Spinning Gold: The Financial Returns to External Stakeholder Engagement

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Motivation I

• Widespread intuition and executive confidence that CSP \(\rightarrow\) CFP receives, at best, mixed empirical support
  – Incomplete operationalization of theory
    • Managerial agency
    • Value chain (\& activist) redistribution
    VS.
    • External stakeholders
  – Imperfect match of data to theory
    • Corporate-level self-reports \& audits
    VS.
    • Operational-level stakeholder event data \& objective asset valuation
Motivation II

• “It used to be the case that the value of a gold mine was based on three variables: the amount of gold in the ground, the cost of extraction, the world price of gold. Today, I can show you two mines identical on these three variables that differ in their valuation by an order of magnitude. Why? Because one has local support and the other doesn’t.” (Yani Roditis, COO Gabriel Resources)

• “Any mining company that operates anywhere thinking that their core competence will be mining won’t survive. It’s that simple.” (Thero Setiloane, EVP Sustainability, Anglo Gold Ashanti)
Motivation III

What Determines Valuation?
Not the Price or Quantity of Gold
Motivation III
What Determines Valuation?
Political & Social Support

NGO activist Roth launches campaign
Continuing opposition → delay
Arrival of new govt. & CEO who launches counter-campaign
Government Suspends EIA
Election returns pro-mine govt. + new high-powered investors

Removal of Timis & cronies
Land acquisition
Anecdotal Evidence on Delays & Disruptions

• Teaching cases
  – Rosia Montana: $15b still sitting in Transylvanian mountains

• Consulting reports
  – Cost of stakeholder delays over decade for Shell
    • $10b, 65% of which linked to stakeholder opposition
  – IFC/Deloitte project valuation tool on Newmont gold mine in Ghana
    • $118m up-front investment in community development has +ve npv of $1.2b
Empirical Analysis at Micro- or Project-Level

• Project-level data
  – Easier to objectively calculate
    • Potential npv of project
    • Financial valuation
  – Feasible to collect stakeholder data on conflict-cooperation
    • Related empirical work
      – Negative impact of disasters/scandals
      – Dynamics of international state conflict
      – Reputation studies (e.g. Amazon and Ebay)
Data

- Empirical setting: global gold mining industry
  - Longitudinal study with panel data

- Sample:
  - Full population of gold mining firms on TSX (with only 1-3 mines), 26 mines, 21 (largely emerging) countries
    - **50,000 hand-coded stakeholder events**
    - Period: 1993-2009

- Stakeholder network event data
  - Factiva (English language)
    - 28,000 information sources, 157 countries
    - ~600 newswires, 147 cover Metals and Mining sector
    - Press releases from company and interest groups
What is the stakeholder landscape?

Firm  Government
The stakeholder landscape

Banro, Twangiza, DR Congo

Banro (Successful firm)

DRC Govt

2003-5
The stakeholder landscape

Banro, Twangiza, DR Congo

Banro, Twangiza, DR Congo

2004-6
The stakeholder landscape

Banro, Twangiza, DR Congo

2005-7
The stakeholder landscape

Banro, Twangiza, DR Congo

2006-8
The stakeholder landscape

Banro, Twangiza, DR Congo

Cooperation = (11-20)
Conflict = (1-9)

2006-8
Valuation of a Gold Mine Resource

\[ V_{it} = B_0 + \left( W_{it}S_{it} \frac{1-e^{-r_t(T_{it}-y_{it})}}{r_t(T_{it}-y_{it})} \right) B + \varepsilon_{it}, \text{ where} \]

- \( V_{it} = \) Value of gold mine \( i \) in time \( t \)
- \( W_{it} = \) Average forecast operating profit per unit gold of gold mine \( i \) in time \( t \)
- \( S_{it} = \) The quantity of gold reserves of gold mine \( i \) in time \( t \)
- \( T_{it} = \) Life expectancy of gold mine \( i \) in time \( t \)
- \( y_{it} = \) years of operation of gold mine \( i \) in time \( t \)
  - 0 if not yet operational, <0 if opening in future
- \( r_t = \) Treasury bond yield with term \( T-y \) in time \( t \)
But, the Stock Market Indicates a Heavy Discount: Gold Ridge
Conflict/Cooperation Tracks Discount From Market Value: Gold Ridge
Motivation: Shareholder Value

- Henisz, Dorobantu, Nartey 2011 – Analyze market capitalization of population of 21 gold mining firms on Toronto Stock Exchange with 1, 2 or 3 gold mines

  - NPV of gold ............. ???
    - Quantity of gold per year, total cost of extraction per year, futures price of gold per year appropriately discounted

  - Political/Social ........... ???
    - Credibility of political institutions (i.e., hard for governments to renege on deals)
    - Support from political and social stakeholders (i.e., external stakeholders act or speak about the mine cooperatively > conflictually)

- Residual ..................... ???
Motivation: Shareholder Value

- Henisz, Dorobantu, Nartey 2011 – Analyze market capitalization of population of 21 gold mining firms on Toronto Stock Exchange with 1, 2 or 3 gold mines

- NPV of gold ............. 22%
  - Quantity of gold per year, total cost of extraction per year, futures price of gold per year appropriately discounted

- Political/Social ........ 45-65%
  - Credibility of political institutions (i.e., hard for governments to renege on deals)
  - Support from political and social stakeholders (i.e., external stakeholders act or speak about the mine cooperatively > conflictually)

- Residual .................. 13-33%
Is 45-65% Generalizable?

