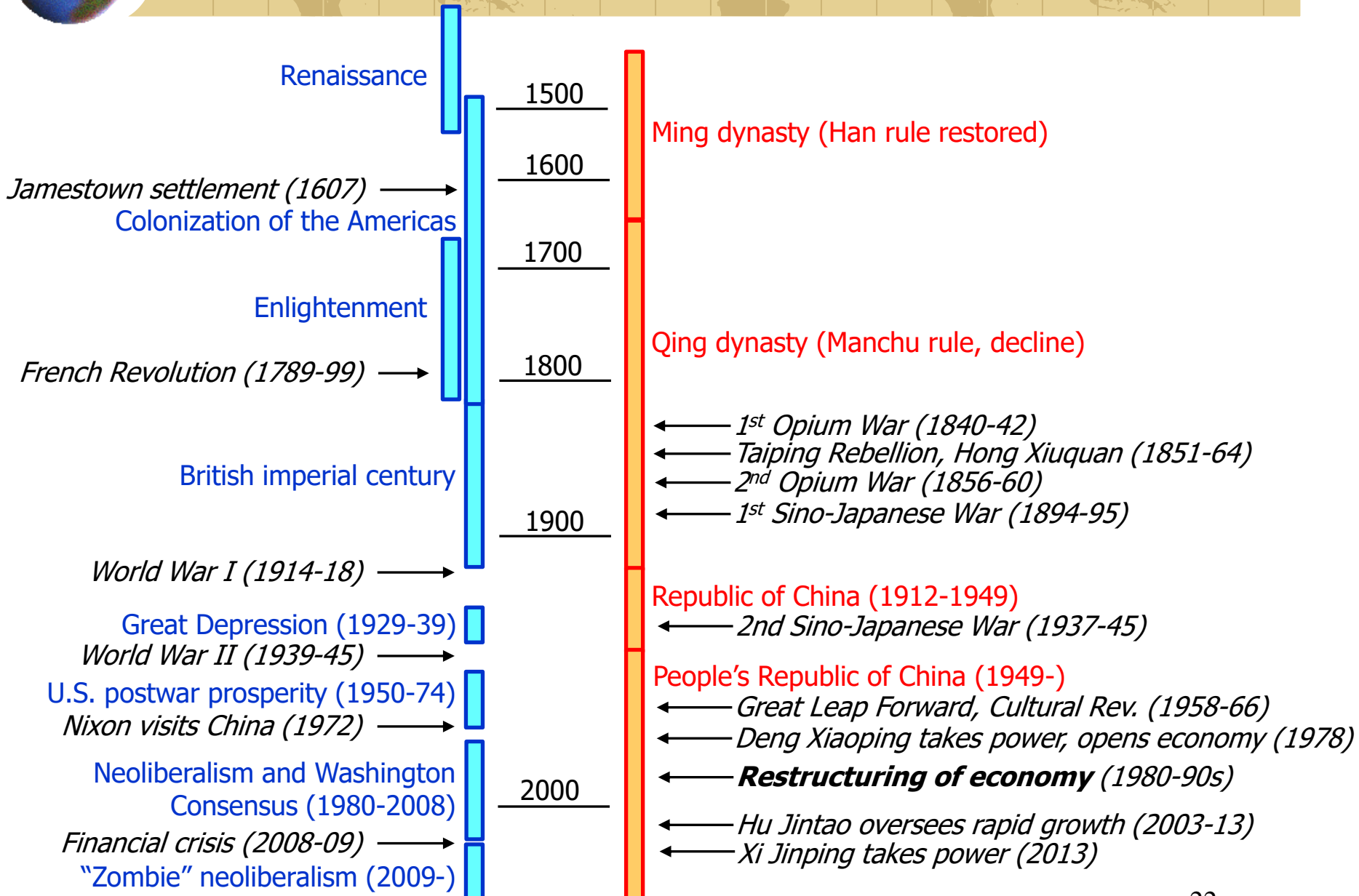
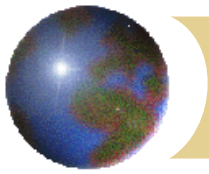


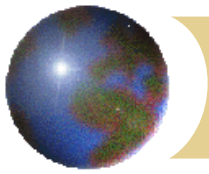
**Hu Jintao** (1942-)  
Oversaw rapid growth,  
effective governance, 2002-12



**Xi Jinping** (1953-)  
Fights corruption, emphasizes  
nationalism, 2013-







# Wealth and Consumerism

✚ Two contrasting views...



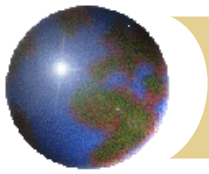
"The superior man seeks what is right; the inferior one, what is profitable."

– Confucius, *Analects* 4:11



"To get rich is glorious."

– Attributed to Deng Xiaoping



# Wealth and Consumerism

✚ Two contrasting views...



"The superior man seeks what is right; the inferior one, what is profitable."

– Confucius, *Analects* 4:11



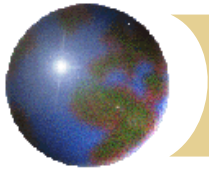
"To get rich is glorious."

– Attributed to Deng Xiaoping

Dominant view today!







