State Development and Violence:
- The Culture of Honor in the South
- The Homicide Resource Curse

Pauline Grosjean

University of New South Wales
Economics

Santa Fe Institute January 2014
The puzzle

- Homicide rates 4-5 times higher in US than in Europe
- US South –white offender- homicide specificity: homicide rate in Deep South today: 8.6, nearly 3 times that in Northern States
The civilizing process (Elias 1939)

- Homicide rates 4-5 times higher in US than in Europe
- US South –white offender- homicide specificity: homicide rate in Deep South today: 8.6, nearly 3 times that in Northern States

- Role of institutions: secular decline in violence rooted in development of the state and its monopolization of violence
- Role of culture: agents internalize social control
  - Cohen and Nisbett (1996): “culture of honor” rooted in settlement by herders “from the fringes of Britain”, the “Scots-Irish” in particular

- What is the role of culture in explaining homicide?
- How do formal institutions and culture interact?
This work

- Interpersonal violence rooted in economic vulnerability and absence of third party enforcement
- Private justice system, substitute for third party enforcement

- Long term persistence of cultural norms of violence, but:
  - Persistence conditional on quality of formal institutions
  - Culture adapts to institutional evolution

- Culture no longer matters in presence of strong institutions
  - Experimental evidence in Cassar, D’Adda and Grosjean (2013):
    - Better institutions promote better behavior (trust game)
    - Culture does not matter for cheating behavior under strong institutions
Homicide in the US South: Culture of Honor Hypothesis


• Cohen & Nisbett (1994): root of this ideology within differences in origins and in occupations (pastoralism vs. farming) of early settlers
  – South: herders from “fringes of Britain”, particularly the Scots-Irish
  – Attitudinal, behavioral, physiological differences: higher propensity of Southerners specifically towards violence to protect one’s reputation
  – However: no direct empirical link to Scots-Irish settlers
The Scots-Irish, Lawlessness and Interpersonal Violence

• Presbyterian Ulster Scots. Re-settled from Anglo-Scot borderland in 17th century by James I
  – Pastoralists, cattle rustlers in lawless regions

• Cultures of honor in pastoralist societies (Edgerton 1967; Braudel 1949, Pitt-Rivers 1966) because of susceptibility to theft
• Role of violence for enforcement of property rights in absence of third party enforcement

➢ 18th century Scots-Irish more prone to violence because relied on easily stolen herds and came from lawless areas
The Scots-Irish in the United States

• Migration to the US chiefly completed over 18th century
• Economic and religious motivations behind emigration to the US
• Migration of Highland Scots after 1745 defeat of Charles Edward Stuart

• Became the backcountry settlers, where open spaces reinforced herding as basis of economy
• Met weak formal institutions in Antebellum South (Wyatt-Brown 2001, Besley, Persson and Sturm 2010)
The Scots-Irish in the United States
The Scots-Irish in the United States

“The Scots-Irish were more prone to personal violence and more conscious of honor than any other group then settled in the country”
Bertram Wyatt-Brown (2001)

“Scots and Irish immigrants brought their homicidal tendencies with them to North America. [...] The Scots-Irish were more than twice as likely to be murdered or to commit murder than other colonists. [...] In Virginia, the Scots-Irish had a reputation for extraordinary violence” Roth (2009)
The Scots-Irish in the United States

• Irish: 3.7% of the population but 13% of homicide assailants between 1676-1800 in New England and Virginia (Roth 2009)
• Scots: 12% of the population, 20% to 26% of homicide assailants (Roth 2009)
The hypothesis

- Culture of honor: private justice system: substitute for public law and order
- Scots-Irish culture of honor had emerged as response to lawlessness and economic vulnerability
- Provided the best adaptive response to deficient formal institutions
The hypothesis

- David Hackett Fischer (1989):
  “These emigrants from North Britain established in the southern highlands a cultural hegemony that was even greater than their proportion on the population. An explanation of this fact may be found in the character of this American environment, which proved to be exceptionally well matched to the culture of the British borderlands” (p. lxi).
Data

- **Crime data**: Uniform Crime Reporting Program Data by US DOJ and FBI
  - Information on offenses and arrests by race
  - Supplementary Homicide Report: circumstances, relationship between offender and victim

- **Historical data on settlements**:  
  - 1790 Census: countries of origin, slaveholding. 150 counties, 13 states

