Democracy and Growth: Making Sense of China

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Founder
China and India Labs
Agenda

- **Democracy and growth:**
  - Global evidence
  - Experience of East Asia
  - China versus India

- **Politics and growth in China:**
  - Growth models: Entrepreneurial capitalism versus state capitalism
  - Rise of state capitalism in the 1990s
  - Challenges of state capitalism

- **Growth prospects and reforms:**
  - The visions of the new leadership
  - Autocracy and market reforms
Global evidence
Democracy is very good at protecting rights

- Civilian deaths during 20\textsuperscript{th} century (Steven Pinker, \textit{The Better Angels of Our Nature}):
  - Totalitarian regimes: 138 million civilian deaths
  - Of which:
    - Communist countries: 110 million
    - Authoritarian countries: 28 million
- Democracies: 2 million
  - Mostly in colonies
  - Including civilian deaths during war bombings
But is democracy good at growth?

- The evidence is more mixed
A long-held view: democracy has negative or null effects on economic growth (Barro 1996, 1997; Gerring et al. 2005; Tavares and Wacziarg 2001)

For instance, an influential paper by Barro (1996) shows that...

Partial relation between growth and democracy

A weak inverse U-shaped curve: Some growth benefits at a low level of democracy but growth depression at a high level of democracy

Source: Barro (1996)
More recent research: Democracy does promote growth

- Focusing on within-country changes, i.e., transitions from autocracy to democracy
  - Previous research: Cross-country comparisons of democracies with autocracies

- Stronger methodological controls:
  - Better controls of “country-fixed” effects that may affect both growth and democracy, such as culture or geography
  - Better controls of global trends toward or away from democracy: Waves of democracy (Huntington 1995)
Change vis-à-vis level

- Latest empirical research: Democratization on average is associated with 20% increase of GDP per capita over 30 years after transition (Acemoglu et al. 2014; Papaioannou and Siourounis 2008)

- The gist of this latest research is on democratization, which is a process of change, not on democracy, which refers to a level of political development

- This has massive implications for China.
Is there an “Asia Drama?” (Gunnar Mrydal, 1974 Nobelist in economics)

- So many Asian countries are autocracies
- And they have grown fast
- India, a democracy, has underperformed

Let’s look at just Asia
A Tale of Two Asian Countries

1990:
- Country A: $317
- Country B: $461

2008
- Country A: $714
- Country B: $650

Two questions:
- Which one is democratic?
- Which are these two Asian countries?
A Tale of Two Asian Countries
So why do so many economists fall in love with authoritarian governments?
East Asian Model: Korea, Taiwan, Hong Kong, and Singapore
China and India: A more nuanced story
Why has China grown so much faster than India?
Financial Express of India: “Manmohan Keen on Making Mumbai a Shanghai” (October 18, 2004)
The “Shanghai Theory of Economic Growth”

- Infrastructures
- Strong government
- State capitalism and government ownership
- Democracy is a hindrance to growth
Just How Important Are Infrastructures?
Which of These Two Countries Grew Faster?

- **Telephones (1989):**
  - Country 1: 107 telephone sets per 1,000 persons
  - Country 2: 10 telephone sets per 1,000 persons

- **Length of railways (electrified railways):**
Soviet Union Had More Phones Than China in 1989 But It Also Collapsed Next Year
India Had an Edge in Infrastructures

Source: oldphotosbombay.blogspot.com
Country-fixed effects at work

- Is there an East Asia growth nexus?
  - Growth is a highly regional phenomenon (Easterly 2014)
- Every single economy that has attained Western income level is East Asian
  - Japan, South Korea, Taiwan, Hong Kong and Singapore (in terms of its cultural orientation)
  - There are three exceptions: China, North Korea and Mongolia
- East Asia has a powerful growth momentum
Which Country Grew Faster? China During Cultural Revolution or India Under Indira Gandhi?
The Answer: China

- From 1966 to 1976, the annual growth of real per capita GDP of China averaged 2.2 percent faster than India’s.