# Wealth and Consumerism

## ❖ Singles day (Nov 11)

### ❖ Similar to Cyber Monday, but much bigger!

- Started in 1990s by single 20-somethings
- Nov 11 (11/11) chosen due to many 1's (singles)

### ❖ On Nov 11, 2021: **\$140 billion online sales**

- More than **total** U.S. retail sales on Black Friday + Thanksgiving + Cyber Monday
- U.S. **online** sales: Black Friday **\$9 billion**, Cyber Monday **\$11 billion**





# *Wealth and Consumerism*

- ✦ Advanced pay-by-phone technology





# Wealth and Consumerism

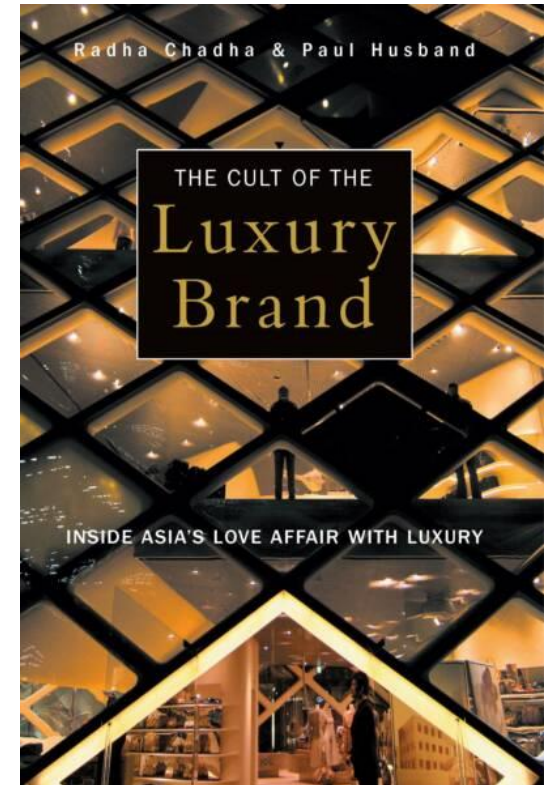
- ✦ Demand for luxury goods
  - ✦ Even by those who can't afford them



Prada Galleria handbag  
\$2,851



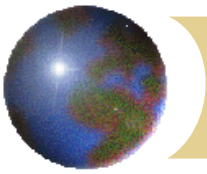
Rolex President 36mm, gold  
\$69,995





# *Economic System*

- ⊕ Does not fit into Western categories
  - ⊞ Not socialist, not capitalist, not Communist
- ⊕ Centralized incentives
  - ⊞ Beijing rewards local officials who follow its policies.
    - Increase local GDP, build infrastructure, reduce poverty
- ⊕ Decentralized execution (“mayor economy”)
  - ⊞ Local officials encourage desirable enterprises
    - Technically, government owns all land
    - Local governments lease land, mainly to private firms (80% of work force)
    - Lease income replaces taxes (which go to Beijing)
    - **Intense competition** within each industry
- ⊕ Central control of key assets
  - ⊞ Big banks, natural resources



# *Economic System*

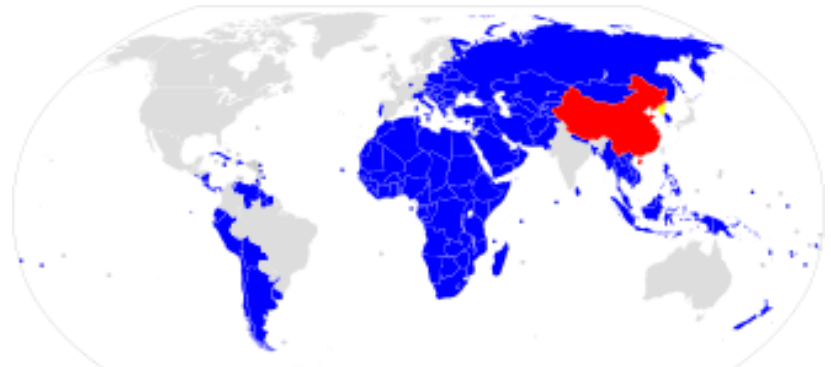
## ✿ Belt and Road Initiative (adopted by Xi Jinping 2013)

### ❏ One Belt One Road (*yī dài yī lù*)

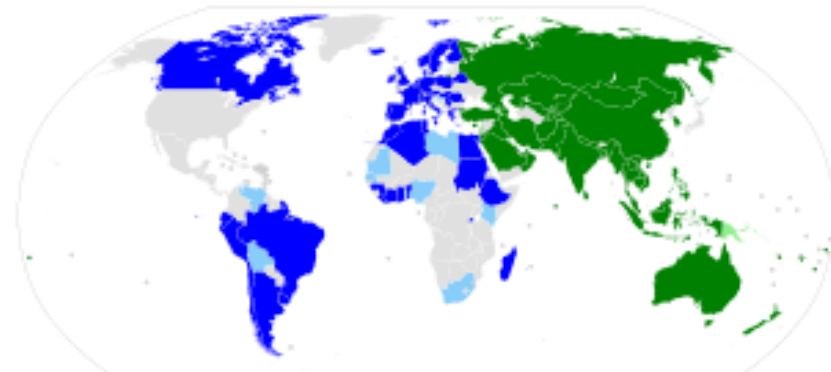
- 154 countries
- Belt = **Silk Road Economic Belt**
- Road = **21<sup>st</sup> Century Maritime Silk Road**

### ❏ Aim: promote world trade with China

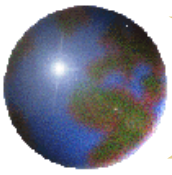
- ...and improve global trade-related infrastructure
- No clear evidence (yet) of “debt trap”
- A complicated story.



Members of Belt and Road Initiative



Members of Asian Infrastructure Investment Bank



# Infrastructure

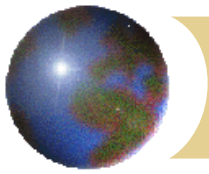
- World's largest high-speed rail system
  - 26,000 miles as of late 2022.



High-speed line, Beijing to Shanghai  
217 mph



Maglev train in Qingdao  
370 mph – world's fastest



# Infrastructure

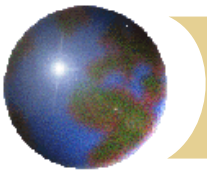
- ✦ New airports everywhere
  - ▣ 29 new passenger airports, 6 freight terminals completed in 2022.