- **Proxies for institutional quality**:  
  - Dates of county creation
  - Newspaper circulation (Besley and Prat 2006, Gentzkow, Glaeser and Goldin 2006): number of newspaper per capita in county in 1840
    (10.64 in North, 8.94 in Border South, 3.80 in Deep South, on average)

- 2000 census: socio-economic and demographic data
Econometric Specification

\[
 m_c = \beta_0 + \beta_1 SI_c + \beta_2 BS_c + \beta_3 DS_c + \beta_5 X_c + e_c \tag{1}
\]

\[
 m_c = \beta_0 + \beta_1 SI_c + \beta_2 BS_c + \beta_3 DS_c + \beta_4 BS_c * SI_c + \beta_5 DS_c * SI_c + \beta_7 X_c + e_c \tag{2}
\]

\( m_c \)  Annual homicide rate per 100,000 people. County average 2000-2007 Overall homicide and white offender rate

\( SI_c \)  Proportion of Scot or Scot-Irish settlers in county in 1790

\( BS_c, DS_c \)  Border South (MD, WV, DE, KY, OK, TN) and Deep South (VA, SC, NC, AL, AR, FL, GA, LA, TX) dummies

\( X_c \)  Socio-economic and demographic determinants of contemporary crime Historical county pop. density in 1790, slave numbers.
Controlling for contemporary determinants of crime, Scots-Irish settlements drive homicide rates in the South only

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Homicide rate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prop. SI 1790</td>
<td>7.20*</td>
<td>3.04</td>
<td>-5.82</td>
<td>4.70</td>
<td>0.26</td>
<td>-8.61*</td>
</tr>
<tr>
<td></td>
<td>[4.20]</td>
<td>[4.00]</td>
<td>[4.80]</td>
<td>[3.68]</td>
<td>[3.59]</td>
<td>[4.58]</td>
</tr>
<tr>
<td>Border South</td>
<td>3.07***</td>
<td>-0.58</td>
<td>-0.39</td>
<td>4.09**</td>
<td>-3.70</td>
<td>-2.89</td>
</tr>
<tr>
<td></td>
<td>[0.96]</td>
<td>[1.53]</td>
<td>[2.09]</td>
<td>[2.01]</td>
<td>[2.36]</td>
<td>[2.69]</td>
</tr>
<tr>
<td>Deep South</td>
<td>4.51***</td>
<td>-2.00</td>
<td>5.91</td>
<td>-1.20</td>
<td>-6.99**</td>
<td>-0.33</td>
</tr>
<tr>
<td></td>
<td>[1.05]</td>
<td>[1.83]</td>
<td>[4.09]</td>
<td>[2.12]</td>
<td>[2.68]</td>
<td>[4.19]</td>
</tr>
<tr>
<td>Border South*Prop. SI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-16.70</td>
<td>42.91**</td>
<td>34.23*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[21.98]</td>
<td>[19.61]</td>
<td>[17.88]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep South*Prop. SI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>167.45***</td>
<td>126.04**</td>
<td>86.84*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[63.15]</td>
<td>[59.87]</td>
<td>[52.24]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Historical controls</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>2000 controls</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>State dummies</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Observations</td>
<td>147</td>
<td>145</td>
<td>145</td>
<td>147</td>
<td>145</td>
<td>145</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.19</td>
<td>0.53</td>
<td>0.63</td>
<td>0.29</td>
<td>0.58</td>
<td>0.64</td>
</tr>
</tbody>
</table>

Robust standard errors in brackets. ***, **, *: usual significance levels. Yearly average homicide rate for 2000-2007, per 100,000 people. “2000 controls”: log of aggregate earnings, proportion of the population residing in urban areas, proportion of the population black, ethnic fragmentation, income Gini coefficient. “Historical controls”: number of slaves and population density in 1790
Institutional Quality and the Culture of Honor

• Presence of Scots-Irish positively associated with homicide:
  – Only in newer counties
  – In areas with low newspaper circulation
Magnitude and additional results

- Only holds for white offenders
- Scots-Irish settlements explain 10% of the total variation in white offender rates in the Deep South and 20% of the residual variation left unexplained by the contemporary and other historical explanatory variables
- Consistent with kinship-based culture of honor, Scots-Irish settlement does not explain crime in general; only contribute to homicides between non family related acquaintances or remote family rather than immediate family
Establishing Causality

