Soft Budgets, Renegotiations and Public-Private Partnerships

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Acknowledgement

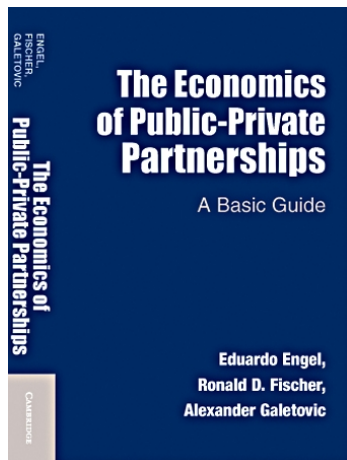This paper is joint work with:

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> *"Cynics suspect that the government remains keen on PFI not because of the efficiencies it allegedly offers but because it allows ministers to perform a useful accounting trick."* The Economist, July 2nd 2009.

This paper: renegotiation of PPPs/Concessions can be used as an accounting trick to anticipate spending for political purposes (As well as for political campaign funding).

The reason PPPs allow something traditional provision does not:

- Bundling of finance and construction
- Defective fiscal accounting rules.

Example: the rainwater drains

In 2001: flooding in Santiago $\Rightarrow$ political pressures on government to invest in main collectors.

Government unwilling to budget these resources, or increased indebtedness.

Renegotiated contracts of urban highways under construction so they would build the drains.

Involved US\$ 100's MM, but payments scheduled for several years in the future.

Note that: Additional expenditure not included in the budget, with positive political impact. Costs paid by future administrations.

Port hampered by lack of dedicated access for trucks.

Three options to provide bypass:

1. Fund it with current fiscal resources (they were ample).
2. Through an independent PPP charging tolls.
3. As a non/tolled extension of Route 78 Santiago/San Antonio.

As candidate, President promised not to impose toll on bypass.

Preferred to renegotiate contract, valuing the project at US$45 MM

Tolls increased on Route 78 to cover the cost of the bypass.

Note that: No independent valuation of bypass.

Why only under PPPs?

Under PPPs, there is bundling of financing, construction and operation.

Long term contract lasts beyond current administration.

Resources to repay: either future availability payments or future user fees.

The government can "borrow" from the PPP to add additional, non-budgeted items.

In most countries, these borrowings not included in fiscal balance sheet.

A simple two period model with no discounting.

There is an intertemporal balanced budget so intertemporal infrastructure spending equals taxes:

$$I_1 + I_2 = T_1 + T_2 = 1$$

The social welfare function is $\mathcal{U} = u(I_1) + u(I_2)$, u'>0, u"<0.

Not all investment in the first period: $I_1^* = I_2^* = \frac{1}{2}$.

It is:

$$G(I_1, I_2) = u(I_1) + p(I_1)u(I_2), \ p' > 0, p'' < 0$$

p is the probability of reelection, which depends on infrastructure investment.

Government only cares about social welfare if reelected.[1]

This biases government towards current spending.

Congress authorizes $I_1 = \frac{1}{2}$, but cannot supervise agreements between PWA and PPP.

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[1]Note that we can write $p(I_1) \equiv P(u(I_1))$, the original reelection function, with $P' > 0, P'' < 0 \Rightarrow p' > 0, p'' < 0$.

Congress can make the government respect its budgetary restrictions.

At the end of each period, contruction firms must be paid.

Since debt and expenditure are controlled, government cannot spend more than $\frac{1}{2}$.

Firm makes bid of $B \leq \frac{1}{2}$ to be paid in the two periods.

In renegotiation, government gets W in additional works in exchange for R to be paid in period 2.

Thus governemnt exceeds the spending limit.

In equilibrium B, R, W can be determined.

Maximizing government utility we obtain:

$$\frac{dG(I_1, 1 - I_1)}{dI_1} = u'(I_1^*) - p(I_1^*)u'(1 - I_1^*) + p'(I_1^*)u(1 - I_1^*) = 0, \qquad (1)$$

Clearly $I_1 > \frac{1}{2}$. To see this, consider the simple case when $p' = p'' = 0$.
The equation simplifies to

$$u'(I_1^p) - pu'(1 - I_1^p) = 0.$$

Differentiating with respect to p, we have $dI_1^p/dp < 0$ so $I_1^p > \frac{1}{2}$.

Effect is reinforced, because p increases with investment.

Government auctions contract for $I_1 = \frac{1}{2}$.

Firms know that renegotiation will add W in exchange for R.

Utility of incumbent is:

$$u(\tfrac{1}{2} + W) + p(\tfrac{1}{2} + W)u(1 - (B + R))$$

If the firm obtains a rent in the renegotiation process, competition means lowballing by that amount.

$L = \frac{1}{2} - B$ is the extent of lowballing.

Achieving the incumbent's optimum with no bargaining power

Lowballing L is a transfer to the incumbent, and not part of the renegotiation.

Efficient bargaining + competition $\Rightarrow$ incumbent attains her optimal choice.