- “Country-fixed” effects—such as history, culture, capabilities—matter a lot for growth.
The Power of Human Capital

- China's greatest advantage: Education

- Literacy rate (WDI 1990-1 data)
  - Adult population: China 77.8%; India 48.2%
  - Women: China 68%; India 33.7%

- India is heavily focused on tertiary education
  - Basic education is severely insufficient
## Life Expectancy

<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>1985</th>
<th>2006</th>
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<tbody>
<tr>
<td></td>
<td>China</td>
<td>India</td>
<td>China</td>
</tr>
<tr>
<td>Men</td>
<td>54</td>
<td>46</td>
<td>68</td>
</tr>
<tr>
<td>Women</td>
<td>55</td>
<td>44</td>
<td>70</td>
</tr>
</tbody>
</table>
Financial Times: “India Poised to Overtake China in Textile.” (No, it is not.)

Source: Financial Times
It is direction, stupid!

- What matters is not whether the country is a democracy or not
- But whether it is trending in a democratic direction
Did Democracy Hinder Growth in India?

- Least democratic during “Hindu rate of growth” (1961-1991): 1.8%
  - 1975 emergency measure
  - State controls of TV stations
- Political reforms since 1991: 5%
  - Village self rule
  - Privatization of media
  - Freedom of information acts

2000 constant per capita GDP; WDI data
India: A Growth Disaster?
India discount vis-à-vis actual performance

- Ranked 4th among 59 emerging economies (real GDP, average 1991-2006):
  1) China: 10.2%
  2) Vietnam: 7.6%
  3) Malaysia: 6.3%
  4) India: 6.2%
  5) Korea: 5.6%
  6) Chile: 5.6%
  7) Jordan: 5.6%
Directional changes in Chinese Politics: The liberal decade of the 1980s and entrepreneurial capitalism

- Village elections
- Security of proprietors
- Long-term land lease
- Financial reforms in rural China
- Rural entrepreneurial revolution
Directional change in Chinese politics

- Directionally liberal phase: 1980s
  - Rural entrepreneurship
  - Mercantilism-free growth
  - Improving income distribution

- Policy reversals: The rise of state capitalism in the 1990s
  - Fast GDP growth but reduced personal income growth
  - Commanding heights model

- Xi Jinping leadership in 2014: How to move away from state capitalism?
Milestones of state capitalism

- Mercantilism
- Heavy industry drives
- Investment intensive
- Energy intensive
Two policy models and two ratios

World Bank: WDI
Is China just another East Asian country?

- Dollar (2013):
  - China invested 10% more than East Asia (=Japan, Korea, and Taiwan) at the same per capita income level.
  - China has a much higher capital/output ratio compared with East Asia at comparable income level.
  - China’s capital/output ratio rose at a much lower income level than East Asia.
  - China has had a lower growth rate of total factor productivity than East Asia.
  - China transitioned to positive external balances much earlier than East Asia.
Hockey-stick industrialization

World Bank: WDI
Resource costs of state capitalism: energy use (kg of oil equivalent per capita)

China

World Bank: WDI database
Relative Measure Of The Pivot In 2000: Energy Use (Kg Of Oil Equivalent Per Capita)

World Bank: WDI database
Relative Measure of the Pivot In 2000: Energy Use (Kg Of Oil Equivalent Per Capita)

China/US

[Graph showing the relative energy use per capita between China and the US from 1980 to 2008, with the ratio increasing significantly from 2000 onwards.]

