Public Enforcement of Securities Laws: A Comparative Perspective
Professor Howell E. Jackson
Harvard Law School

BBL Seminar at RIETI
Ministry of Economy, Trade and Industry
June 13, 2007
Outline

• Background on Project

• Jackson & Roe, Public Enforcement Paper

• Areas for Future Research and Policy Implications
How Large a Staff Should We Hire?

Level of Staffing

“Optimal Regulation”

Benefits

Costs
Problems in Measuring Costs (and Benefits) in Financial Regulation

• **Costs**
  – Direct Governmental Costs***
  – Direct Private Costs
  – Adjudication Costs
  – Cost of Disrupted (but Desirable) Transactions
  – [Sanctions (Monetary & Non-monetary) & Fees]

• **Benefits**
  – Consumer Protection
  – Lowering Cost of Capital
  – Elimination of Systemic Risk
  – Equitable, Redistributive & Political Goals
Problems in Comparative Analysis

- Differences in Scale
- Differences in Financial Sectors
- Differences in Regulatory Objectives
- Differences in National Endowments
- Differences in Private Remedies/Responsibilities
- Differences in Compliance Levels
## Table One

### U.S. Budgets and Staffing for Financial Regulation

(Estimates for 2002)

<table>
<thead>
<tr>
<th></th>
<th>2002 Estimates</th>
<th>Percentage of Total</th>
<th>Budget/Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Depository Institutions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budgets</td>
<td>$2,779,897,996</td>
<td>50.02%</td>
<td>$148,127</td>
</tr>
<tr>
<td>Staffing</td>
<td>18,767</td>
<td>43.40%</td>
<td></td>
</tr>
<tr>
<td><strong>Securities Industry</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budgets</td>
<td>$1,308,923,440</td>
<td>23.55%</td>
<td>$205,644</td>
</tr>
<tr>
<td>Staffing</td>
<td>6,365</td>
<td>14.72%</td>
<td></td>
</tr>
<tr>
<td><strong>Insurance Industry</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budgets</td>
<td>$946,600,000</td>
<td>17.03%</td>
<td>$72,501</td>
</tr>
<tr>
<td>Staffing</td>
<td>13,056</td>
<td>30.19%</td>
<td></td>
</tr>
<tr>
<td><strong>Private Pensions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budgets</td>
<td>$522,178,331</td>
<td>9.40%</td>
<td>$103,279</td>
</tr>
<tr>
<td>Staffing</td>
<td>5,056</td>
<td>11.69%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$5,557,599,767</td>
<td>100.00%</td>
<td>$128,516</td>
</tr>
<tr>
<td>Budgets</td>
<td>$5,557,599,767</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>Staffing</td>
<td>43,244</td>
<td>100.00%</td>
<td></td>
</tr>
</tbody>
</table>
Figure Five

Total Financial Regulatory Staff Per Million of Population

Source: FSA 2003/2004 Annual Report Appendix 5; Author’s Compilations.
Figure Three

Securities Regulation Costs Per Billion Dollars of Stock Market Capitalization

Figure Seven
Civil Law versus Common Law Countries: Regulatory Costs Per Billion Dollars of GDP

Source: FSA 2003/2004 Annual Report Appendix 5; FBD Data; Author’s Compilations.
Outline

• Background on Project

• Jackson & Roe, Public Enforcement Paper

• Areas for Future Research and Policy Implications
The World Bank . . . has announced that “[i]n banking and securities markets, characteristics related to private monitoring and enforcement drive development more than public enforcement measures”. World Bank (2006: 1).
“Public enforcement plays a modest role at best in the development of stock markets. In contrast, the development of stock markets is strongly associated with extensive disclosure requirements and a relatively low burden of proof on investors seeking to recover damages resulting from omissions of material information from the prospectus.”

Claims of Paper

• In theory, both private and public enforcement have weaknesses and strengths.