• Admittedly, not to all industries or markets but
  – Mckinsey study found that construction and development delays over a decade cost Shell 10b of lost revenue, 65% of which linked to stakeholder opposition
  – PriceWaterhouseCoopers report shows that one standard deviation increase in the “opacity” of a political system ~ to 33-46 percent increase in taxation for equity owners or 9-13 percent increase in risk premium for bondholders
  – Consider performance drivers of private equity in emerging markets, advanced life sciences, agribusiness, infrastructure services, ...

• The higher the potential economic rents, the higher the likelihood of stakeholder conflict over their distribution
Moments when the firm is the target of stakeholder criticism/actions or withdrawal of support

- “ADF Ugandan Rebels took over the mine” operated by Banro (January 2, 1997)
- “Eritrean Ministry of Energy and Mines instructed all foreign companies to halt mineral exploration until further notice” (September 3, 2004)
- “Coalition of Bulgaria without Cyanides NGOs are protesting against the investment proposal” of Dundee Precious Metals (March 10, 2006)
- “The Romanian Supreme Court annulled Gabriel Resource’s archaeological discharge certificate.” (December 9, 2008)
Stakeholder reactions to negative events

**Reinforced opposition**
- Confirmation bias (Redlawsk, 2002; Taber & Lodge, 2006; Nickerson, 1998)

**Benefit of the doubt**
- Information conflicting with prior beliefs is discounted, more critically analyzed, or perceived as biased (Ditto & Lopez, 1992; Edwards & Smith, 1996; MacCoun & Paletz, 2009)

**“Rally-round-the-flag”**
- Political support in times of attack (Mueller, 1970)
- Social identity theory (Dumont, Yzerbyt, Wigboldus & Gordijn, 2003)
Greenpeace against Rosia Montana

• January 23, 2003

• Greenpeace report:
  – “Gabriel Resources' plans would cause massive environmental damage”
  – “cyanide storage pond the size of 15 football pitches”
  – “forced resettlement of 2,000 villagers”
  – “destruction of a pristine Transylvanian landscape”

• Bucharest officials:
  – “would make no concessions on safety standards and […] international regulations”

• Gabriel lost
  – $19 mil (3.5% market cap) in 10 days
  – $214 mil (40% market cap) in 50 days
Good relations preserve market value

• Event study of 19 gold mining companies, 2000-2008
• The financial impact of negative stakeholder events is negatively correlated with a firm’s stakeholder capital.
• 1 standard deviation increase in stakeholder capital reduces the impact of negative events (or increases the cumulative abnormal return) by 12 percent.

• Gabriel Resources & Greenpeace:
  – An otherwise identical firm with stakeholder capital 1 standard deviation higher would have lost $2.7 million in the 10 days following the Greenpeace report (<< $19mil actual loss)
Good relations preserve market value

• Gabriel Resources, March 7, 2002: lost $82 million (9% market value over 7 days) after Romanian MPs expressed disapproval of the project following a visit at Rosia Montana

  – An otherwise identical firm with stakeholder capital that is 1-point (0.25 standard deviation) higher would have only lost $54.7 million
Stakeholder reactions to negative events

- Stakeholders with whom the firm enjoys high levels of stakeholder capital rally in support of the firm.

- Stakeholders with whom the firm has low levels of stakeholder capital reinforce their opposition.
January 23, 2003

- **Greenpeace report:**
  - “Gabriel Resources' plans would cause massive environmental damage”
  - “cyanide storage pond the size of 15 football pitches”
  - “forced resettlement of 2,000 villagers”
  - “destruction of a pristine Transylvanian landscape”

- **Bucharest officials:**
  - “would make no concessions on safety standards and [...] international regulations”

- **International Finance Corporation**
  - withdraws from loan negotiations citing “concerns over ecological effects”
December 21, 2009

- **Economy Minister Adrian Videanu**
  said during parliamentary hearings that he wants to renegotiate Romania's stake in the Rosia Montana gold mining project.

