Announcements

- **There is no lecture this Friday, March 17th**
- You can pick up your exams at the end of class
- The mean was 84, the median was 85, the highest score was a 95
- The second referee report is due March 29th at 5pm
- The empirical project is due April 14th at 5pm
Readings for the next two weeks

- Clark (2008) *A Farewell to Alms*, Chapter 13
With our notion of natural experiments, let’s rethink the possibility of our Petri dishes and dropper full of institutions. Perhaps there is a source of exogenous variation in institutions, some variation that is completely independent of the relevant characteristics of the society in question. The two Acemoglu, Johnson and Robinson papers on the reading list explore this possibility. African countries will be our Petri dishes. Colonial powers will be dropping in the institutions.
Modern GDP and Urbanization Rates

![Graph showing the relationship between Log GDP per capita, PPP, 1995 and Urbanization in 1995 for various countries.](image)
Urbanization Rates Over Time

![Graph showing urbanization rates over time with different lines for countries with low and high urbanization in 1500, India, and the US.](image-url)
The Resource Curse

MINERAL EXPORTS AND GROWTH, 1970-2008

AVERAGE ECONOMIC GROWTH RATE

FUELS, ORES AND METALS EXPORTS AS A PERCENTAGE OF MERCHANDISE EXPORTS

Source: World Development Indicators, World Bank
Written by Acemoglu, Johnson and Robinson in the American Economic Review (2001)

Similar to other argument, development depends on the types of institutions Europeans set up

Type of institutions is determined by whether Europeans could settle the area

Areas with high mortality rates for Europeans were more likely to get extractive institutions

Areas with low mortality rates were better for settling long term and if you want to be there for a while, you want good institutions
<table>
<thead>
<tr>
<th></th>
<th>Quartiles of settler mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bottom</td>
</tr>
<tr>
<td>Log GDP per capita in 1995</td>
<td>8.9</td>
</tr>
<tr>
<td>Average protection against expropriation risk, 1985-1995</td>
<td>7.9</td>
</tr>
<tr>
<td>Constraint on executive in 1990</td>
<td>5.3</td>
</tr>
<tr>
<td>Constraint on executive in 1900</td>
<td>3.7</td>
</tr>
<tr>
<td>Democracy in 1900</td>
<td>3.9</td>
</tr>
<tr>
<td>European settler mortality rate</td>
<td>20</td>
</tr>
</tbody>
</table>
Horizontal axis measures protection against expropriation risk, so a higher number means less expropriation risk.
Evidence from Europe

- Acemoglu, Johnson and Robinson offer empirical evidence for institutions and economic growth in colonies, but what about institutions in Europe?
- Is there an exogenous source of institutional change within European countries?
- Let’s look at some very recent work by Dittmar and Meisenzahl on Germany in the 1500s
Figure 1: Cities With and Without Reformation Laws

This graph shows the share of cities with a Reformation Law. Vertical lines mark the mass circulation of Luther’s ideas in 1518, the Schmalkaldic War of 1546, and the Peace of Augsburg in 1555.

Figure 2: The Share of Cities with Reformation Laws

This graph shows the share of cities with a Reformation Law. Vertical lines mark the mass circulation of Luther’s ideas in 1518, the Schmalkaldic War of 1546, and the Peace of Augsburg in 1555.
Evidence from Europe

Figure 1: Cities With and Without Reformation Laws

This map shows cities with Reformation Laws (black circles) and without these laws (white squares).
### Table 1: Summary Statistics on Upper Tail Human Capital

<table>
<thead>
<tr>
<th>Cities with Law</th>
<th>Cities without Law</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locally Born Pre-1520</td>
<td>103</td>
<td>1.26</td>
</tr>
<tr>
<td>Locally Born Post-1520</td>
<td>103</td>
<td>36.95</td>
</tr>
<tr>
<td>Migrants Pre-1520</td>
<td>103</td>
<td>0.63</td>
</tr>
<tr>
<td>Migrants Post-1520</td>
<td>103</td>
<td>17.54</td>
</tr>
<tr>
<td>Total Pre-1520</td>
<td>103</td>
<td>1.89</td>
</tr>
<tr>
<td>Total Post-1520</td>
<td>103</td>
<td>54.50</td>
</tr>
</tbody>
</table>

Upper tail human capital is measured by the number of people observed in the Deutsche Biographie. Locally born are people born in a given city \( i \). Migrants to any given city \( i \) are individuals born in some other location \( j \) who died in city \( i \). The last column presents the Hodges-Lehman non-parametric statistic for the difference (median shift) between cities with laws and cities without laws. We use the Hodges-Lehman statistic because we are examining non-negative distributions for which the standard deviation is larger than the mean and as a test statistic that is robust to outliers. Statistical significance at the 99%, 95%, and 90% levels denoted ***, **, and *, respectively.