World Bank: WDI database
Driven by industry, not by households

NBS (2013)
Performance of state capitalism

- **Pros:**
  - Able to build infrastructure rapidly
  - Solve coordination failures (Rosenstein-Rodan 1943) and can scale quickly, e.g., solar panel industry
  - Factor accumulation

- **Cons:**
  - Excess and unproductive investments
  - Not very good at growing personal income and thereby reducing consumption contributions to growth
  - Productivity improvements
State capitalism and building boom
LEIYANG OF HUNAN: $516 PER CAPITA GDP
ZHUUZHOU OF HUNAN: $1161 IN PER CAPITA GDP
ZHUMADIAN OF HENAN: $488 IN PER CAPITA GDP
HONGHE OF YUNNAN: ONE OF THE POOREST PROVINCES IN CHINA
(PROVINCIAL PER CAPITA GDP: $848)
JIAOZUO OF HENAN: $1,034 IN PER CAPITA GDP
JIAOZUO OF HENAN: $1,034 IN PER CAPITA GDP
Socially unproductive projects

- Unlikely to make government efficient by simply housing officials in new buildings
- Raise current GDP but unlikely to raise future GDP (through raising productive potentials of the Chinese economy)
- Crowd out private sector
- Exacerbate social tensions through land takings and underfunding social liabilities (such as pensions, health and education)
- Increase carbon emissions with no obvious social benefits
State capitalism is not good at:

- Growing *personal* income
- Balanced growth and environment
- Governance
- Income equality
- Productivity improvements
The great consumption collapse

Household final consumption expenditure, etc. (% of GDP)

Household final consumption expenditure % GDP. From World Bank’s WDI.
Consumption collapse and state capitalism

- East Asian pattern:
  - Consumption/GDP declined initially but then rose
  - Rising savings rate

- China:
  - Collapse of labor income rather than rising private savings rate
  - Dollar and Jones (2012): China has one of the lowest labor share of income in the world.
Consumption collapse and state capitalism

- **Mechanisms:**
  - Labor repressions (but similar to East Asia)
  - Anti-rural bias: Lowering opportunity costs of industrial employment and raising bargaining power of capital
  - Forcible land takings: Lowering business costs and raising returns on capital
  - High and increasing government savings rate:
    - Taxing rural migrant workers heavily
    - No expenditure obligations on education and health of over 100 million migrant workers
State capitalism and crony capitalism

- **Bloomberg report:**
  - National People’s Congress (NPC) is the wealthiest in the world: The total wealth of 70 richest members of NPC is 90 billion dollars
  - US Congress, Supreme Court, and White House: 7.5 billion dollars

- **Wealth and power nexus:** Corruption
Growth prospects: Is state capitalism sustainable?

- Two strong headwinds:
  - The end of factor accumulation growth
  - Middle income trap

- What will Xi Jinping do?
  - Ambitious economic reform agenda
  - But a strong signal to retain two institutional pillars of state capitalism:
    - SOEs
    - Monopoly of the Chinese Communist Party
    - (He is ignoring our MIT colleague, Daron Acemoglu.)
Why Growth will slow down?

- Growth accounting research by Alwyn Young:
  - Only around 30% of China’s growth due to productivity improvements (TFP)
    - United States: Almost 100% of growth (but much lower rate) due to productivity improvements
  - The limitations on input accumulations:
    - Aging population
    - Diminishing returns on capital investments (already about 50% of GDP)
  - Nature of China’s TFP growth: 60% due to “shift effect” of labor from agriculture to industry (Rozelle 2012)
Can this structural effect persist?

- Summary of very detailed survey work by economists at Stanford and Chinese Universities (Rozelle 2012)
  - Panel data structure
  - Large sample size
  - Sampling representativeness

- Conclusion: China no longer has many young people to move from agriculture to industry
Comparison of off-farm rates by age categories (Rozelle 2012)

