

Diseño Regulatorio en Materia de Protección de la Competencia (Subastas)

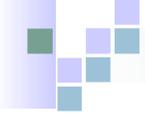
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**Perspectivas del Derecho a la Competencia en
Colombia: XX Años del Decreto 2153 de 1992
Cartagena 2 August 2012**



Background: Why Regulation?

1. Competition policy applies to markets generally - intervenes selectively *ex post* when specific problems arise, e.g. collusive behavior, abuse of market power (dominance), mergers, vertical restraints (e.g. margin squeezes) etc
2. Regulation classically applies to *natural monopolies* - industries or markets where it would be inefficient to have competing providers
3. E.g. electricity and gas transport and distribution networks, fixed telecoms networks (but comp. from cable, mobile) water supply networks etc
4. Other services singled out for regulation are so-called “bottleneck services” - e.g. mobile termination rates, “must-run” plant in electricity markets ...
5. Finally, some services are regulated due to perceived market failure - capacity markets for electricity, carbon emissions



Regulation and Auctions

1. Standard (old fashioned) approach is price/revenue cap regulation
2. Price controls traditionally set by complex cost models which estimate long run costs of network or service provision and allow for some level of profits
3. Process is time consuming, contentious and at best leads to approximate answers
4. Since 1990's, regulatory authorities increasingly use auctions where possible to promote competition, provide better price signals or make markets more transparent
5. In many cases auctions can be used to set “market-determined” price controls, avoiding cost modeling problems
6. Wherever this can be done provides better market-based price signals and saves regulators a difficult/impossible job



Regulation and Auctions Examples

1. Auctions to sell rights to gas transport network (entry points) in UK, and to build new pipeline capacity
2. Auctions to build new electricity transmission capacity in Brazil and set 20 year price caps (also to elicit new renewable power capacity by setting 20 year tariffs)
3. Virtual power plant auctions to reduce/mitigate market power of large incumbents in energy markets (France) and set prices new entrants pay
4. Capacity or firm energy markets (Colombia, Brazil, US, Spain ..) to solve “market failure” and set capacity prices
5. Gas markets where large incumbents are deemed to have too much market power (“gas release” programs: Europe, Colombia)

Many more (e.g. auctions for carbon permits), making auction design an important part of regulation. **In auction design, details matter.**



Colombian Firm Energy Market

1. In many liberalized electricity markets worry is that profit incentives will result in insufficient capacity to cover periodic shortages or peak demand
2. “Market failure” or “missing money” problem: price caps on spot prices mean that investing in peak-load capacity may be unprofitable
3. Solution adopted in USA and many LA countries is organized, long-term “capacity markets” - regulators induce investment in expected capacity needs by making “capacity payments” to all generators, and
4. Hold periodic auctions to: (i) buy new capacity to meet projections of long-term peak demand and (ii) set capacity payments for existing capacity
5. In Colombia, CREG uses auctions to provide “firm energy” to cover demand in El Niño periods, and set the “cargo por confiabilidad” paid to all capacity



Colombian Firm Energy Auctions 2008

1. CREG held two auctions for new capacity in May and June 2008
2. A descending clock auction (DCA) for shorter-term projects (less than 5 years), and a separate sealed-bid auction for longer-term investments (beginning in 2014)
3. First DC auction was to cover expected excess demand from Dec 2012 to Dec 2013 and allocated “firm energy obligations” until Dec 2032
4. Started with 10 new power plants offered and ended after 6 rounds with 3 new plants
5. Auction “clock” started at a reserve price of \$26.00 per MW/h and decreased in \$2 increments
6. Established a firm energy price of \$13.998 per MWh for shorter-term resources. This was reserve price used in subsequent auction for longer-term projects