• Prior empirical work on public enforcement has relied on formal measures of regulatory power.

• Using better measures, public enforcement is associated with many (but not all) indicia of strong capital markets.

• More research is needed before the World Bank can make definitive policy recommendations.
Mechanisms of Enforcement

Private Enforcement
- Litigation
- Voting Power
- Price/Exit

Public Enforcement
- Rulemaking
- Investigation/Examination
- Enforcement Actions
- Criminal Prosecution
Mechanisms of Enforcement

Private Enforcement
- Litigation
- Voting Power
- Price/Exit

Public Enforcement
- Rulemaking
- Investigation/Examination
- Enforcement Actions
- Criminal Prosecution
Mechanisms of Enforcement

Private Enforcement
- Litigation
- Voting Power
- Price/Exit

Public Enforcement
- Rulemaking
- Investigation/Examination
  **Enforcement Actions**
- Criminal Prosecution
Additional Questions About the Primacy of Private Oversight of Capital Markets

• Design of Private Litigation (in U.S.)
  – Wrong-doers often don’t pay
  – Innocents often pay
  – See Coffee (2006) for comprehensive analysis

• Prevalence of Mixed Systems of Regulation
  – SRO’s in U.S. & Analogs in Other Jurisdictions
Measures of Public Enforcement

• Formal Powers

• Actual Resources (Jackson & Roe)
  – Regulatory Staffing Per Million of Population
  – Regulatory Budgets Per Billion of GDP
## Table 1

### Securities Enforcement Variables

<table>
<thead>
<tr>
<th>Country</th>
<th>World Bank Codes</th>
<th>Public Enforcement (Actual Resources)</th>
<th>Public Enforcement (Formal)</th>
<th>Common Law Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Direct Staff Per Million of Population</td>
<td>Extrapolated Staff Per Million of Population</td>
<td>Extrapolated Budgets Per Billion US$ of GDP</td>
</tr>
<tr>
<td>Argentina</td>
<td>ARG</td>
<td>3.46</td>
<td>3.46</td>
<td>$15,984</td>
</tr>
<tr>
<td>Australia</td>
<td>AUS</td>
<td>39.95</td>
<td></td>
<td>$120,162</td>
</tr>
<tr>
<td>France</td>
<td>FRA</td>
<td>5.93</td>
<td>5.93</td>
<td>$29,205</td>
</tr>
<tr>
<td>Germany</td>
<td>DEU</td>
<td>6.81</td>
<td></td>
<td>$22,196</td>
</tr>
<tr>
<td>Japan</td>
<td>JPN</td>
<td>4.31</td>
<td>4.31</td>
<td>$15,905</td>
</tr>
</tbody>
</table>

**Averages:** 10.1 $53,844
Figure Four

Civil versus Common Law: Budgets

(‘000s of U.S. Dollars per Billion of GDP based on 12/31/05 Exchange Rates)

Authors’ compilations from How Countries Supervise Their Banks, Insurers and Securities Markets 2006 (Central Banking Publications).
Structure of Empirical Analysis

• Explore Impact of Public Enforcement on:
  – Market Capitalization to GDP
  – Trading Volume to GDP
  – Number of Listed Firms Per Million of Population
  – Level of IPOs to GDP

• Control for Other Factors
  – Quality of Private Enforcement (disclosure & liability)
  – Wealth of Country
  – Other Factors
**Key Findings:**

- Positive Effect of Public Enforcement Variable
- Private Enforcement also Important
- Disclosure Quality More than Liability Rules
### Table 4