• Robust to controlling for large number of other historical characteristics
  – If anything, Scots-Irish more educated and richer

• Results robust to using an instrumental variable strategy using total number of Scots-Irish in US and characteristics of settlers’ way to the South as instruments

• Results specific to Scots-Irish and not other groups
Mechanisms of cultural persistence

1. Social interactions (Glaeser, Sacerdote, and Scheinkman 1996): violence feeds on itself
2. Paternalistic cultural transmission (Bisin and Verdier 2001): traits are transmitted within families
3. Violence as best-response to weak institutions

- Results suggest combination of 2. and 3.: violence persisted where it paid off
  - Tabellini (2008): cultural transmission depends on characteristics of external enforcement
Cultural persistence

• Americans of Scots-Irish descent more violent today
• But only in the South in general
• Where violence paid off in particular: areas with more recent institutions and low newspaper circulation in 1840

• Southerners of Scots-Irish ancestry also display a value system that is consistent with the reliance on private justice: gun ownership, defiance of central political institutions and of formal law enforcement institutions
Adaptation

• Convergence of institutional quality between South and North

• Relationship between Scots-Irish ancestry and gun ownership, mistrust of political and judicial institutions stronger for older cohorts

• Between 1980 and 2007, average ‘depreciation rate’ of the influence of the Scots-Irish culture of honor on homicide in the South is about 3.4% yearly
Conclusion

• Violent culture as a private justice system, substitute for formal law enforcement

• Long term persistence of cultural norms of violence, but:
  • Persistence conditional on quality of initial institutions
  • Culture adapts to institutional evolution
The Homicide Resource Curse

- Underlying mechanism of the culture of honor: relationship between rule of law, appropriable resources and violence
- Basic idea: In absence of Weberian state: property rights backed by violence
- Historical natural experiment: Mineral discoveries in presence or absence of the state
Resources and violence without the state:
The popular view

*The Treasure of the Sierra Madre*
Resources and violence without the state: The economics literature view

- “The Not So Wild Wild West” (Anderson and Hill 1979, 2004): peaceful “anarchocapitalism”
- “Order without law” (Clay and Wright 03): “Social institutions and rules for gold mining” avoided “unusual violence”
Resources and violence without the state:

This paper

• 19th century Southwest “staggeringly violent” (Roth 09): homicide rates up to 90 - 120 per 100,000 in Californian mining counties

• Violence not in mine fields. In street or saloon, between whites, in context of argument, quarrel, honor

Deadwood
Results

• Mineral discoveries associated with:
  – Higher interpersonal violence (murder, assault) but no less secure property rights, historically and today
  – Formal institutions’ quality: lower judicial independence, capture of state legislature, explains (part of) the persistence

• But only if mineral discoveries occurred *before* state
Data

• Mineral discoveries:
  – Mineral Resources Data System: sample of 4,500 for which:
    • Localization, year of discovery, commodity

• State Development:
  – County territorial status at time of discovery: colony or state vs. territory

• Violence and Crime:
  – 19th century – crime and circumstances in 7 CA counties and a few other counties in AZ, NE and CO (Criminal Justice Research Centre)
  – Today: UCR (FBI). County level
Mineral Discoveries and State Development:

Source: National Association of Counties, MRDS
Identification

- Mineral Discoveries
  - State, federal, and private surveys (Davis 1972)
  - Incentive system such that private enterprise (David and Wright 1997)
    ⇒ Open, saturated prospecting (David and Wright 1997, Clay and Jones 2008)
  - Spread out throughout territory (Gold in 27 states)

> **Restrict attention to discoveries within 5 or 10 years window and to neighboring counties only**
Identification

- Mineral Discoveries
  > Restrict attention to discoveries within 5 or 10 years window and to neighboring counties only

- State incorporation
  – Largely due to external factors (e.g. conflict with Mexico for the West)
Identification

• Mineral Discoveries
  > Restrict attention to discoveries within 5 or 10 years window and to neighboring counties only

• State incorporation
  – Largely due to external factors (e.g. conflict with Mexico for the West)
  > Include state fixed effects
Identification

• Mineral Discoveries
  > Restrict attention to discoveries within 5 or 10 years window and to neighboring counties only