Colombian Firm Energy Auctions 2008

Winners in May 2008 DCA

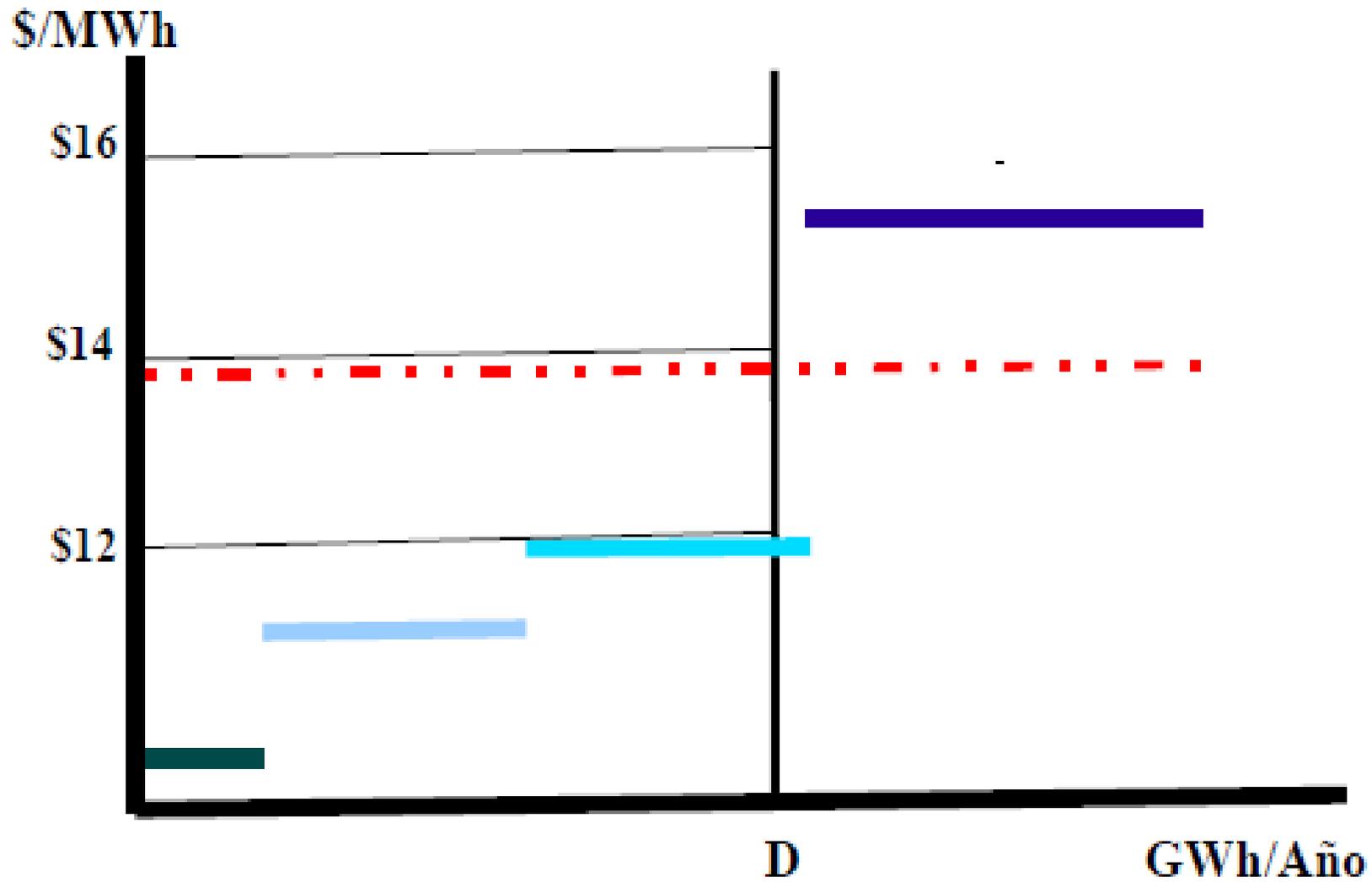
Generator companies	Power Plant Projects	Technologies	Location	Power	OEF [GWh ano]	Commitment period [years]
ISAGEN	Amoyá	Hydroelectric	Tolima	78 MW	214	20
GECELCA	Gecelca III	Coal	Córdoba	150 MW	1.117	20
POLIOBRAS	Termocol	Liquid fuels	Atlántico	201,6 MW	1.678	20



Colombian Firm Energy DCA Auction

1. Problem in DCA auction was **information**: bidders told excess supply after each round so could see when a unilateral capacity withdrawal could end auction at the current price
2. This occurred in round 6, so the auction ended in the 1st round in which a single bidder became **pivotal** (and hence at a price above the competitive price)
3. Information provided to bidders is **key variable** in auction design
4. More information may lead to better “price discovery”, i.e. it allows bidders to learn from observing others' bids more about the value of winning
5. But more information also increases opportunities for strategic manipulation and/or collusion
6. We recommended a sealed-bid auction or reporting only total supply in each round

Last Rounds in DCA





Prison Food Services Auction

In February 2011 INPEC held a simultaneous, sealed-bid auction for provision of food services in 125 Colombian prisons.