Beijing Daxing Airport  
World's largest single-building terminal



Chengdu Tianfu Airport, 210 gates

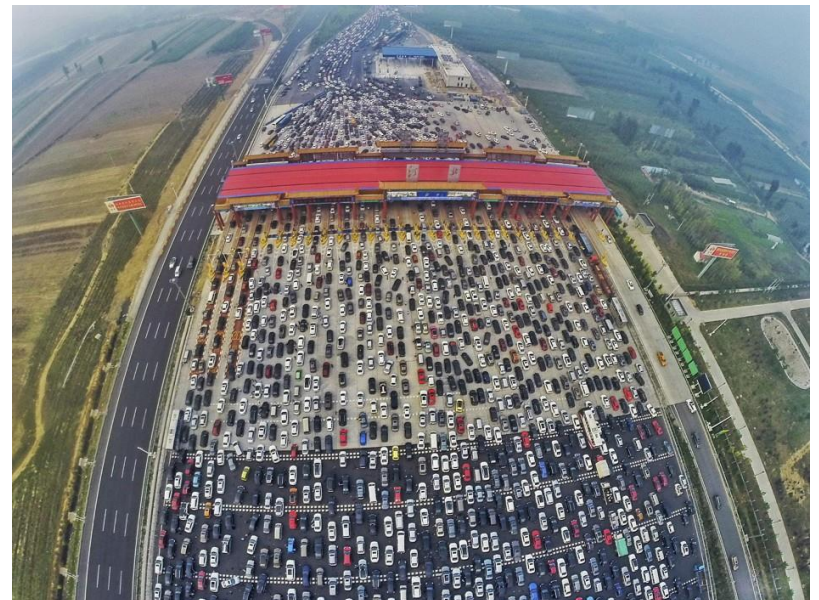


# Infrastructure

- World's largest expressway network
  - 110,000 miles
    - U.S. Interstate Highway system: 46,876 miles

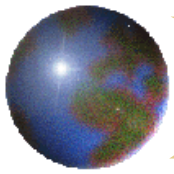


Anshun-Ziyun highway



Traffic at toll station outside Beijing





# Renewables

- ⊕ World's largest solar capacity (453 GW)
- ⊕ World's largest wind capacity (71.6 GW)



Golmud Solar Park  
2.8 GW, world's largest



Gansu Wind Farm  
10 GW, world's largest



# Renewables

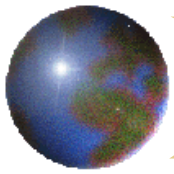
- World's largest EV fleet (5.4 million)
  - 24%** of auto sales in China
  - 1.8 million** public charging stations
  - U.S.: 1.7 million, **7%** of auto sales, **0.13 million** charging stations



Hongguang Mini EV  
Top selling EV in China  
Approx \$5000



BYD Han EV  
Popular mid-size in China  
Approx \$33,000



# Air Quality

## ☉ China air quality is bad but improving

### ❏ 25<sup>th</sup> worst in the world

- After Chad, Iraq, Pakistan, ..., India (8<sup>th</sup>), ..., Iran (21<sup>st</sup>), ..., Kyrgystan (24<sup>th</sup>)