• State incorporation
  > Include state fixed effects

• Selection of miners
  – If anything: positive selection in case of CA: more educated, more middle class (Clay and Jones 2008)
## Balance of covariates: Early and late mining counties

<table>
<thead>
<tr>
<th>Covariate</th>
<th>Difference between 'Early' and 'Late' mining counties</th>
<th>t-stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log agg earnings 2000</td>
<td>0.160</td>
<td>0.72</td>
</tr>
<tr>
<td>Prop. Black 2000</td>
<td>-0.006</td>
<td>0.84</td>
</tr>
<tr>
<td>Gini 2000</td>
<td>-0.007</td>
<td>1.59</td>
</tr>
<tr>
<td>Pop density 2000</td>
<td>-23.498</td>
<td>0.21</td>
</tr>
<tr>
<td>Prop. Urban 2000</td>
<td>0.056</td>
<td>1.34</td>
</tr>
<tr>
<td>Prop. literate whites in 1900</td>
<td>-0.005</td>
<td>0.68</td>
</tr>
<tr>
<td>Prop. literate blacks&amp;colored in 1900</td>
<td>0.016</td>
<td>0.41</td>
</tr>
<tr>
<td>Farm labor exp. per acre 1900</td>
<td>-0.974</td>
<td>0.57</td>
</tr>
<tr>
<td>Value of farm product per acre in 1880</td>
<td>0.026</td>
<td>0.02</td>
</tr>
<tr>
<td>Avge. Manuf. Wage in 1900</td>
<td>-0.311</td>
<td>0.59</td>
</tr>
<tr>
<td>Prop. Female 1880</td>
<td>-0.160</td>
<td>1.17</td>
</tr>
<tr>
<td>Pop. Density 1880</td>
<td>-17.703</td>
<td>0.32</td>
</tr>
<tr>
<td>Pop. Density 1900</td>
<td>-24.550</td>
<td>0.30</td>
</tr>
</tbody>
</table>
Hypothesis

(1) In presence of the state: neither violence for expropriation nor violence for intimidation

(2) In absence of state: PR no more uncertain than under state, but:

(3) Violence for intimidation occurs

(3.1.) It increases in value of resources

(3.2.) Violent party captures larger share of surplus

• Implications:
  – Capture: violence $\Rightarrow$ power $\Rightarrow$ institutional quality
Minerals, state development, and violence: Historical Evidence

- Homicide higher in mining counties (42 vs. 33 per 100,000, t-stat: 2.33)
- Correlation between homicide rate and people in mining: 0.82
- Miners over-represented as perpetrators and victims (73% against 50% of the population: t-stat of 4)
- Majority of homicide in context of quarrels, in plain sight

- In regressions with county and year fixed effects: positive and significant relationship between mineral discoveries and homicide
Minerals, state development, and violence today
Empirical Specification

\[ Violence_{cs} = \beta_0 + \beta_1 Mining_{cs} + \beta_2 EarlyMining_{cs} + \beta_3 X_{cs} + \delta_{s(c)} + \epsilon_{cs} \]

- \( Violence_{cs} \): violence in county \( c \): homicide, assaults vs. property (robbery, burglary)
- \( Mining_{cs} \): whether mining county
- \( EarlyMining_{cs} \): Mining history: dummy or proportion mines discovered before state, i.e. when territory
- \( X_{cs} \): county characteristics and historical controls:
  - Today: Pop. dens, income, literacy, ethnic fragm., Gini, % black, % urban
  - Historic: Pop. dens., % female, literacy, ethnic fragm., ag. output, manuf. wages,
  - Other: latitude, initial date of county creation
- \( \delta_{s(c)} \): state fixed effects

Standard errors: (i) clustered at state level, (ii) corrected for spatial correlation (300km radius) (Hsiang 2010)
Regression Results: Interpersonal violence higher where mineral discoveries before rule of law

Table 2: Relationship between mining history and today’s violent crimes.