Case 1: Firm has all the bargaining power, incumbent gains nothing.

Problem for the bidder:

$$\max_{\{W,L\}} R - W \tag{2}$$

$$\text{s.t. } u(\tfrac{1}{2} + W) + p(\tfrac{1}{2} + W)u(\tfrac{1}{2} + L - R) = \overbrace{u(\tfrac{1}{2}) + p(\tfrac{1}{2})u(\tfrac{1}{2} + L)}^{\text{Utility of no renegotiation}}$$

$\Rightarrow$ FOC of this problem are that same as FOC of incumbent! $\qquad \square$

The results apply for any bargaining power of incumbent. Thus:

1. Governments include additional works during renegotiations.
2. Renegotiations occur early (during construction),
3. The cost of renegotiations passed onto future administrations.
4. Firms may make lossmaking bids, which they recover during renegotiations.

Suppose government is certain of being reelected in some cases, and uncertain in others.

In first case, prefers not to distort optimal allocation of expenditure (no renegotiation).

Bidders bet on the possibility of renegotiation. There is lowballing.

In case certain reelection, incumbent better off (unless all bargaining power belongs to incumbent –there is no lowballing–).

Increased distortion in case of uncertainty of reelection.

If there are bargaining differences among firms, government dos not achieve its best choice.

Eurostat 2004 assigned PPPs to fiscal balance sheet if private party bore some risks. Led to PFI in UK.

Eurostat 2010: the control approach: who is in ultimate control determine if PPP in balance sheet.

Alternative: go back to the Rirye rules and include all PPPs in fiscal accounts.

Eurostat 2013 now includes contingent obligations –in a separate account–.

Chile, Colombia apply standard financial tools to value these liabilities.

In 2009, we did a detailed examination of PPPs in Chile up to 2006 (12 year program).

50 PPPs, worth US$11+ Billion. Renegotiations were more than 30% of initial value.

We confirmed that predictions of model held: substantial fraction of renegotiations during construction, additional works, loaded unto futuro governments.

Use data on highways in Chile, Colombia and Peru up to 2010.

Table: Characteristics of renegotiations in each country

	Chile	Colombia	Peru
Total road concessions	21	25	15
Avg. initial value (2009 MM USD)	243	263	266
Avg. term length	25.2	16.7	22.1
Mean length	114	195	383
Mean concession years elapsed	12.5	9.0	4.6
Concessions with renegotiations	18	21	11
Total number of renegotiations	60	430	53
Avg. time first renegotiation	2.7	1.0	1.4
Avg. cost of renegotiations per road	47.2	255.8	28.8
Avg term increase	0.9	6.3	0.8
Avg. length increase (km)	0	54.6	0

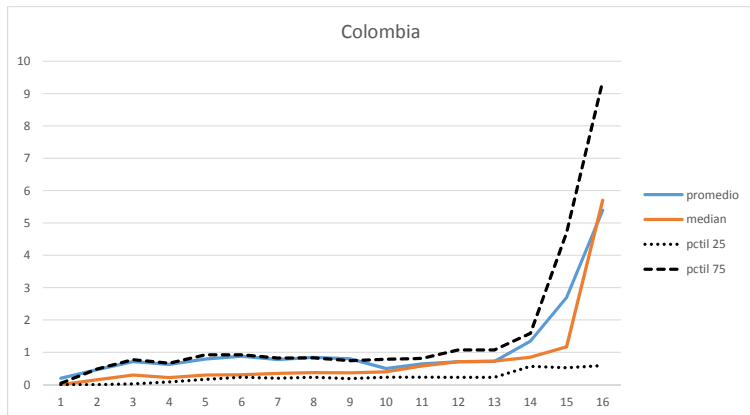Source: Bitran, Nieto, Robledo 2013.

Renegotiations during construction
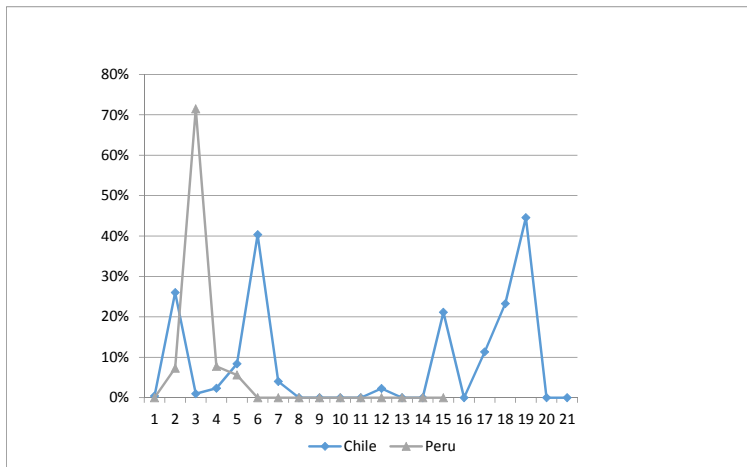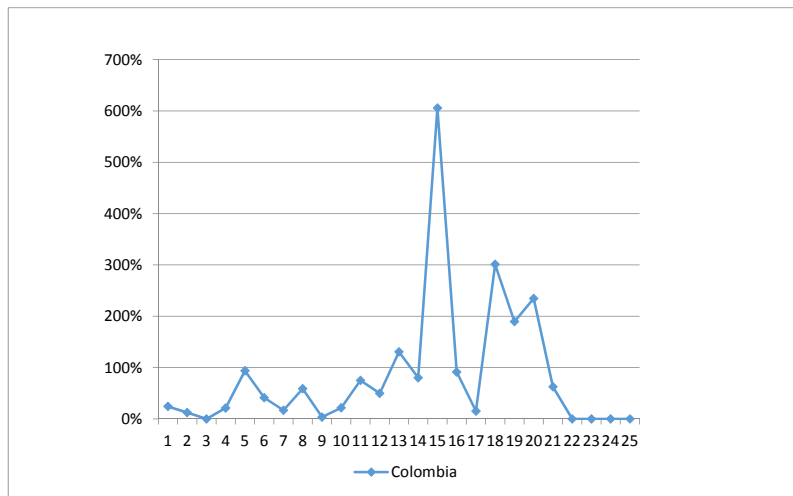
Chile