### ❏ But people no longer hock & spit

- Skies once always yellow, now sometimes blue



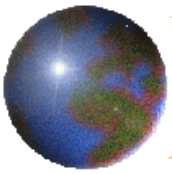
Tiānānmén Guǎngchǎng  
Beijing



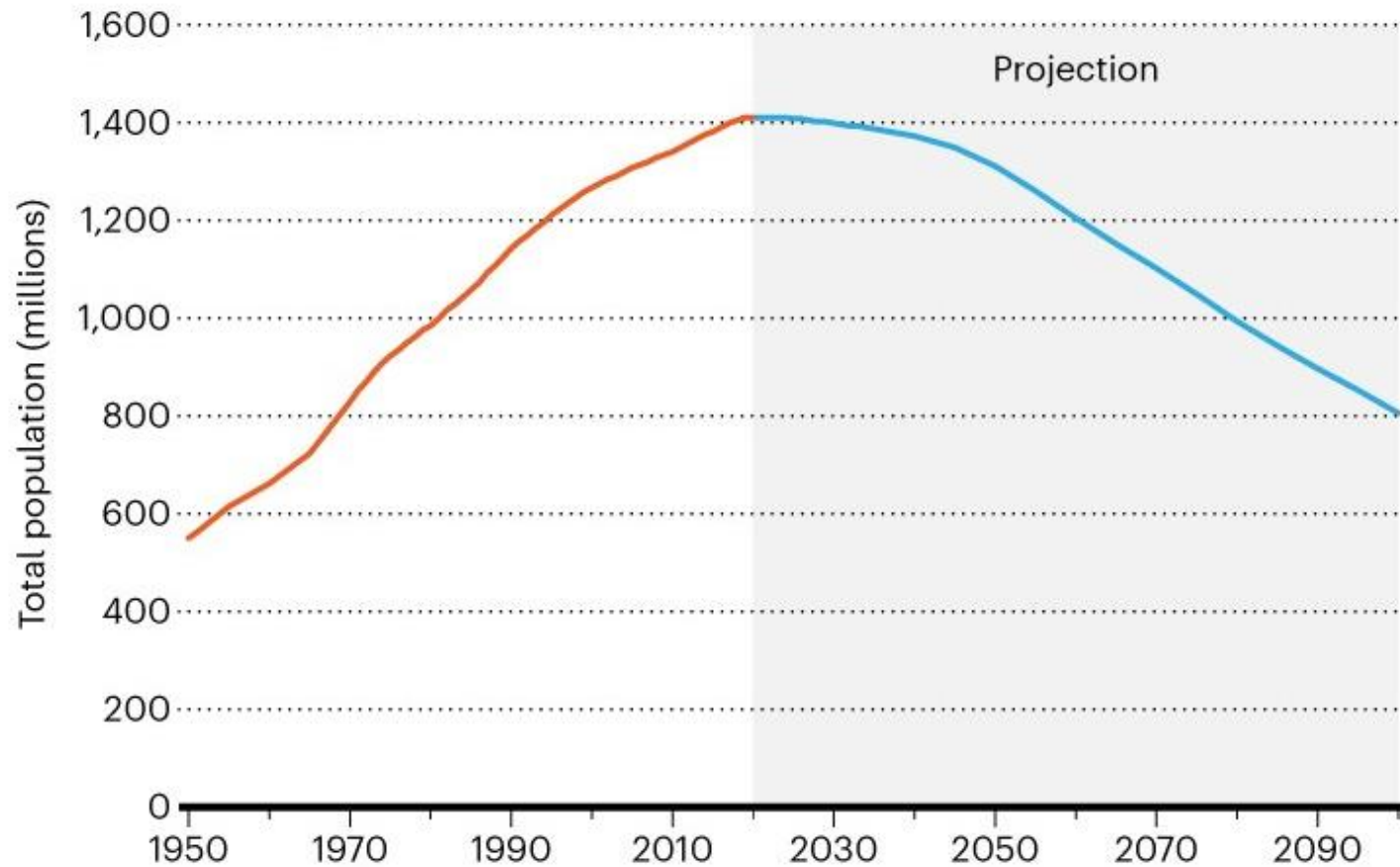
# *Population Trends*

## ✦ Aging and declining population

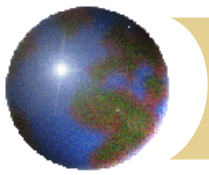
- ✦ Population has almost peaked, will decline rest of the century
- ✦ One-child policy had relatively little effect
- ✦ Main causes are economic
  - Expense of raising children in an urban environment.
  - Women entering the workforce.
  - High cost of cram schools.
- ✦ Gender gap continues to increase
  - 104.7 males to 100 females (2022)
  - 1995 law forbids use of ultrasound to identify gender
  - Men must generally own property and a car before finding a wife.



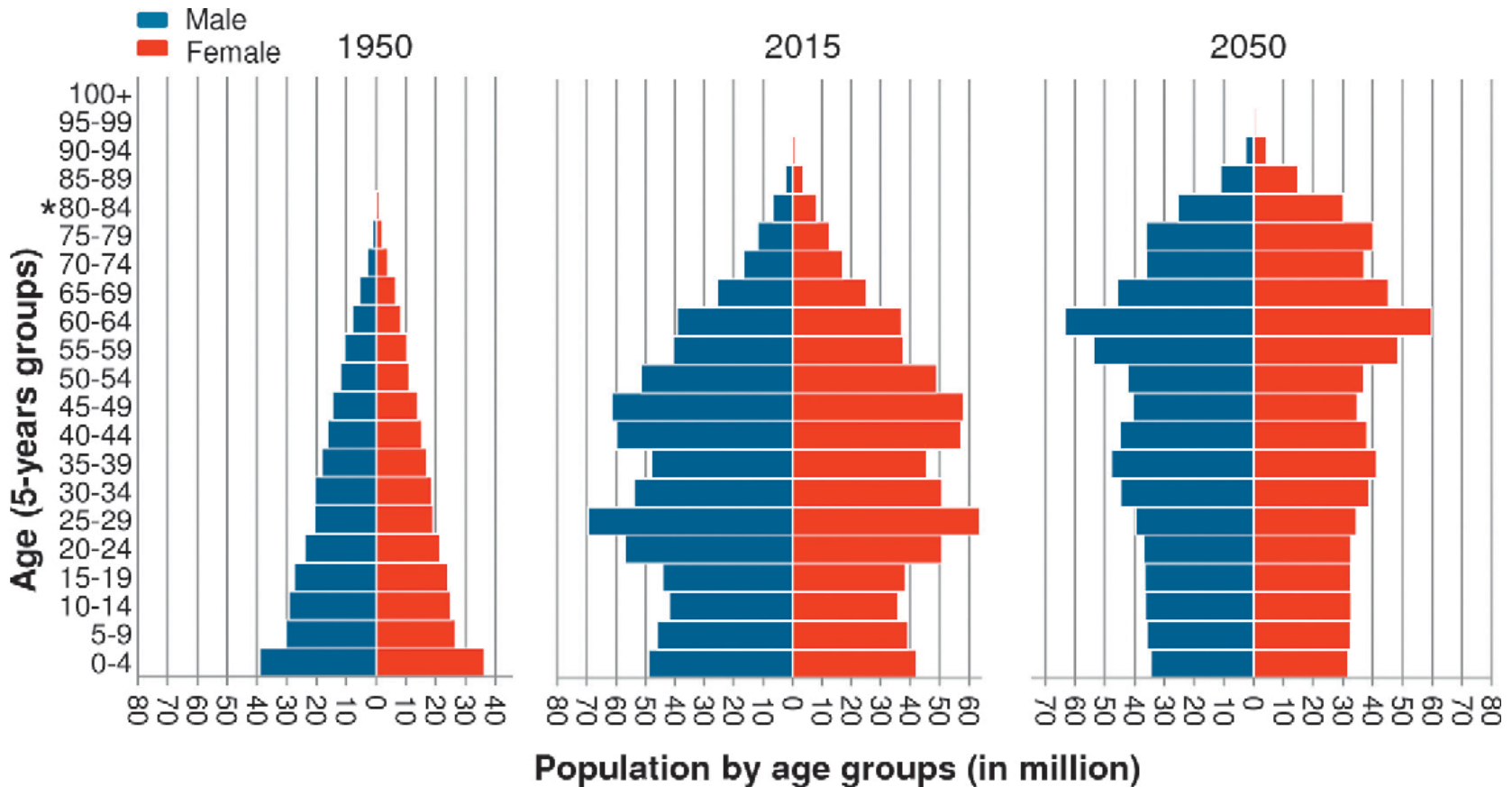
# Population Trends



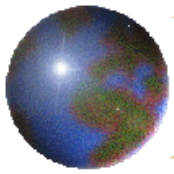
Source: U.N.