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mining county</strong></td>
<td>38.76</td>
<td>37.39*</td>
<td>5.80</td>
<td>4.33</td>
</tr>
<tr>
<td>*</td>
<td>(23.80)</td>
<td>(21.51)</td>
<td>(21.13)</td>
<td>(18.91)</td>
</tr>
<tr>
<td><strong>Early mining</strong></td>
<td></td>
<td></td>
<td>202.67***</td>
<td>208.80***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(58.43)</td>
<td>(60.37)</td>
</tr>
<tr>
<td><strong>State FE</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Contemporary controls</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Historical controls</strong></td>
<td>Yes</td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Adjusted R-squared</strong></td>
<td>0.39</td>
<td>0.40</td>
<td>0.40</td>
<td>0.41</td>
</tr>
</tbody>
</table>

*** p<0.01, ** p<0.05, * p<0.1. White heteroskedastic standard errors adjusted for clustering at the state level in parentheses. OLS regressions. Each column presents the estimates from a separate regression. 2,015 observations in each regression. Violent crimes include murders and aggravated assaults. Mining county is a dummy variable equal to 1 if the county had any mining activity. Early mining is a dummy variable equal to one if the county experienced mineral resources discoveries before organization of the land. All regressions include state fixed effects and a constant term. All regressions include the date of creation of the county and the following Contemporary controls measured in 2000: (log of) county’s aggregate income, (log of) income per capita, shares of blacks and women in the population, fractionalization, Gini coefficient, population density, and urbanization rate. Historical controls include the following covariates: manufacturing wage, white and black literacy rates, and county’s population in 1900, manufactured, agricultural and other farming products outputs, population density, and share of women in 1880.
Regression Results: No effect on property crime / violence for expropriation

Table 3: Relationship between mining history and today’s property crimes and other crimes.

<table>
<thead>
<tr>
<th>Dependent variables: rate of different crimes per 100,000 inhabitants in 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Mining county</td>
</tr>
<tr>
<td>Early mining</td>
</tr>
</tbody>
</table>

Adjusted R-squared | 0.34 | 0.26 | 0.61 | 0.24 | 0.11 |

*** p<0.01, ** p<0.05, * p<0.1. White heteroskedastic standard errors adjusted for clustering at the state level in parentheses. OLS regressions. Each column presents the estimates from a separate regression. 2,015 observations in each regression. Property crimes include robbery, burglary, and larceny. Mining county is a dummy variable equal to 1 if the county had any mining activity. Early mining is a dummy variable equal to one if the county experienced mineral resources discoveries before organization of the land. All regressions include state fixed effects and a constant term. All regressions include all contemporary and historical covariates used in table 2.
Additional results

• Discoveries on territories associated with 200 additional murders and assaults per 100,000 in 2000— a 40% increase at the mean
• Robust when consider only discoveries within 5 or 10 years of one another
Persistence

- Institutional quality: the political resource curse
- Cultural norms
Institutional Quality

- If violence yields power: Consequences for Institutional Quality?
Political Resource Curse: Retention of State Judges
(Epstein et al. 2000: higher ⇔ more judicial independence)
Mineral Discoveries and Institutional Quality
Empirical Specification

\[ IQ_{st} = \beta_0 + \beta_1 Mining_{st} + \beta_2 EarlyMining_{is} \times Mining_{st} + \delta_{s(i)} + \delta_t + \epsilon_{st} \]

- \( IQ_{st} \): judicial independence (state courts) and competitiveness of state elections in state \( s \) at time \( t \)
- \( Mining_{st} \): number of discoveries that occurred in state \( s \) at time \( t \)
- \( EarlyMining_{is} \): dummy =1 if discovery occurred in county \( i \) of state \( s \) before state \( s \) incorporated into Union, or before county \( i \) incorporated in state \( s \)
- \( \delta_{s(i)}, \delta_t \): state and time (yearly) fixed effects
Mineral Discoveries and Institutional Quality

- A mineral discovery in a given period in a given state associated with lower independence of state judges:
  - Lower probability judges elected vs. appointed by legislature
  - Shorter terms for state judges
  - Lower probability that intermediary appellate court is present
- But only in states with some discoveries before complete incorporation
- Magnitude around 6% across measures
- Effect particularly strong for gold and silver, and when prices high
- Mineral discoveries in other (older) states tend to have, if anything, positive effects
Conclusion(s)

• Interpersonal violence as substitute for third party enforcement
• Can persist in the long run through internalization in cultural norms and further deterioration of subsequent institutions

➢ State development curbs interpersonal violence
  – Through influence on institutions and on culture: the two arms of the civilizing process

• Main aim of violence is at reputation, while order emerges in the jungle
➢ State development affects violent crime more than property crime
Thank you!

Marc Sangnier

Mathieu Couttenier