Auction features:

1. For each prison (lot), INPEC set a maximum price (reserve price).
2. For each lot, the winner is the bid closest to the **average** of all of the bids, including (at least once) the maximum bid.
3. “Average bid” auctions like these have been used a lot in Italy and the USA. The reason is the concern that the lowest bids will be “too low” and infeasible.
4. But these auctions: (i) have very bad equilibrium properties; (ii) allow for forms of collusion which standard auctions don't; and (iii) make it hard for unsophisticated bidders to know how to bid.
5. In particular, in this auction with 3 or 4 bidders, a coalition of 3 can guarantee they win every time.

Bids in Prison Services Auction

Public Procurement Auction in Colombia

LOT		PERCENT BID	AVERAGE	DIFF AV	SCORE
LOT 1	PO	100%	96,0177%		
	A	97,8966%		0,02	49,02
	B	93,0871%		0,03	48,47
	C	93,0871%		0,03	48,47
LOT 2		PERCENT BID	AVERAGE	DIFF AV	SCORE
	PO	100%	97,9164%		
	A	95,0037%		0,03	48,51
	B	95,0037%		0,03	48,51
	C	97,5091%		0,00	49,79
OTHER	99,9818%		0,02	48,95	
LOT 3		PERCENT BID	AVERAGE	DIFF AV	SCORE
	PO	100%	97,1937%		
	A	92,8972%		0,04	47,79
	B	97,8861%		0,01	49,64
	C	92,8972%		0,04	47,79
OTHER	99,4818%		0,02	48,82	

Bids in Prison Services Auction

Public Procurement Auction in Colombia

LOT 1		PERCENT BID	BIDS (COP)	AVERAGE	DIFF AV	SCORE
	PO	100%	449.576.719	431.673.225		
	A	97,8966%	440.120.322		8.447.096,97	49,02
	B	93,0871%	418.497.930		13.175.295,33	48,47
	C	93,0871%	418.497.930		13.175.295,33	48,47
LOT 2		PERCENT BID	BIDS (COP)	AVERAGE	DIFF AV	SCORE
	PO	100%	3.362.752.015	3.292.685.385		
	A	95,0037%	3.194.738.836		97.946.549,29	48,51
	B	95,0037%	3.194.738.836		97.946.549,29	48,51
	C	97,5091%	3.278.989.225		13.696.160,31	49,79
	OTHER	99,9818%	3.362.141.385		69.455.999,63	48,95
LOT 3		PERCENT BID	BIDS (COP)	AVERAGE	DIFF AV	SCORE
	PO	100%	2.799.134.593	2.720.582.833		
	A	92,8972%	2.600.316.775		120.266.058,00	47,79
	B	97,8861%	2.739.963.417		19.380.584,00	49,64
	C	92,8972%	2.600.316.775		120.266.058,00	47,79
	OTHER	99,4818%	2.784.630.845		64.048.012,00	48,82



Prison Food Services Auction

1. With 4 bidders a coalition of 3 can exclude 4th bidder from winning when the high bidder bids half the discount of the two lower bidders, i.e. (98,98,99), (96,96,98), (95, 95, 97.5) etc. Excludes 4th bidder from winning with a higher or lower bid.
2. With no collusion, equilibrium bids are all 100, so this collusive strategy also works against more bidders
3. Other types of “average-bid” auction in Colombia, Italy and USA have led to similar problems.
4. Illustrates the importance of good auction design
5. In this case, the bidders all had 20+ years of experience in this industry so worry about viability of bids probably misplaced
6. Better solutions would be bidder prequalification and performance guarantees



Conclusions

1. Auctions increasingly used by regulators and other gov't authorities to bring market mechanisms to bear on decisions
2. Good auction design is crucial and this is a learning process
3. Auctions should be as simple and transparent as possible, with provisions which commit bidders to their bids (with no ex post renegotiations)
4. En algunos casos (como de la CREG), pequeños cambios pueden mejorar la subasta mucho. En otros casos, cambios más importantes pueden ser necesarios.
5. If the worry is that price competition will lead to bad results, better not to use auctions, but a more “qualitative” tender process