# Population Trends



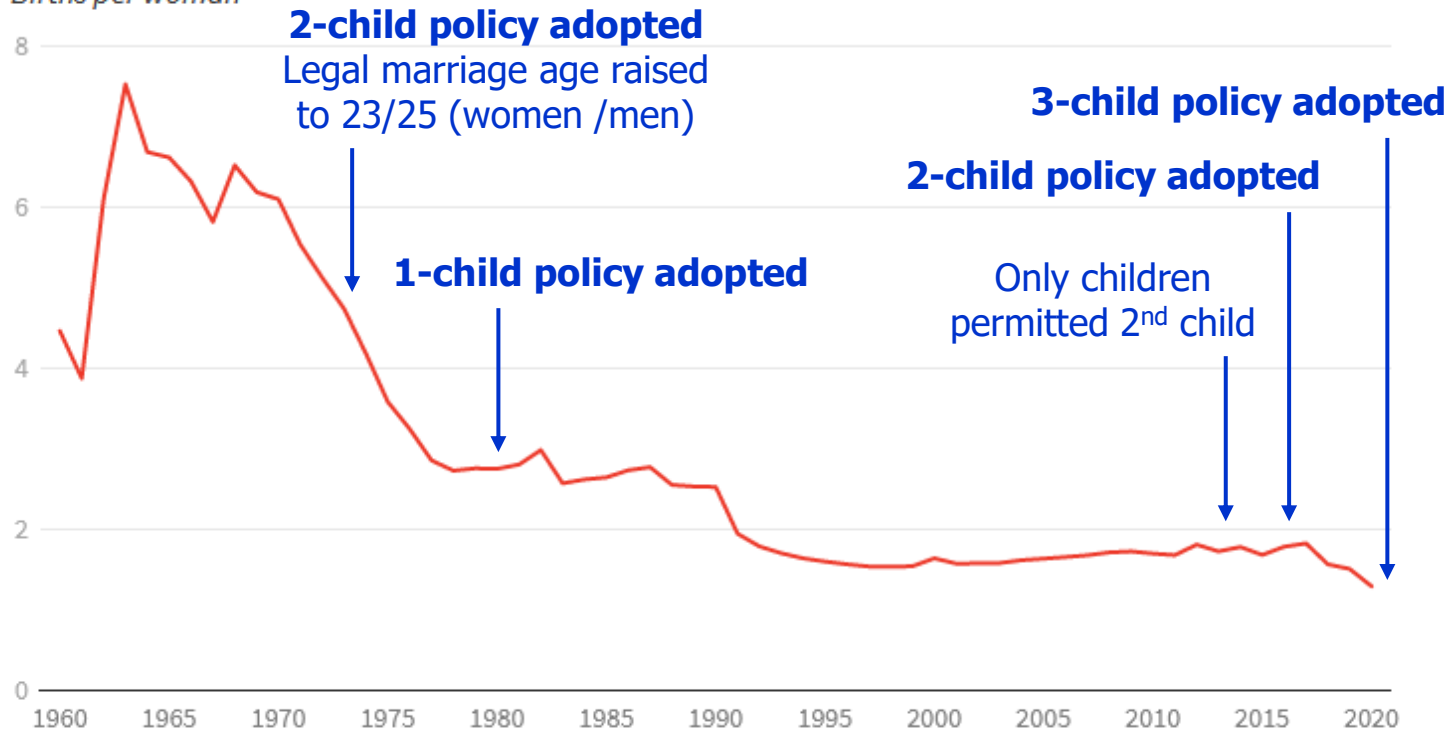
Source: U.N.



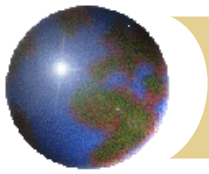
# Population Trends

## China's Declining Fertility Rate

Births per woman



Source: World Bank



# Top Online Sites



Something like Facebook  
1.7 billion users



Tencent 腾讯

QQ is similar to WeChat  
500 million users



China's Google  
650 million users



Douyin -- we know it  
as TikTok  
1 billion users



Tencent Video  
120 million paid  
subscribers



Similar to Twitter  
>500 million users



Similar to TikTok  
350 million users



Little Red Book  
Something like Instagram  
200 million users





# *Protecting Children*

- ❖ Restrictions on online video games (since 2021)
  - ❖ Play only on Fridays and weekends
  - ❖ Max 1 hour/day.
- ❖ Proposed restrictions on screen time
  - ❖ 40 min/day smart phone time for kids under 8
  - ❖ 1 hour/day for kids 8-15
  - ❖ 2 hours/day for teens 16-17
  - ❖ Strict content rules for kids





# Protecting Children

## ✿ July 2021: Cram schools and homework restricted

- Regulations somewhat vague but seen as severely curtailing the highly profitable cram school industry.

### ❏ Why do it?

- Expense of cram schools exacerbates inequality and discourages fertility.
- They encourage rote memorization for *gāokǎo* (college entrance exam).
- They represent an evil of unbridled market forces.





# Government

- ⊕ Chinese take a practical view of government
  - ⊞ They are **not ideological** (outside of Hong Kong & Beijing).
  - ⊞ They just **want results**.