<table>
<thead>
<tr>
<th>age cohorts</th>
<th>Percentage with off-farm work in:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1990 (from deBrauw et al. (2002))</td>
<td>2004 (our data)</td>
<td>2007 (our data)</td>
</tr>
<tr>
<td>16-20(^a)</td>
<td>23.7</td>
<td>78.6</td>
<td>93.1</td>
</tr>
<tr>
<td>21-25</td>
<td>33.6</td>
<td>82.8</td>
<td>91.5</td>
</tr>
<tr>
<td>26-30</td>
<td>28.8</td>
<td>71.0</td>
<td>89.4</td>
</tr>
<tr>
<td>31-35</td>
<td>26.9</td>
<td>65.1</td>
<td>87.2</td>
</tr>
<tr>
<td>36-40</td>
<td>20.5</td>
<td>54.0</td>
<td>72.7</td>
</tr>
<tr>
<td>41-50</td>
<td>20.8</td>
<td>44.0</td>
<td>54.1</td>
</tr>
</tbody>
</table>
The contribution to TFP from this shift effect, i.e., 60% of Chinese TFP growth, will be zero.
Middle income trap and income distribution
Since WWII, very few countries succeeded in moving out of “middle-income trap;” (Spence 2011; Rozelle 2012)

<table>
<thead>
<tr>
<th>East Asian Countries / Regions</th>
<th>Mediterranean</th>
<th>Eastern Europe</th>
<th>Others (oil countries*)</th>
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<tbody>
<tr>
<td>S. Korea</td>
<td>Portugal</td>
<td>Croatia</td>
<td>E. Guinea*</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Spain</td>
<td>Slovenia</td>
<td>Trin &amp; Tob*</td>
</tr>
<tr>
<td>Greece</td>
<td>Slovak Rep.</td>
<td>Hungary</td>
<td>Ireland</td>
</tr>
<tr>
<td>Israel</td>
<td>Czech</td>
<td></td>
<td>New Zea.</td>
</tr>
<tr>
<td></td>
<td>Estonia</td>
<td></td>
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Those who succeeded are more inclusive: Low income inequality (Rozelle 2012)

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<tr>
<td>S. Korea (32)</td>
<td>Portugal (38)</td>
<td>Croatia (34)</td>
<td>E. Guinea*</td>
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<td></td>
<td>Greece (34)</td>
<td>Slovakian (26)</td>
<td></td>
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<tr>
<td>Israel (39)</td>
<td>Hungary (31)</td>
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<td>Ireland (34)</td>
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<td></td>
<td>Czech (26)</td>
<td></td>
<td>New Zea. (36)</td>
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<tr>
<td></td>
<td>Estonia (36)</td>
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</tbody>
</table>

Average: 33
Countries currently trying to grow to high income: All very high income inequality (Rozelle 2012)

<table>
<thead>
<tr>
<th>Country</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>46</td>
</tr>
<tr>
<td>Brazil</td>
<td>54</td>
</tr>
<tr>
<td>Chile</td>
<td>52</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>50</td>
</tr>
<tr>
<td>Malaysia</td>
<td>46</td>
</tr>
<tr>
<td>Mexico</td>
<td>52</td>
</tr>
<tr>
<td>Russia</td>
<td>42</td>
</tr>
<tr>
<td>Thailand</td>
<td>42</td>
</tr>
<tr>
<td>Tunisia</td>
<td>41</td>
</tr>
<tr>
<td>Turkey</td>
<td>43</td>
</tr>
<tr>
<td>Uruguay</td>
<td>42</td>
</tr>
<tr>
<td>Venezuela</td>
<td>44</td>
</tr>
</tbody>
</table>

**China:**
45 to 50

Average: 47
The Xi Jinping era: 2012-2022
The Xi Jinping era

- Very detailed pronouncement of comprehensive reform objectives at Third Plenum of 18th Party Congress
  - More comprehensive than focused: 16 broad reform areas: Economy, society, education, military, etc.
  - Long-term goals (by 2020) not a strategy document on how to get from A to B
  - Rejecting endogenous reform approach: Start with a few key areas which will lead to further reforms
The Xi Jinping era

- The Third Plenum Communique:
  - Reemphasized the role of market, although not clear how significant the doctrinaire shift: “Basic role of market” to “decisive role of market”
  - Very strong anti-corruption stance: Implications for infrastructural and real estate developments
  - Loosening entry restrictions in “strategic industries:” Energy and banking, etc.
The Xi Jinping Era