- **President Basescu**
  - made a strong statement regarding the importance of the Rosia Montana project

- **His new government**
  - included the Rosia Montana project in the governing program

- **Minister of Environment**
  - has publicly stated his intention to visit Rosia Montana

- **Hungary's ambassador to Bucharest**
  - told a news conference that Hungary opposes the gold mining project
Summary of findings & contributions

✓ Quantifiable value to stakeholder engagement in terms of stock market prices

✓ Stakeholder capital protects financial value during tough times

✓ Provide evidence for both the business case for stakeholder engagement and sustainability as insurance value of stakeholder capital at the firm level and the underlying mechanisms at the firm-stakeholder level

✓ Assess stakeholder relations using a project-level measures that reflects the results of corporate stakeholder engagement activities
Thank you
<table>
<thead>
<tr>
<th>Company</th>
<th>Mine</th>
<th>Country</th>
<th>Articles</th>
<th>Events</th>
<th>Stakeholders</th>
<th>Start year</th>
<th>End year</th>
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<td>Alhambra Resources Ltd.</td>
<td>Uzboy</td>
<td>Kazakhstan</td>
<td>499</td>
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<td>2001</td>
<td>2008</td>
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<td>2008</td>
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<td>1007</td>
<td>1995</td>
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<td>Centamin Egypt Limited</td>
<td>Sukari</td>
<td>Egypt</td>
<td>1400</td>
<td>508</td>
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<td>1593</td>
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<td>254</td>
<td>1997</td>
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<td>Crucitas</td>
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<td>2006</td>
<td>2008</td>
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<td>61</td>
<td>1996</td>
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<td>Mundoro Mining Inc.</td>
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<td>629</td>
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<td>Didipio</td>
<td>Philippines</td>
<td>534</td>
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<td>2006</td>
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<td>2004</td>
<td>2008</td>
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<td>Bolivia</td>
<td>1718</td>
<td>492</td>
<td>82</td>
<td>1994</td>
<td>2008</td>
</tr>
</tbody>
</table>

19 companies 26 mines 20 countries 22,229 51,754 4,623 1993 2008
<table>
<thead>
<tr>
<th>Conflict-Cooperation Scale</th>
<th>Category Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Violent attack w/ actual or potential/intended deaths or serious injury</td>
</tr>
<tr>
<td></td>
<td>Threaten to violently attack w/ actual or potential/intended deaths or serious injury</td>
</tr>
<tr>
<td>2</td>
<td>Restrain, imprison, hold against will, blockade, arrest, expel, capture, sequester</td>
</tr>
<tr>
<td></td>
<td>Financially undermine deploy financial resources against (including sale of financial position at or below market price)</td>
</tr>
<tr>
<td>3</td>
<td>Oppose, veto, impose, force, break, halt, reject, flee, default on obligation, rally in opposition, overturn, lose, national political decision</td>
</tr>
<tr>
<td>4</td>
<td>Investigate, demand, alert, restrict, repeal of administrative, local or regional supportive policy</td>
</tr>
<tr>
<td>5</td>
<td>Deny, complain, criticize, denounce, negative comment</td>
</tr>
<tr>
<td>6</td>
<td>Call for action, request assistance against, request information on</td>
</tr>
<tr>
<td>7</td>
<td>Neutral statement of fact</td>
</tr>
<tr>
<td>8</td>
<td>Yield, comply, solicit, request assistance with, vote for, am encouraged by</td>
</tr>
<tr>
<td>9</td>
<td>Mediate, agree, travel to meet, engage, offer, positive comment</td>
</tr>
<tr>
<td>10</td>
<td>Host, praise, empathize, apologize, forgive, assure, thanked</td>
</tr>
<tr>
<td>11</td>
<td>Rally in support, ratify, win election, policy decision in support</td>
</tr>
<tr>
<td>12</td>
<td>Offer financial support/defense/protection (including acquisition of a financial stake at market price or above)</td>
</tr>
<tr>
<td>13</td>
<td>Provide financial support/defense/protection (including acquisition of a financial stake at market price or above)</td>
</tr>
<tr>
<td>14</td>
<td>Relax/ease major financial or security penalty/sanction/constraint</td>
</tr>
<tr>
<td>15</td>
<td>Offer armed support/defense/protection</td>
</tr>
<tr>
<td>16</td>
<td>Provide armed support/defense/protection</td>
</tr>
</tbody>
</table>
Lexicon: Conflict-Cooperation = 14