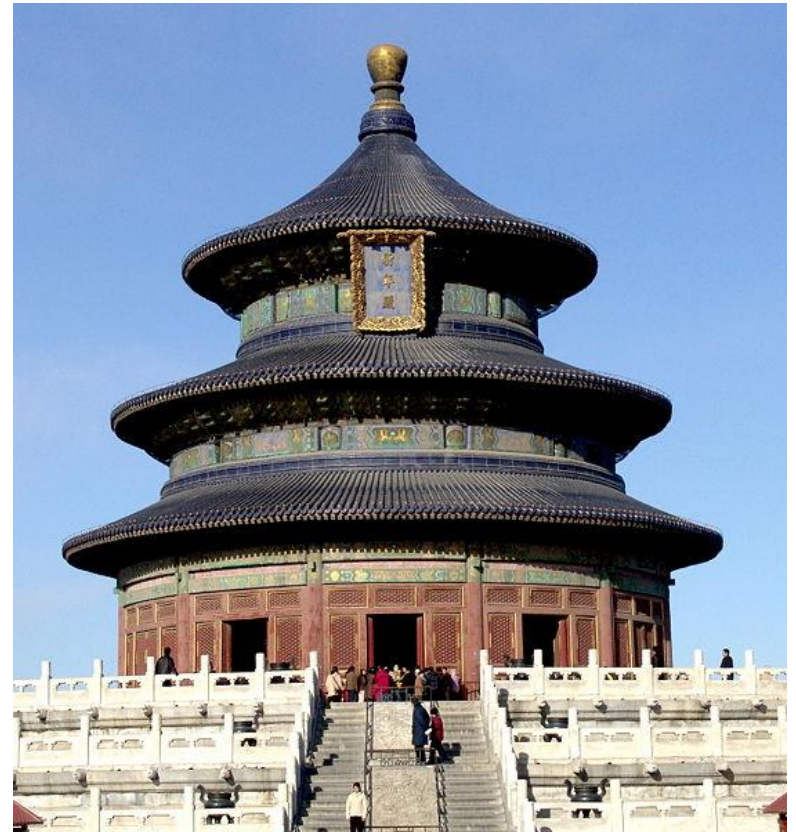
Great Hall of the People, Beijing



# Government

## ✦ Mandate of Heaven

- ✦ The purpose of government is to keep people **prosperous and happy**.
  - If government **succeeds**, people see no need for civic involvement. The government is doing its job.
  - If government **fails**, it loses **Mandate of Heaven** (legitimacy) and can be **overturned**.
  - Government officials are perpetually **nervous** and crack down on what they see as potential insurrection.



Temple of Heaven, Beijing  
Emperor prayed here annually  
for good harvest, to keep Mandate of Heaven



# Government

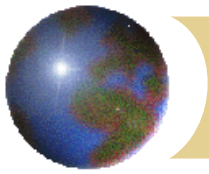
## ✦ Residence permits (*hùkǒu* system)

❏ This is the average person's main contact with government.

- *Hùkǒu* (an ancient practice) is registration with a person's city or town of residence (rural or urban).
- Everyone wants to live in a city and enjoy its prosperity.
- One can obtain government services and a good job only by possessing a *hùkǒu*.
- This is how the government **controls migration to cities**.
- Otherwise, Chinese cities would be surrounded by **massive slums** as in some other countries (e.g., Brazil, Nigeria, Mexico).



Part of a *favela* in Rio de Janeiro



# Government

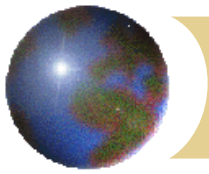
## ✚ Protest and rebellion

### ❏ Chinese do not hesitate to express disapproval.

- One count: about **185,000** “mass incidents” (protests) in 2010.
- At least **2000-3000** labor **strikes** in a year (source: *China Labor Bulletin*, Hong Kong).
- Long history of **peasant rebellions**, some very bloody (e.g., Taiping).
- The “Communist Revolution” was a peasant rebellion.



Mothers who lost school children in a June 2008 earthquake **protest corruption** that led to substandard construction of school buildings in Dujiangyan, Sichuan Province.



# Government

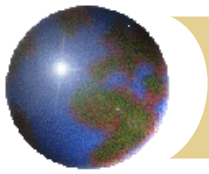
## ✦ Hong Kong and Beijing are different

### ❑ Protests can be pro-democracy.

- Hong Kong population grew up under British influence.
- Much foreign influence in Beijing.
- Students absorb Western perspective.

Students participating in occupation of Hong Kong Polytechnic University escape from pedestrian bridge during police siege of the campus, November 2019.





# Surveillance

- ⊕ Perhaps the world's best surveillance technology
  - ⊞ Especially facial recognition
    - A **major supplier** to other countries (at least 63)
- ⊕ Constant monitoring
  - ⊞ Drones spot illegal activity (even jaywalking) & ID offenders.
  - ⊞ Social media posts monitored...
    - ...although complaints are allowed, because government wants to monitor discontent and **keep people happy**.
    - Censors cannot **keep up** with the flood of online comments.
    - To be safe, don't criticize party officials or official policy.
  - ⊞ Social credit system (under development, optional so far)







# Covid

## ✦ Pervasive surveillance

- ✦ Intrusive police & drones kept people off the streets.
- ✦ People **initially pleased** with strict government response.
  - Government was doing what it is supposed to do: **take charge and fix the problem.**
  - Wuhan almost **back to normal** by January 2021.
  - People have no problem with surveillance if it **benefits them.**
  - But government didn't approve mRNA vaccines until March 2023



Wuhan, December 31, 2020



# Covid

- ✦ Approval turned to discontent
  - ✦ **Mass protests** against severe and unnecessary government crackdown during Omicron outbreak.
    - Xi Jinping **quickly backed down**. All restrictions now removed.

- ✦ Overall results?

- Cumulative Covid death rate = **8.7** per 100,000, mostly since Dec 2022 (source: WHO, Aug 23)
- U.S. cumulative death rate = **331** per 100,000 (source: WHO, Aug 23)



Anti-lockdown protest, Beijing, Nov 2022



# Real Estate Bubble

## Result of search for investment opportunities

### Real estate sector heavily leveraged

- This led to **real estate price bubble**, which began to deflate in late 2021.
- Often compared to **Japanese** real estate bubble, which led to **crash...**
- But increase 2015-2021 was **4.25%** annually.
- U.S. increase 2009-2022 was **> 6%** annually.



Source: St Louis Fed, updated 27 July 2023



# Real Estate Bubble

- Real estate prices now appear to be stabilizing
  - Although demand remains “weak.”



Source: China National Bureau of Statistics



# *Real Estate Bubble*

## ✿ “Ghost cities” in China

### ❏ Led to predictions of doom a decade ago

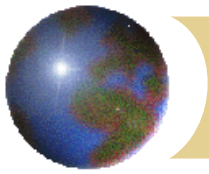
- But in China’s managed development, occupancy follows construction.