- Institutional pillars of state capitalism

- No large-scale privatization envisioned
  - But SOEs tasked to primarily serve “public purposes” (maybe similar to regulated natural monopolies in the West)
  - Dividends payout will increase to 30% by 2020

- Tightening political controls and explicitly rejecting democratization
WHAT WE KNOW SO FAR:

- Very strong signal on “within-system” reforms: Movement along the curve

- Fairly strong signal on rejecting “across-system” reforms: Shift of the curve
THANK YOU SO MUCH
HIGH-LEVEL COMMITMENTS TO SCIENCE AND TECHNOLOGY

- R&D expenditures
  - 1.7% of GDP in 2009 and 2.0% in 2011 (estimate)
  - Rapidly approaching 2%, approaching level among OECD countries
  - Unusual for a developing country at China’s GDP per capita ($6,000 in 2008 PPP basis; US: $47,000)?

- Higher education undergraduate enrollment:
  - 1999: 1.5 million
  - 2007: 19 million
  - 2011 graduates: 6.6 million

- Graduate programs:
  - Graduate program enrollments (Master and PhD degree programs):
    - 1998: 70,000
    - 2007: 365,000
  - PhD graduates: More than 50,000 in 2007, exceeding the United States
The quantity effect is huge

- China has dramatically increased its publication output in the period from 1980 to 2010 ("Science-citation index" journals)

![Graph showing the increase in number of SCI-indexed, China-affiliated publications by year from 1980 to 2010.](image-url)
THE QUALITY EFFECT IS SMALL: JOURNAL IMPACT FACTOR (JIF)

JIF Trends in Chinese publications

Fensterheim, Huang and Murray (2008)
Summary of Sample Students by University and Country (College of Engineering Students in PKU, Tsinghua … and Stanford in the US)

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>453</td>
</tr>
<tr>
<td>United States</td>
<td>350</td>
</tr>
<tr>
<td>Total</td>
<td>803</td>
</tr>
</tbody>
</table>

Source: Author’s US and China University Student Innovation Survey
## COMPARABLE PROPORTIONS OF STUDENTS IN CHINA AND US WANT TO DO ENTREPRENEURSHIP

Comparison by Country of Sample Students’ Career Plans.

<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interested in starting or</td>
<td>50</td>
<td>65</td>
</tr>
<tr>
<td>joining startup company</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s US and China University Student Innovation Survey
## 22% OF US STUDENTS

Comparison by Country of Sample Students’ Career Plans.

<table>
<thead>
<tr>
<th></th>
<th>China</th>
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</tr>
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<tbody>
<tr>
<td>Percent</td>
<td>50</td>
<td>65</td>
</tr>
<tr>
<td>Interested in starting or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>joining startup company</td>
<td>50</td>
<td>65</td>
</tr>
<tr>
<td>Actually joined a startup</td>
<td></td>
<td>22</td>
</tr>
</tbody>
</table>

Source: Author’s US and China University Student Innovation Survey
BUT ONLY 3% OF CHINESE STUDENTS

Comparison by Country of Sample Students’ Career Plans.

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<tr>
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</tr>
<tr>
<td>Interested in starting or joining startup company</td>
<td>50</td>
<td>65</td>
</tr>
<tr>
<td>Actually joined a startup</td>
<td>3</td>
<td>22</td>
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</tbody>
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Source: Author’s US and China University Student Innovation Survey
### HIGH PAYOFFS OF GOVERNMENT JOBS

Comparison by Country of Sample Students’ Career Plans.

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<td>50</td>
<td>65</td>
</tr>
<tr>
<td>Actually joined a startup</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>Joined the government</td>
<td>52</td>
<td>5</td>
</tr>
</tbody>
</table>

**Source:** Author's US and China University Student Innovation Survey