RESEARCH QUESTIONS
(1) What factors have influenced U.S. highway P3 renegotiations?
(2) Does the U.S. market demonstrate distinct characteristics with regard to renegotiation drivers?

METHODOLOGY
Out of 18 cases of U.S. P3 highways that faced renegotiations, six cases were chosen for analysis. Geographically, two are from the West coast (California), one from the Midwest (Indiana), and three from the East coast (Virginia).

The six projects span two decades (1993 to 2015) and vary across design characteristics, road length, financial closure date, opening date, renegotiation initiator (public vs. private), renegotiation objective, and renegotiation outcome.

Table 1. US P3 Highways and Renegotiations

<table>
<thead>
<tr>
<th>State</th>
<th>P3 Highways</th>
<th>P3 Highways with renegotiations</th>
<th>Cases Under Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>California</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Colorado</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Florida</td>
<td>13</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Georgia</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Indiana</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Michigan</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>New Mexico</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>North Carolina</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>South Carolina</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Texas</td>
<td>10</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Virginia</td>
<td>6</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>45</strong></td>
<td><strong>19</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

FOUR RENEGOTIATION DRIVERS

CONTRACT COMPLEXITY
- Renegotiation occurs to adapt to unexpected complexities of the project.

EXOGENOUS SHOCKS
- Renegotiation occurs to adapt to unexpected exogenous events that affect benefits of participants.

OPPORTUNISM
- Renegotiation occurs to extract rents, taking advantage of the incompleteness of the contract.

WINNER’S CURSE
- Renegotiation occurs to diminish the losses of the bid winner when it had unrealizable expectations.

BROAD SCOPE

RENEGOTIATIONS
- Modification to the P3 concession contract.
- Analysis includes: defaults, bankruptcies, and buy-outs.

RELEVANCE
- All are potential outcomes of same drivers: a contract modification may avoid defaults, bankruptcies, and buy-outs. The inverse is also true.
- Two U.S. institutions potentially play an important role shaping incentives for renegotiations: Chapter 11 bankruptcy process and an active capital market.

CASE STUDIES - HIGHLIGHTS

DULES GREENWAY
- Owners defaulted on debt.
- Buy-out by Macquarie Infrastructure Group (MIG).

POCAHONTAS PARKWAY
- Non-profit 63-20 corporation to raise tax-exempt revenue bonds.
- Buy-out by Transurban LLC before it went bankrupt (2006).
- Concession period is extended. Investment increases. Electronic tolling.
- Transurban USA writes off its equity.
- Operations are transferred to DBI Services (2014).

ELIZABETH RIVER CROSSINGS
- Toll opposition as existing tunnels to fund the construction of expensive tunnels.
- VDOT sued and taken to the Virginia Supreme Court – ruled in favor of VDOT.

INDIANA TOLL ROAD
- Four bidders –winner is $1 billion above the closest bid.
- Toll freezes, reimbursements, changes in investment obligations (2006-2010).
- Bankruptcy in 2014.
- Buy-out by IFM Global Infrastructure Fund for $5.7 billion.

SOUTH BAY EXPRESSWAY
- Environmental permits were transferred to the private sector.
- Project opens up in an area hardly hit by the subprime mortgage crisis.
- Bankruptcy and exits it in 2011.
- Buy-out by SANDAG.

SR 91 EXPRESS LANES
- Highly profitable project.
- Traffic demand was increasing. Attempts to breach contract by public sector.
- Buy-out by OCTA to eliminate non-compete clause.

FINDINGS

Table 2. Case studies and circumstantial evidence on renegotiation drivers

<table>
<thead>
<tr>
<th>Case Studies</th>
<th>Contract Complexity</th>
<th>Exogenous Shocks</th>
<th>Opportunism</th>
<th>Winner’s Curse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dulles Greenway (DG)</td>
<td>Novelty.*</td>
<td>Recession.* Unemployment</td>
<td>Political constituency</td>
<td>na</td>
</tr>
<tr>
<td>Pocahontas Parkway (PP)</td>
<td>Novelty.*</td>
<td>Recession.* Unemployment</td>
<td>Political constituency</td>
<td>na</td>
</tr>
<tr>
<td>Elizabeth River Crossings (ER)</td>
<td>Technical complexities. Political environment.*</td>
<td>na</td>
<td>Political constituency</td>
<td>na</td>
</tr>
<tr>
<td>Indiana Toll Road (ITR)</td>
<td>Novelty</td>
<td>Interest rates.* Unemployment</td>
<td>Private partner previous experience</td>
<td>na</td>
</tr>
<tr>
<td>SR 91 Express lanes (SR91)</td>
<td>Novelty.* Institutional capacity.</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
</tbody>
</table>

NOTES: * likely driver
na = not applicable

DISCUSSION

MAIN RENEGOTIATION DRIVERS
- The primary renegotiation drivers appear to be contract complexity (i.e., procurement process novelty, intricacies of incomplete contracts, like risk allocation) and exogenous shocks (i.e., outside opposition, macroeconomic shocks).

WEAK EVIDENCE
- The available evidence provides little support for the winner’s curse.
- Evidence remains unclear regarding public and opportunism.

US INSTITUTIONS AND OPPORTUNISM
- US institutional framework may discourage private opportunism.
- Chapter 11 Bankruptcy Law favors the continuation of the operation rather than creditors. An active capital market allows to find private operators in case of problems with incumbent operator.
- U.S. public agencies were willing to let their private partners’ default or file for bankruptcy when facilities perform poorly.