Theme for Today

Develop perspective of economic development of economies in England and China.

Today mostly figures and tables (establish the “facts”).

Thursday analysis and framework to understand the different trajectories.

My discussion intended to complement Allen’s.
Chapters 1–4 provide narrative and analysis of great divergence, the rise of the west, and the industrial revolution.

Chapters 5–7 provide an economic history of different parts of the world.

Hence: Allen gives the reader “two bites of the apple”.

Chapters 8–9 Model of Modern Development. His conclusion for policy: Big Push Industrialization.
Streamlined Version

With two class periods devoted to the topic by necessity I will give a streamlined presentation.

And will not convey the richness of the scholarship. Different schools of thought on each of the following topics:

1. Many poor countries today were former colonies of Western countries. Did colonization setback these countries and slow their development?

2. Importance of institutions and the driving force of institutional change (D. North).

3. Role of Scientific Revolution in fostering the experimental spirit in Britain.
The issues are far from settled . . .

For every book or article that supports one interpretation there is another that presents evidence as to why that can’t be the whole story.

Results presented today is that China’s development circa 1750 was less than England’s.

This is debatable. Pommeranz (2009) argues that China and England (each the best of the best) were about equal in lifestyle.

It is not debatable that China’s per capita income at 1900 or 1950 was (substantially) less than England’s.
European Agriculture

- Mild climate in Europe. Grow crops year around.
- Rainfall in Europe relatively even during the year.
- Europe knew famine and disease. Peasants could survive one and perhaps two bad crops, but then came starvation.
- Europe left land for forests and fallow; raise larger livestock.
- Large herds; fertilizer, intensive cultivation, more feed. Rich diet dairy products, meat, and animal protein.
Riverine; abundant fertile silt from Yangtze and Yellow Rivers.

Interruption in riverine cultivation could hurt far more than dry/wet spells in rainy climate. (Vulnerable)

Monsoon rains vary season to season & year to year. Floods and droughts.

High demand for labor in rainy season, big yields of wet cultivation promoted high densities of population: 40 times Europe per unit of arable land.

Early and near universal marriage.
### History of Chinese Population

**Table: Chinese Population History**

<table>
<thead>
<tr>
<th>Year</th>
<th>Pop (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td>1000</td>
<td>60</td>
</tr>
<tr>
<td>1200</td>
<td>120</td>
</tr>
<tr>
<td>1400</td>
<td>65–80</td>
</tr>
<tr>
<td>1650</td>
<td>100–150</td>
</tr>
<tr>
<td>1750</td>
<td>200–250</td>
</tr>
<tr>
<td>1800</td>
<td>300</td>
</tr>
<tr>
<td>1850</td>
<td>400</td>
</tr>
<tr>
<td>1950</td>
<td>650</td>
</tr>
<tr>
<td>2000</td>
<td>1200</td>
</tr>
</tbody>
</table>
Chinese agriculture could not run fast enough. State and the society were always striving for new land and higher yields, making and using people in order to feed people.

**Treadmill process.**

Substituted labor for land using 60 to eighty persons per hectare where an American wheat farmer would use one, and obtaining yields double and triple the already good results achieved by dry farming.

By the 13th Century China thus had what was probably the most sophisticated agriculture in the world.

Subsequent innovations added marginally to the Chinese granary.
Development is not Monotonic

Countries and geographic regions experience large swings in population and in economic activity, and in per capita income (an approximate measure of well-being).
## Per capita Income