New Enforcement Variables and the Size of Capital Markets  
(robust standard errors in parentheses)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Staff Per Million of Population</td>
<td>Extrapolated Budget (000) per US billion of GDP</td>
<td>Extrapolated Staff Per Million of Population</td>
<td>Extrapolated Budget (000) per US billion of GDP</td>
</tr>
<tr>
<td><strong>New Enforcement Variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LLS Disclosure Index</td>
<td>74.239* (33.059)</td>
<td>12.167* (47.064)</td>
<td>65.478 (55.922)</td>
</tr>
<tr>
<td>LLS Liability Standards Index</td>
<td>-76.891* (37.853)</td>
<td>-27.295 (61.400)</td>
<td>-5.672 (32.167)</td>
</tr>
<tr>
<td>Leg GNI Per Capita (PPP, 2005)</td>
<td>-4.911* (0.101)</td>
<td>10.170* (0.507)</td>
<td>39.076* (10.602)</td>
</tr>
<tr>
<td>Constant</td>
<td>37.660 (70.106)</td>
<td>-103.234 (60.086)</td>
<td>-361.774 (95.003)</td>
</tr>
</tbody>
</table>

| Observations | 29 | 46 | 34 | 20 | 48 | 34 | 20 | 36 | 34 | 20 | 36 | 34 |
| MEE | 48.21 | 72.184 | 60.133 | 42.313 | 48.606 | 48.212 | 0.0267 | 0.0266 | 0.0304 | 2.1455 | 2.4305 | 2.6572 |
| Adjusted R Squared | 75% | 32% | 56% | 50% | 37% | 47% | 59% | 61% | 65% | 80% | 67% | 50% |

a = significant at 1%; b = significant at 5%; and c = significant at 10%.
### Table 5

**New Public Enforcement Variables Versus Prior Indices of Public Enforcement**

<table>
<thead>
<tr>
<th></th>
<th>Market Capitalization</th>
<th>Trading Volume</th>
<th>Domestic Firms</th>
<th>IPOs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Original LLS</td>
<td>Pure Start to Population</td>
<td>Extrapolated Shares to GDP</td>
<td>Original LLS</td>
</tr>
<tr>
<td><strong>New Enforcement Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Enforcement Index (LLS)</td>
<td>0.3449*  (0.1950)</td>
<td>3.2793* (0.3843)</td>
<td>0.0157* (0.0027)</td>
<td>-</td>
</tr>
<tr>
<td>Anti-Director Rights index</td>
<td>0.0719† (0.0346)</td>
<td>0.0356 (0.0451)</td>
<td>0.0064 (0.0026)</td>
<td>0.0347</td>
</tr>
<tr>
<td>ln GDP per capita</td>
<td>0.154* (0.0218)</td>
<td>0.0132 (0.0132)</td>
<td>0.0036 (0.0026)</td>
<td>0.0129</td>
</tr>
<tr>
<td>Judicial Efficiency index</td>
<td>0.0515† (0.0326)</td>
<td>0.0319 (0.0364)</td>
<td>0.0037 (0.0026)</td>
<td>0.0329</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.2956 (0.2169)</td>
<td>-1.1035 (0.2590)</td>
<td>-1.0393 (0.2900)</td>
<td>-1.5593 (0.4321)</td>
</tr>
</tbody>
</table>

**Panel B: Regressions with New Enforcement Variables Versus Old Enforcement indices**

<table>
<thead>
<tr>
<th></th>
<th>Market Capitalization</th>
<th>Trading Volume</th>
<th>Domestic Firms</th>
<th>IPOs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Original LLS</td>
<td>Pure Start to Population</td>
<td>Extrapolated Shares to GDP</td>
<td>Original LLS</td>
</tr>
<tr>
<td><strong>New Enforcement Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Enforcement Index (LLS)</td>
<td>0.3446† (0.1950)</td>
<td>-</td>
<td>0.0151* (0.0026)</td>
<td>-</td>
</tr>
<tr>
<td>Anti-Director Rights index</td>
<td>0.0711† (0.0347)</td>
<td>0.0354 (0.0356)</td>
<td>0.0060 (0.0026)</td>
<td>0.0348</td>
</tr>
<tr>
<td>ln GDP per capita</td>
<td>0.1545 (0.0218)</td>
<td>0.0139 (0.0132)</td>
<td>0.0036 (0.0026)</td>
<td>0.0129</td>
</tr>
<tr>
<td>Judicial Efficiency index</td>
<td>0.0520† (0.0328)</td>
<td>0.0320 (0.0364)</td>
<td>0.0037 (0.0026)</td>
<td>0.0340</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.2958 (0.2169)</td>
<td>-1.1035 (0.2590)</td>
<td>-1.0393 (0.2900)</td>
<td>-1.5593 (0.4321)</td>
</tr>
</tbody>
</table>