Ordos Kangbashi, famous “ghost city” in 2014  
“Only 2% occupied, then abandoned”  
By 2015, 80% occupancy (100,000)



Shanghai’s thriving Pudong District  
once criticized as a “ghost city”



# Real Estate Bubble

## ⊕ How about Evergrande?

- ⊕ 2<sup>nd</sup> largest property developer in China
- ⊕ Debt restructuring
  - Went into default late 2021, after new Chinese debt limits created problems for an overleveraged industry.
  - In process of restructuring, Chinese bailout unlikely.
  - Filed for bankruptcy in U.S. 17 Aug 2023.

### **Evergrande's bankruptcy may be just the beginning of China's real estate crisis**



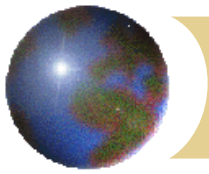
By Allison Morrow, CNN

Published 2:13 PM EDT, Fri August 18, 2023

- Really?
- Country Garden recently posted \$6.7 billion loss, no default yet.



Guangzhou offices  
China Evergrande Group  
中国恒大集团



# *Real Estate Bubble*

- ✦ Is China buying up U.S. farmland?
  - ✦ U.S. Congress moves to restrict purchases.

The New York Times

## ***Senate Targets China, Voting to Restrict Farmland Purchases and U.S. Investment***

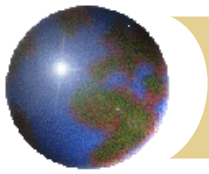
Senators voted overwhelmingly to block Chinese businesses from buying farmland and mandate that American investment in the country's national security industries be tracked.



By Karoun Demirjian

Reporting from the Capitol

July 25, 2023



# Real Estate Bubble

- ✦ China buying up U.S. farmland?
  - ✦ U.S. Congress moves to restrict purchases.
  - ✦ The truth...
    - Chinese purchased **1400 acres** out of **1.3 billion acres** of agricultural land since Jan 2022.
    - Total ownership is **< 0.03%** of farmland.

The New York Times

## *Senate Targets China, Voting to Restrict Farmland Purchases and U.S. Investment*

Senators voted overwhelmingly to block Chinese businesses from buying farmland and mandate that American investment in the country's national security industries be tracked.



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INVESTIGATIONS

## Is China really buying up U.S. farmland? Here's what we found

NBC News reviewed thousands of USDA documents to find out how much agricultural land Chinese entities have reported purchasing since Jan. 1, 2022.

Aug. 25, 2023, 6:30 AM EDT

By Laura Strickler and Nicole Moeder





# *Oppression of Uighurs*

- ✦ An ethnic group in Xinjiang Autonomous Region
  - ✦ Speak a language related to Turkish
  - ✦ Mostly Muslims
- ✦ Subjected to severe oppression since 2014
  - ✦ Apparent attempt to eradicate the culture
  - ✦ Concentration camps now reported to be mostly shut down.



Abandoned Uighur detention camp



# *Oppression of Uighurs*

## ✦ Why?

### ✦ Some theories:

- Overreaction to breakup of Soviet Union, and belief that suppression of regional cultures could avoid breakup of China.
- Uighurs seen as rebellious and a threat to stability, a perennial concern of Chinese government.
- Xi Jinping's preoccupation with national security, which he reportedly regards as more important than economic progress.
- Fear of Islam stoked by 9/11 attack.

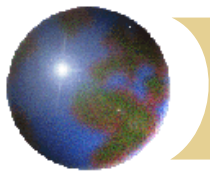




# Chinese Language(s)

- ✿ Chinese is several languages (“dialects”)
  - ❖ Official language of PRC is *Pǔtōnghuà* (Mandarin)
    - Written in Roman letters using *Pīnyīn*.
    - Chinese word for China is *Zhōngguó* (Central Kingdom).
    - Word for Chinese people is *Zhōngwén*.
  - ❖ Cantonese (*Yuè*) often used for business in Guangdong Province
    - Spoken in Guǎngzhōu, Hong Kong (Xiānggǎng), and by many overseas Chinese.





# Chinese Language(s)

## Keyboard input

### Pīnyīn and zhùyīn (Mandarin phonetic symbols) are popular.

- Computer shows menu of possible corresponding characters.
- Or *shuāngpīn* = 2-letter *pīnyīn* abbreviations, supported by Google *pīnyīn*, *Sōngǒu pīnyīn*, Microsoft *pīnyīn*, etc.

### Shape-based methods

- *Wǔbǐ* (5 stroke) method is most popular but hard to learn

Q q iu	W w ia ua	E e	R r er uan	T t ue	Y y uai v	U sh u	I ch i	O o uo	P p un
A a	S s iong ong	D d iang uang	F f en	G g eng	H h ang	J j an	K k ao	L l ai	; ing
Z z ei	X x ie	C c iao	V zh ui ve	B b ou	N n in	M m ian			

Microsoft *pīnyīn* system 微软拼音双拼方案



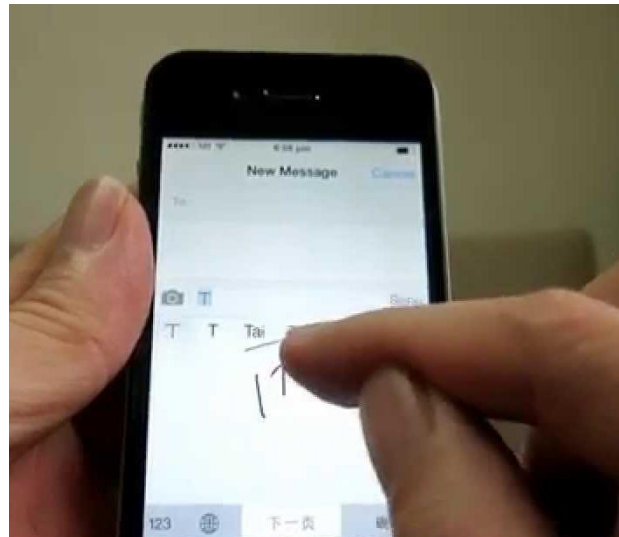
Wubi system

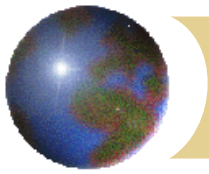


# Chinese Language(s)

## ☛ Smartphone input

- ☛ Use *pīnyīn* keyboard input, or...
- ☛ Draw characters with finger or stylus
  - Screen suggests characters as you enter the strokes.