**Table: Income Per Capita 1–2003**

<table>
<thead>
<tr>
<th>Year</th>
<th>West</th>
<th>Rest</th>
<th>World</th>
<th>W/R</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>569</td>
<td>453</td>
<td>467</td>
<td>1.3</td>
</tr>
<tr>
<td>1000</td>
<td>426</td>
<td>451</td>
<td>450</td>
<td>0.9</td>
</tr>
<tr>
<td>1500</td>
<td>753</td>
<td>538</td>
<td>567</td>
<td>1.4</td>
</tr>
<tr>
<td>1820</td>
<td>1,202</td>
<td>580</td>
<td>667</td>
<td>2.1</td>
</tr>
<tr>
<td>1870</td>
<td>2,050</td>
<td>609</td>
<td>873</td>
<td>2.3</td>
</tr>
<tr>
<td>1950</td>
<td>6,297</td>
<td>1,126</td>
<td>2,113</td>
<td>5.6</td>
</tr>
<tr>
<td>2003</td>
<td>23,710</td>
<td>4,217</td>
<td>6,516</td>
<td>5.7</td>
</tr>
</tbody>
</table>
### Population Growth Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>West</th>
<th>Rest</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–1000</td>
<td>0.00</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>1000–1500</td>
<td>0.16</td>
<td>0.09</td>
<td>0.10</td>
</tr>
<tr>
<td>1500–1820</td>
<td>0.27</td>
<td>0.27</td>
<td>0.27</td>
</tr>
<tr>
<td>1820–1870</td>
<td>0.98</td>
<td>0.29</td>
<td>0.40</td>
</tr>
<tr>
<td>1870–1913</td>
<td>1.08</td>
<td>0.73</td>
<td>0.80</td>
</tr>
<tr>
<td>1913–1950</td>
<td>0.70</td>
<td>0.99</td>
<td>0.93</td>
</tr>
<tr>
<td>1950–1973</td>
<td>1.04</td>
<td>2.11</td>
<td>1.93</td>
</tr>
<tr>
<td>1973–2003</td>
<td>0.65</td>
<td>1.73</td>
<td>1.59</td>
</tr>
</tbody>
</table>
# Life Expectation $(e_0)$, 1000–2003

## Table: Years of Life Expected at birth

<table>
<thead>
<tr>
<th>Year</th>
<th>West</th>
<th>Rest</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>1820</td>
<td>36</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>1900</td>
<td>46</td>
<td>26</td>
<td>31</td>
</tr>
<tr>
<td>1950</td>
<td>66</td>
<td>44</td>
<td>49</td>
</tr>
<tr>
<td>2003</td>
<td>76</td>
<td>63</td>
<td>64</td>
</tr>
<tr>
<td>Period</td>
<td>World Trade</td>
<td>World GDP</td>
<td>Trade/GDP</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>1500–1820</td>
<td>0.96</td>
<td>0.32</td>
<td>3.0</td>
</tr>
<tr>
<td>1820–1870</td>
<td>4.18</td>
<td>0.94</td>
<td>4.4</td>
</tr>
<tr>
<td>1870–1913</td>
<td>3.40</td>
<td>2.12</td>
<td>1.6</td>
</tr>
<tr>
<td>1913–1950</td>
<td>0.90</td>
<td>1.82</td>
<td>0.5</td>
</tr>
<tr>
<td>1950–1973</td>
<td>7.88</td>
<td>4.90</td>
<td>1.6</td>
</tr>
<tr>
<td>1973–2003</td>
<td>5.38</td>
<td>3.17</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>1820–2003</strong></td>
<td><strong>3.97</strong></td>
<td><strong>2.25</strong></td>
<td><strong>1.8</strong></td>
</tr>
</tbody>
</table>

Note: average annual compound growth rates
## Per Capita GDP 1500–2030

Table: Per Capita GDP

<table>
<thead>
<tr>
<th>Year</th>
<th>China</th>
<th>Japan</th>
<th>India</th>
<th>W. Eur</th>
<th>USA</th>
<th>World</th>
<th>C/W</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500</td>
<td>600</td>
<td>500</td>
<td>550</td>
<td>771</td>
<td>400</td>
<td>566</td>
<td>1.06</td>
</tr>
<tr>
<td>1820</td>
<td>600</td>
<td>669</td>
<td>533</td>
<td>1,204</td>
<td>1,257</td>
<td>667</td>
<td>0.90</td>
</tr>
<tr>
<td>1913</td>
<td>552</td>
<td>1,387</td>
<td>673</td>
<td>3,458</td>
<td>5,301</td>
<td>1,526</td>
<td>0.36</td>
</tr>
<tr>
<td>1950</td>
<td>448</td>
<td>1,921</td>
<td>619</td>
<td>4,579</td>
<td>9,561</td>
<td>2,113</td>
<td>0.21</td>
</tr>
<tr>
<td>1973</td>
<td>838</td>
<td>11,434</td>
<td>852</td>
<td>11,416</td>
<td>16,689</td>
<td>4,091</td>
<td>0.20</td>
</tr>
<tr>
<td>2003</td>
<td>4,803</td>
<td>21,218</td>
<td>2,160</td>
<td>19,912</td>
<td>29,037</td>
<td>6,516</td>
<td>0.74</td>
</tr>
<tr>
<td>2030</td>
<td>15,763</td>
<td>30,072</td>
<td>7,089</td>
<td>31,389</td>
<td>45,774</td>
<td>11,814</td>
<td>1.33</td>
</tr>
</tbody>
</table>