![Figure 3: The Migration of Upper Tail Human Capital](image)

This graph plots the number of migrants observed in the Deutsche Biographie at the decade level in cities with and without laws. Migrants are identified as people living and dying in town \( i \) but born in some other location \( j \). The vertical line is at 1518, the year Luther’s theses began circulating.
This graph shows the timing of major plague outbreaks in selected cities between 1400 and 1550. Source: Biraben (1975). The vertical lines at 1500 and 1522 delimit the period used in our baseline instrumental variable analysis to construct the early 1500s plague exposure instrument.
So we have some quasi-experimental evidence that institutions matter.

This would then back up the North and Thomas story about the role of institutions in industrialization.

But there is a problem, North and Thomas emphasized people altering institutions when it made economic sense to do so.

If bad institutions led to bad economic outcomes in Africa, why not change them?

Another issue with this experiment in institutions, why was Europe able to colonize Africa in the first place?
So new questions emerge from our attempts to answer our big question

Why are some bad institutions persistent even when there are big economic incentives to change them?

Where did this big differences emerge that led to Europe being in a position to alter African institutions?

Is there some bigger picture long run process that the institutional story is just one piece of?

To look at these questions, we’ll consider work on comparative development by Nathan Nunn and Jared Diamond

First, the question of persistent bad institutions
Mobutu Sese Seko, in power 1965 to 1997
## Persistent Bad Institutions

**Most corrupt leaders, Global Corruption Report 2004 (Transparency International)**

<table>
<thead>
<tr>
<th>Head of State</th>
<th>Country</th>
<th>Time Period</th>
<th>Funds Embezzled</th>
<th>GDP per capita (2001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mohamed Suharto</td>
<td>Indonesia</td>
<td>1967-1998</td>
<td>$15 to 35 billion</td>
<td>$695</td>
</tr>
<tr>
<td>Ferdinand Marcos</td>
<td>Philippines</td>
<td>1972-1986</td>
<td>$5 to 10 billion</td>
<td>$912</td>
</tr>
<tr>
<td>Mobutu Sese Seko</td>
<td>Zaire</td>
<td>1965-1997</td>
<td>$5 billion</td>
<td>$99</td>
</tr>
<tr>
<td>Sani Abacha</td>
<td>Nigeria</td>
<td>1993-1998</td>
<td>$2 to 5 billion</td>
<td>$319</td>
</tr>
<tr>
<td>Slobodan Milosevic</td>
<td>Serbia/Yugoslavia</td>
<td>1989-2000</td>
<td>$1 billion</td>
<td>n/a</td>
</tr>
<tr>
<td>Jean-Claude Duvalier</td>
<td>Haiti</td>
<td>1971-1986</td>
<td>$300 to 800 million</td>
<td>$460</td>
</tr>
<tr>
<td>Alberto Fujimori</td>
<td>Peru</td>
<td>1990-2000</td>
<td>$600 million</td>
<td>$2051</td>
</tr>
<tr>
<td>Pavlo Lazarenko</td>
<td>Ukraine</td>
<td>1996-1997</td>
<td>$114 to 200 million</td>
<td>$766</td>
</tr>
<tr>
<td>Arnoldo Aleman</td>
<td>Nicaragua</td>
<td>1997-2002</td>
<td>$100 million</td>
<td>$490</td>
</tr>
<tr>
<td>Joseph Estrada</td>
<td>Philippines</td>
<td>1998-2001</td>
<td>$78 to 80 million</td>
<td>$912</td>
</tr>
</tbody>
</table>
Persistent Bad Institutions

Imelda Marcos’ shoe collection, 1986
A corrupt leader might resist good institutions for personal gain

Counterargument: potential personal gain is bigger if GDP is bigger

Counter-counterargument: not if embezzled funds come out of aid (see one of our recent Nobel laureates)

Another counterargument: this level of corruption creates strong incentives for revolt

This fits in with North and Thomas (and the writers’ strike)

Institutional change is costly but at some point benefits exceed the costs
Laurent-Desire Kabila and the Alliance of Democratic Forces for the Liberation of Congo
Back to Mobutu

Fall of the Berlin Wall, 1989
Rwandan refugee camp in East Zaire
Languages in the Democratic Republic of the Congo
The Persistence of Bad Institutions

In the case of Mobutu, bad institutions seemed to persist for a couple of reasons:

- A big one was the backing of more powerful governments.
- A second was the nature of the sources of wealth.
- When conditions changed, revolt finally happened.
- However, this revolt didn’t automatically lead to good institutions and economic prosperity for all.
- The Democratic Republic of the Congo still had major issues stemming from ethnic fractionalization, highlighting the important role of social institutions.
A Slightly Different Take on African Development

This brings us to another economist’s approach to the issues of institutions and African development

Nathan Nunn and “The Long Term Effects of Africa’s Slave Trade”

Nunn looks at the effects of slave trading in Africa on modern economic outcomes of African countries

He explores the argument of whether slave trades and colonialism are an explanation of African underdevelopment

This argument has elements of governmental institutions but also social institutions and helps explain the persistence of bad institutions
Quick Overview of the Slave Trade