accept, accept argument, accept proposal, accept request for arbitration, accept validity, act on behalf of, admit military support, advance, advance negotiations, affirm, agree, agree with, aid, appoint, appoint custodian, apportion, approve agreements, assign, assign to legal case, assist, assure, assure progress, assure rights, assure support, attempt to correct error, back, back up, be line of for, bestow favour, boost, boost potential, broker deals, broker meetings, build, build up, campaign for, cite as preference, clarify, clear up confusion, clinch, collaborate [judicially], collaborate [materially], commit support, commit to work together, complete agreement, compromise, conclude agreement, conclude deal, conclude debate, conclude hearing, conclude investigation, conclude negotiation, conclude negotiations, conclude negotiations with, conclude renegotiation of contracts, concord, concur, confirm, confirm appointment, confirm approval, confirm right, confirm support, confirm validity, confirm willingness, consist, constant support, constantly support, constitute, construct, continue commitment, continue dialogue, continue discussions, continue efforts, continue support, continue talks, continue working with, cooperate [judicially], cooperate [materially], corroborate, create jobs, deal, demonstrate goodwill, demonstrate interest, depend on, depend upon, develop jointly with, divvy up, do deals with, drink, earn support, employ, enable, enable improvement, enable issue permit, encourage, encourage to return, encouraged to benefit, end hunger strike, endorse, engage in cooperation, enter agreement, enter contract, enter into contract, enter partnership, exchange documentation, execute agreement, expect to sign, explore idea, explore possibilities, express preference, facilitate meetings, favor, favour, file on behalf of, finalize agreement, finalize contract, finalize negotiations, form agreement, form contract, form deal, further, get together [judicially], get together [materially], go give ahead, go green light, give information, give nod to, give support, give vote of confidence, grant agreement, grant asylum, grant permission, grant privilege, grant recognition, grant rights, have agreement, have agreement with, have approval, have contract, have daily involvement, have direct involvement, have political connections, have potential leverage, have treaty, help, help calm, hire, hold, hold contract, hold press conference, hold up, hope to develop jointly, increase tolerance, inform, install, intervene on behalf of, join alliance, join forces [judicially], join forces [materially], jointly agree on action, jointly develop project, legally transfer, lend hand, make accessible, make agreement, make pact, name, negotiate agreement, negotiate dispute, negotiate financial agreement, negotiate on behalf of, negotiate payment extension, negotiate with, nominate, NOT disrupt activities, not evict, not file defence, not force merger, not impact, NOT negatively impact, not prohibit, NOT signify annulment of contract, notify, offer assurances, offer jobs, offer material support, offer partnership, open community office, order appointment, partake, partake in, participate, participate in ceremony, participate in meeting, pleased to collaborate with, pleased with, pledge, pledge to meet standards, pledge to reform, portion out, positive impact, positively influence, possible significant economic impact, potential positive economic benefit, potential positive economic impact, prefer, prevail, privilege, process permits, proclaim commitment, promise, promise action, promise benefit, promise rights, promise support, promise to eradicate, promise to return, promise to vigorously defend, promote, propose social development program, proudly support, prove, provide, provide advisory services, provide agreements, provide assistance, provide employment, provide evidence, provide information, provide leverage, provide material support, provide support, put first, ratify, ratify agreement, ratify convention, reach agreement, reach consensus, reach deal, reach resolution, reach settlement agreement, reaffirm, reaffirm approval, reassure, reassuring comment, rebuild, receive, receive assurances, receive information, receive offers, recognise commitment, recognize social policy, recommend signature, reconfirm, recruit, recruit and train, recuperate, reiterate commitment, reiterate interest, rely on, remain committed, remain confident, remain custodian, remain engaged, remain in good standing with, remain in possession, remain upbeat, remain valid, remove conditions, remove conditions (agreement), remove obstacles, salute, second, secure agreement, secure deal, seek to correct error, seek to merge, settle, settle lawsuit, settle out of court, share, share information, share intelligence, share political views, share resources, sided with, sign, sign accord, sign agreement, sign approval, sign ceasefire agreement, sign contract, sign convention, sign deal, sign decision, sign decree, sign MOU with, sit on board, strengthen ties, strike deal, substantiate, succeed politically, support, support decision, support initiative, sustain, team up, team up with, toast, tout excellent relationship, train local workers, validate, vote for, well connected politically, win, work hard toward, work to ensure, work to give approval, work to revive, work together, work with
On September 14th 2007, President Nursultan Nazarbayev of Kazakhstan ceremonially kicked off the process of extracting gold and copper ore at the Varvarinskoje deposit. He was quoted as saying that this mine is one of many enterprises in the region that will “build up the power of Kazakhstan’s economy.”

- Source: President Nazarbayev
- Verb: ceremonially kicked off = show support = 14 on the conflict-cooperation scale
- Target: Varvarinskoje deposit [owned by European Minerals Corporation]
Coding example (2)

- Disgruntled Filipino villagers have moved to shut off the water to a controversial open-cut gold and copper mine, an Australian aid organization reported today.

  - Source: Filipino villagers [Didipio villagers]
  - Verb: have moved to shut off the water = 5 on Conflict-Cooperation scale
  - Target: gold and copper mine [Oceana Gold Corporation]