Adjusted R² | 0.274 0.265 0.265 0.265 0.265 0.265 0.265 | 0.265 0.265 0.265 0.265 0.265 0.265 0.265 | 0.265 0.265 0.265 0.265 0.265 0.265 0.265 | 0.265 0.265 0.265 0.265 0.265 0.265 0.265 | 0.265 0.265 0.265 0.265 0.265 0.265 0.265 | 0.265 0.265 0.265 0.265 0.265 0.265 0.265 | 0.265 0.265 0.265 0.265 0.265 0.265 0.265 | 0.265 0.265 0.265 0.265 0.265 0.265 0.265 | 0.265 0.265 0.265 0.265 0.265 0.265 0.265 | 0.265 0.265 0.265 0.265 0.265 0.265 0.265 |

1 = significant at 1%; * = significant at 5%; † = significant at 10%;
Reservations & Limitations

- Significance of Outliers on Some Regressions
- Problems of Causation
- Dispersed Ownership & Intermediate Variables
Problem of Causation

• Does More Public Enforcement Lead to Larger Capital Markets or Visa Versa?

• Possible Technical Solutions:
  – Longitudinal Studies
  – Difference-in-Difference Approaches
  – Instrumental Variables & Two-Stage Regressions
    • Legal Origins as an Instrument
    • Other Instruments
Implications of Dual Causation

Large Public Agencies

Robust Capital Market

a. Special Pleading by Investors
b. Legitimate Needs of Market
c. Relevance of Financial Crisis?
d. Relevance of Retail Investors?
Reservations & Limitations

- Significance of Outliers on Some Regressions
- Problems of Causation
- Dispersed Ownership & Intermediate Variables
Impact on Other Dependent Variables

• Dispersed Ownership (concentration of shareholders, block premia, ease of access to capital markets)
  – Private Law Indices are strongly correlated with dispersion
  – Public Regulatory Intensity, either not correlated or negatively correlated.

• Technical Measures of Stock Market Performance
  (bid-ask spreads; synchronicity; volatility)
  – Neither public regulatory intensity nor private law indices are strongly correlated with technical measures.
Conclusions

• Public Enforcement, properly measured, is strongly associated with objective measures of robust capital markets.

• Analysis limited by problems of causation and puzzle of intermediate factors
  – But similar problems affect empirical research on value of private enforcement
  – Our public enforcement variables perform roughly as well.

• Therefore, World Bank’s skepticism about public enforcement is premature and should not be the basis of current policy recommendations
Outline

• Background on Project

• Jackson & Roe, Public Enforcement Paper

• Areas for Future Research and Policy Implications
Better Measures of Regulatory Intensity

Public Regulatory Personnel & Budgets (inputs)

Potential Outputs
- Policy Research
- Regulations
- Informal Guidance
- Examination & Inspections
- Enforcement Actions ***
- Criminal Sanctions ***
# U.S. Securities Enforcement Activity
(Annual Averages: 2002-2004)