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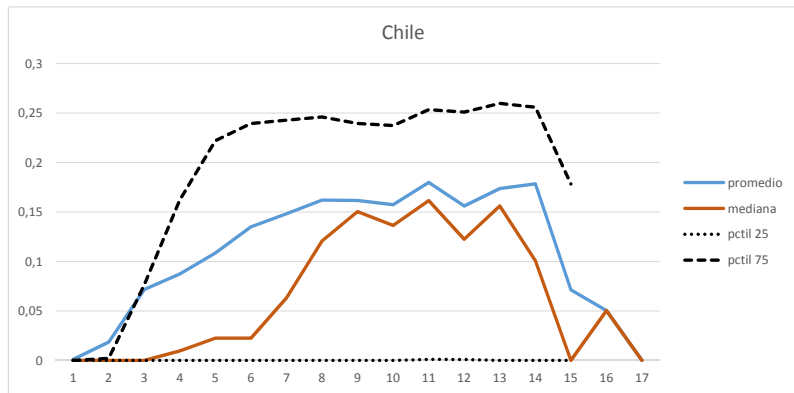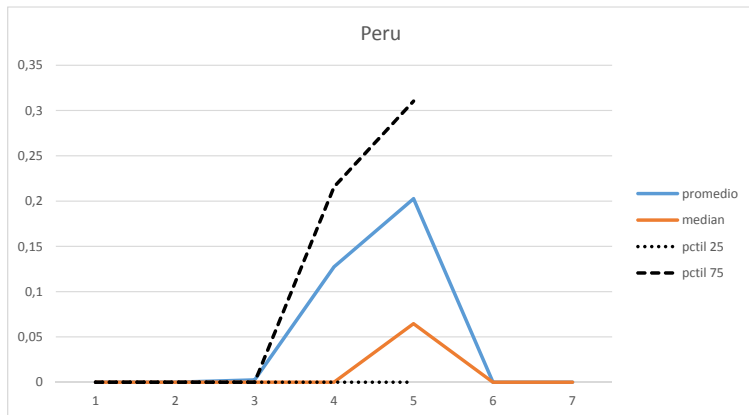
Most renegotiations reach a mutual accomodation: there is no conflict in 83% cases in Chile, 98% in Colombia and in all cases in Peru.

In Chile and Peru, most renegotiations led by government; in Colombia, if we add those led by government and of joint leadership, includes most renegotiations.

In general, accomodation transfers more costs onto future than arbitration, which might explain choice.

In standard interpretation, more renegotiations as time passes.

In the three countries, more than half more than half of renegotiations took place in first four years.

Interpretations:

- Incompetence and cover up by incumbent
- Add works and avoid budgetary process
- Firms wants to recoup from lowball offer (last two in model).

Peru: only 14% of costs on incumbent government.

In Chile, 90% of renegotiations have some cost on future governments.

In Colombia, most costs fall on current governments, but the 6% of renegotiations involve future costs, and represent 60% of all fiscal transfers.

Term extensions impose future costs: Chile and Peru, less that 1 year on average. Colombia: 6.5 years.

In Engel at al (2009), we showed that 84% of contracted amounts were for additional investments.

16% of amounts were payments for originally contracted works (i.e., cost overruns due to lowballing?).

In Colombia, in 5% of cases, paid for road extensions, which were also latyer renegotiated, so costs could be higher than registered (Bitran et al 2013).

Given fiscal accounting loopholes, PPPs have allowed incumbents to exceed infrastructure spending limits (PFI).

A further political economy motive for PPP's is that contract renegotiations allow additional spending.

Our analysis led to a series of predictions; these were broadly consistent with the observations in Chile, Peru and Colombia.

The data also show substantial differences among countries on the magnitude of renegotiations.

Differences in institutional settings?