- Slave trade lasted from roughly 1400 to 1900
- Colonial rule in Africa lasted between 1885 to 1960
- Four different slave trades:
  - Trans-Atlantic: slaves taken from West Africa, West-Central Africa and Eastern Africa to European colonies in the New World
  - Trans-Saharan: slaves taken from south of the Saharan desert to Northern Africa
  - Red Sea: slaves taken from inland Africa and shipped to Middle East and India
  - Indian Ocean: slaves taken from Eastern Africa and shipped to Middle East, India and plantation islands in the Indian Ocean
Quick Overview of the Slave Trade

- Over 18 million slaves were exported (12 million were through trans-Atlantic trade)
- Estimated that by 1850, Africa’s population was half of what it would have been without the slave trade
- Slave trade led to social and ethnic fragmentation, political instability, weakening of states, corruption of judicial institutions
## Countries Exporting the Most Slaves, 1400-1900

### Estimated Total Slave Exports between 1400 and 1900 by Country

<table>
<thead>
<tr>
<th>Isocode</th>
<th>Country name</th>
<th>Trans-Atlantic</th>
<th>Indian Ocean</th>
<th>Trans-Saharan</th>
<th>Red Sea</th>
<th>All slave trades</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGO</td>
<td>Angola</td>
<td>3,607,020</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3,607,020</td>
</tr>
<tr>
<td>NGA</td>
<td>Nigeria</td>
<td>1,406,728</td>
<td>0</td>
<td>555,796</td>
<td>59,337</td>
<td>2,021,859</td>
</tr>
<tr>
<td>GHA</td>
<td>Ghana</td>
<td>1,614,793</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,614,793</td>
</tr>
<tr>
<td>ETH</td>
<td>Ethiopia</td>
<td>0</td>
<td>200</td>
<td>813,899</td>
<td>633,357</td>
<td>1,447,455</td>
</tr>
<tr>
<td>SDN</td>
<td>Sudan</td>
<td>615</td>
<td>174</td>
<td>408,261</td>
<td>454,913</td>
<td>863,962</td>
</tr>
<tr>
<td>MLI</td>
<td>Mali</td>
<td>331,748</td>
<td>0</td>
<td>509,950</td>
<td>0</td>
<td>841,697</td>
</tr>
<tr>
<td>ZAR</td>
<td>Democratic Republic of Congo</td>
<td>759,468</td>
<td>7,047</td>
<td>0</td>
<td>0</td>
<td>766,515</td>
</tr>
<tr>
<td>MOZ</td>
<td>Mozambique</td>
<td>382,378</td>
<td>243,484</td>
<td>0</td>
<td>0</td>
<td>625,862</td>
</tr>
<tr>
<td>TZA</td>
<td>Tanzania</td>
<td>10,834</td>
<td>523,992</td>
<td>0</td>
<td>0</td>
<td>534,826</td>
</tr>
<tr>
<td>TCD</td>
<td>Chad</td>
<td>823</td>
<td>0</td>
<td>409,368</td>
<td>118,673</td>
<td>528,862</td>
</tr>
</tbody>
</table>
Countries Exporting the Most Slaves, 1400-1900

[Map showing the slave trade routes from Africa to the Americas and Europe.]

Overview of the Slave Trade Out of Africa

Number of slaves:
- 8,000,000
- 4,000,000
- 2,000,000
- 1,000,000

Width of routes indicates number of slaves transported.

[Map elements include arrows indicating trade routes, with labels for countries and regions such as "Caribbean," "Brazil," "Rio de la Plata," "Atlantic Ocean," "Indian Ocean," "Sub-Saharan Africa," "North America," "South America," "Europe."
Countries Exporting the Most Slaves, 1400-1900

Map showing countries exporting the most slaves from 1400 to 1900.
Economic Growth for Countries with the Lowest and Highest Slave Exports
The Long Term Effects of Conquest

- Clearly some areas of Africa were far more affected by slavery than others
- Today, those areas that exported the most slaves are less economically developed
- So why is this an institutions story?
- Nunn’s answer is that the slave trade had profound impacts on several features of institutional development:
  - Ethnic fractionalization
  - State development
  - Levels of distrust
Slaves Exports and Modern Distrust

Regions hardest hit by the slave trade exhibit the least trust today

Level of trust
- Lowest
- Highest

Concentration of slave trade
- Lowest
- Highest
Returning to Europe

[Image of a historical illustration related to European history]
Returning to Europe
Percentage of votes for the NSDAP in the German National Election of 1928 (Voigtlander and Voth, 2012)
Institutions as an Explanation

- So Nunn’s work gives us insight into why a bad shock to institutions may have persistence.
- These social dimensions of the effects of slavery can make it difficult for good government institutions to take hold and be effective.
- These issues were compounded by the political boundaries drawn by colonial powers.
- One takeaway from Nunn: dropping in good institutions may not be sufficient.
- One question remaining from Nunn and AJR: why were Europeans able to alter African institutions?
- Why wasn’t it Africa colonizing Europe?