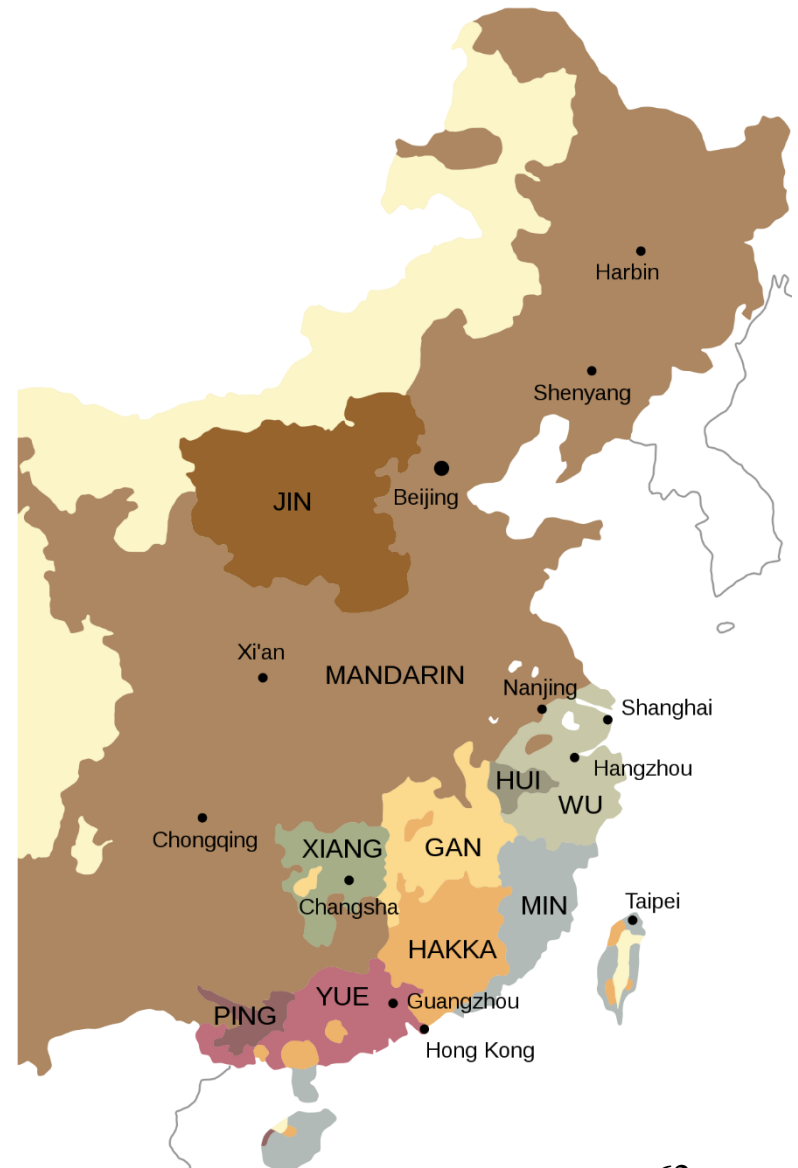


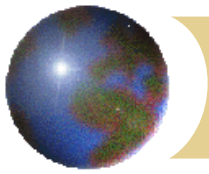


# Chinese Language(s)

## Some Chinese languages

- ❏ *Pǔtōnghuà* = Mandarin
- ❏ *Wú* = Shanghainese
- ❏ Min (*Mǐnyǔ*) = Fujianese
- ❏ Southern Min  $\approx$  Taiwanese
- ❏ *Yuè* = Cantonese





# Chinese Language(s)

☉ “Tones” are important.

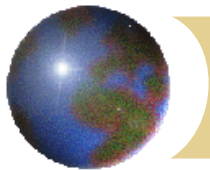
☒ There are 4 in *Pǔtōnghuà*, plus neutral tone:

- *mā* (mother)
- *má* (as in *má jiàng*)
- *mǎ* (horse)
- *mà* (to curse)
- *ma* (used for questions)
- Special phrases are used where English speakers use intonation.

☒ There are 6 tones (many say 9) in Cantonese.



Game of mahjong (*má jiàng*)



# Chinese Language(s)

- Characters are fairly standard...
  - ❏ ...except that mainland China and Singapore use **simplified** characters, while many in Hong Kong and Taiwan use **traditional** characters.

Traditional      Simplified

Traditional	Simplified	Pinyin	English
號	号	(hào)	number
門	门	(mén)	door
業	业	(yè)	industry
學	学	(xué)	study
來	来	(lái)	come
寫	写	(xiě)	write
馬	马	(mǎ)	horse
話	话	(huà)	speech
紙	纸	(zhǐ)	paper
見	见	(jiàn)	see





# Chinese Language(s)

- Some common phrases...

- *Nǐ hǎo* hello
- *Nǐn hǎo* same, more polite
- *Nǐ hǎo ma* how are you?
- *Hěn hǎo xiè xie* very well thank you
- *Wǒ hěn gāoxìng jiàndào nǐ* very pleased to meet you
- *Hǎo jiǔ bù jiàn* "Long time no see"
- *Zǎoshàng hǎo* good morning
- *Wǎnshàng hǎo* good evening
- *Zàijiàn* goodbye





# Chinese Language(s)

- Some common phrases...

- ❖ *Qǐng nǐ* please
- Xiè xie* thank you
- Bù xiè* you're welcome
- Duìbùqǐ* excuse me
- Nǐ shūo Yīngyǔ ma?* Do you speak English?
- Méiyǒu* I can't help you, get lost
- ❖ Counting nouns take the place of plurals:
  - wǔ kuài rénmínbì* 5 RMB
  - yī píng shuǐ* 1 bottle of water