<table>
<thead>
<tr>
<th>Public Actions:</th>
<th>Actions</th>
<th>Monetary Sanctions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Annualized Data: 2002-2004</td>
<td>2004 Data (US Dollars)</td>
</tr>
<tr>
<td></td>
<td>Average Number Enforcement Actions</td>
<td>Total</td>
</tr>
<tr>
<td>SEC</td>
<td>639</td>
<td>9.7%</td>
</tr>
<tr>
<td>DOJ</td>
<td>112</td>
<td>1.7%</td>
</tr>
<tr>
<td>State Agencies (estimated)</td>
<td>1,482</td>
<td>22.6%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>2,233</td>
<td>34.1%</td>
</tr>
<tr>
<td>NASD</td>
<td>1,170</td>
<td>17.9%</td>
</tr>
<tr>
<td>NYSE</td>
<td>227</td>
<td>3.5%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1,397</td>
<td>21.3%</td>
</tr>
<tr>
<td>Total Public Actions</td>
<td>3,630</td>
<td>55.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Private Actions:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Actions</td>
<td>210</td>
<td>3.2%</td>
</tr>
<tr>
<td>NASD Arbitrations</td>
<td>1,720</td>
<td>26.2%</td>
</tr>
<tr>
<td>NYSE Arbitrations</td>
<td>994</td>
<td>15.2%</td>
</tr>
<tr>
<td>Total Private Actions</td>
<td>2,924</td>
<td>44.6%</td>
</tr>
<tr>
<td>Grand Total -- Private &amp; Public</td>
<td>6,554</td>
<td>100.0%</td>
</tr>
<tr>
<td>Adjusted Grand Total*</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

* Adjusted to deduct sanctions reported under two or more agencies.
## Three International Comparison

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Sanctions</th>
<th>Penalties</th>
<th>Other Formals</th>
<th>Private Warnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>2002-2004</td>
<td>3630</td>
<td>$5.2 bn</td>
<td>(SEC: 639)</td>
<td>(Other: 2991)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(SEC: $2.1 bn.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2004</td>
<td>90</td>
<td>$40.5 mn</td>
<td>(Penalties: 31)</td>
<td>(Other Formal: 48)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Private warnings: 11)</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>2004</td>
<td>149</td>
<td>n.a.</td>
<td>(Voting Rights: 86)</td>
<td>(Other Formal: 63)</td>
</tr>
</tbody>
</table>

+ $3.5 bn in private Ligation awards
Public Securities Enforcement Actions Per Trillion Dollars of Market Capitalization in 2004

Source: Author’s Compilations.
Public Securities Enforcement: Penalties Per Billion Dollars of Market Capitalization in 2004

Source: Author’s Compilations.
Challenges in Comparing Sanctions

• Differences in Regulatory Strategies
  – Different Emphasis on Enforcement (UK v. US & Australia)
  – Reliance on SRO’s, Industry Guidance, & Reprimands/Warnings
  – Different Distribution of Enforcement Actions

• Different Investigation to Sanction Ratios
  – High in the U.S. & Australia
  – Lower in Other Jurisdictions

• Accounting for Globalization Effect
  – Sanctions from Foreign Authorities
  – Adjustments for Cross-Listings
Policy Implications

1. Establishment of Financial Markets in Developing Countries

2. Acceptance of Foreign Regulatory Oversight by Financial Supervisors in Developed Countries
IFRS versus U.S. GAAP
EU-US Trans-Atlantic Financial Services Dialogue
The Remote Screen Controversy

U.S. Exchange Regulation or Acceptance of E.U. Oversight
Approaches to Regulatory Passporting

• No Legal Requirements (Market Controls)
• Selective Substitute Compliance
  – Based on Formal Legal Requirements
  – Based on Functional Equivalence
    • Regulatory Inputs (staffing and budgeting)
    • Regulatory Outputs (enforcement, etc.)
  – Objective Measures of Performance
    • Cost of Capital or Technical Measures
    • Behavior of Institutional Investors & Foreign Issuers

• Other Considerations
  – Reciprocity Requirements
  – Politicization of Process
Public Enforcement of Securities Laws: A Comparative Perspective
Professor Howell E. Jackson
Harvard Law School

BBL Seminar at RIETI
Ministry of Economy, Trade and Industry
June 13, 2007