TEMAS CRITICOS EN LA REGULACION DEL SECTOR DE AGUA POTABLE Y SANEAMIENTO: LA MICROECONOMIA DE LA REGULACION

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So a PPP Project Has Been Awarded: Congratulations!!!

- **Now the fun (and the headaches) begins!!**

Regulacion, donde empieza y acaba…?

Empieza con la legislacion, (si existe) y continua con el contrato de operacion

Acaba con el ente regulador, su estructura, capacidad, procedimientos e instrumentos regulatorios

A entender los limites del regulador: exclusivamente ejecuta e interpreta el contrato (y/o la ley)

De ahi que el Diseno de la Concesion o PPP y la Regulacion estan Intrinisicamente Vinculados

Un excelente diseno del contrato de concesion o PPP pero un deficiente desempeno regulatorio creara un deficiente desempeno del sector.

Un excelente desempeno regulatorio pero un deficiente diseno del contrato de concesion o de PPP creara un deficiente desempeno del sector. La regulacion NO puede corregir los problemas de un diseno deficiente.

***Leccion Clave*: Se necesitan ambos, buen diseno del contrato y marco regulatorio y efectividad fiscalizadora, para un buen desempeno del sector y para lograr los beneficios de la participacion privada.**

De ahi que: Key Determinants of Sector Performance (from theory and experience)

i) *The design of the concession*, the clarity and transparency of the rules of the game, and

ii) *The regulatory framework, capacity and instruments*, along with resolution of conflict mechanisms

iii) Those two are the best predictors to reduce regulatory risk and of sector performance and ex-post management problems.

Recordemos lo que la Regulacion del Sector Agua Persigue:

Los objetivos principales de la regulacion son:

- **Inducir a la empresa regulada a operar a los mas bajos costos (eficientes) con los niveles de cailidad requeridos; *Principio de Eficiencia***
- **Alinear los precios (tarifas)-mas subsidios si aplica- con los costos eficientes permitiendo a la empresa beneficios ordinarios; P*rincipio de Recuperacion de Costos***

Suelen haber otros objetivos complementarios como incrementar la cobertura, mejorar la calidad del servicio y lograr obligaciones de servicio universal.

Tambien hay que tener en cuenta: capacidad de pago, tarifas sociales, subsidios al acceso y progresion de tarifas

LA MICRO-ECONOMIA DE LA REGULACION

Problema: tarificar a costo marginal (MC) => deficit si hay economias de escala

- **=> ningun operador privado estara interesado …a no ser que hayan subsidios para cubrir la brecha**

=> entonces la teoria nos dice usemos precios Ramsey

- **Tarifas mas altas a los usuarios que no tienen alternativas (cautivos)- de acuerdo a las elasticidades de demanda de cada usuario**
- **=> … pero complicado de defender y de implementar y sujeto a abusos**

=> De ahi que la tarificacion a costo promedio (AC) es la solucion practica

- **La pregunta principal es cual es el costo promedio relevante a ser usado para decidir la tarifa/precio promedio?**
  - **ESO ES DETERMINADO POR EL ASPECTO FINANCIERO DEL NEGOCIO**

Principios de la Tarificacion:
Como obtenemos la tarifa/precio a costos promedio?

Como vamos de la teoria al mundo real de la regulacion economica?

En principio:

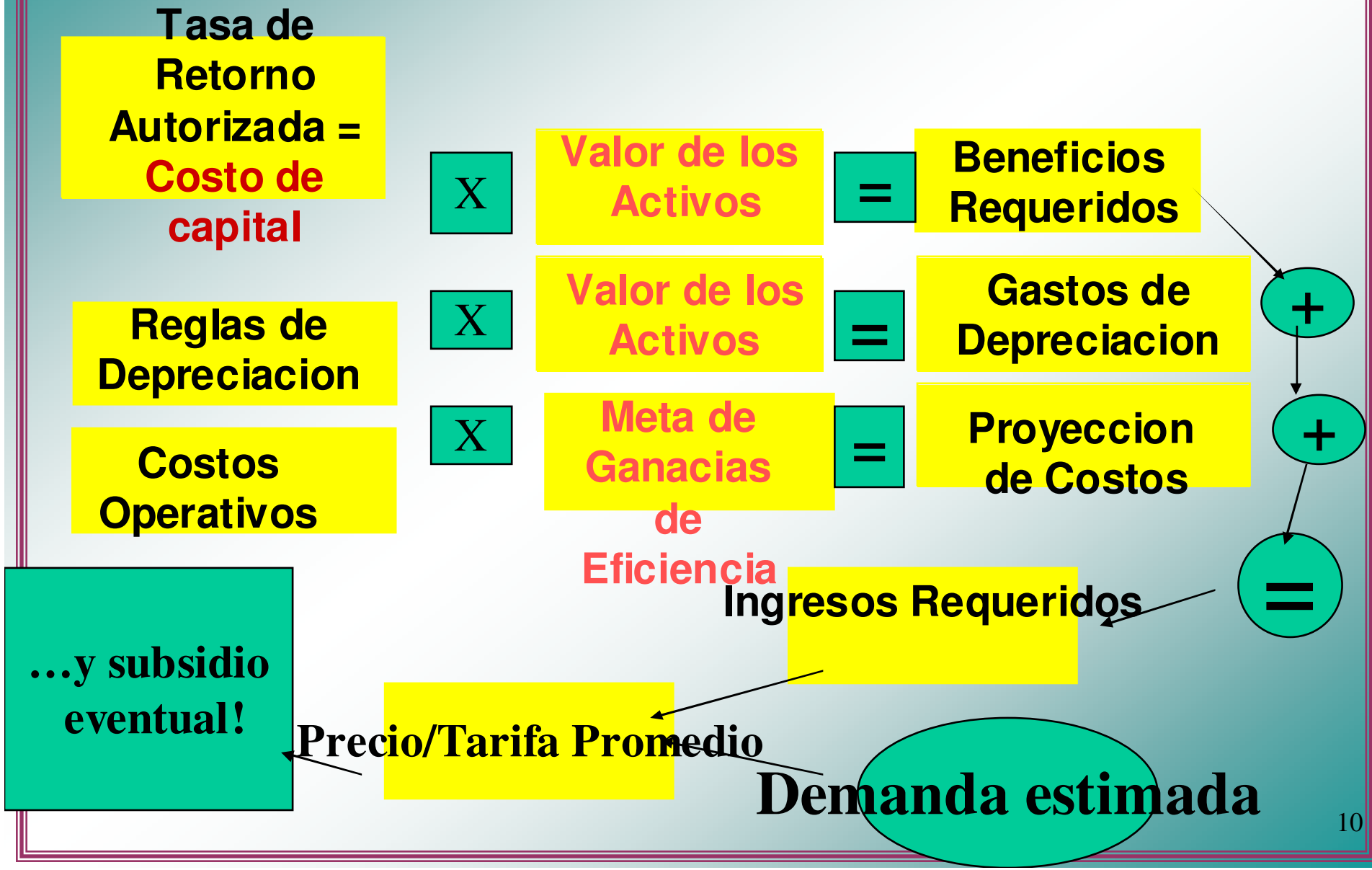
- *Si no hay incertidumbre*: simplemente computar el nivel de la tarifa promedio y ponerlo en el contrato
  - **Para dados standares de calidad, y proyeccion de demanda, …**

Pero que pasa en un entorno donde si hay incertidumbres?

- Costos de deuda y equity cambiantes?
- Tendencias de demanda cambiantes?
- Tasa de cambio ?
- Cambios en precios de ciertos insumos?
- Que es una tasa de retorno razonable?

=> necesidad de identificar los "tariff drivers" (detonadores de tarifas)

FINANZAS BASICAS DE LA REGULACION
REQUERIDO/PERMITIDO INGRESO ANNUAL?



CRITICO: INFORMACION

Tenemos la informacion apropiada para evaluar cada una de esas partes del grafico anterior?

La respuesta es que generalmente no; de ahi que es clave desarrollar la capacidad y los medios legales para conseguirla

El paso siguiente es tener el conocimiento de las mejores tecnicas para evaluarla y transformarla en forma operacional

Informacion necesaria para ajuste de tarifas o precios maximos

Costo de capital

Valor de los activos existentes

Programa de inversion futura

Cambios esperados en la productividad de la *industria (no de la empresa)*

Estimacion del crecimiento de la demanda

Posiblemente en efecto de X sobre los competidores actuales o potenciales (cuando la competencia es factible)

Herramientas Regulatorias Criticas?

- Valor de los activos asociados con la concesion?
- Costo de capital?
- Efficiencia de OPEX y CAPEX?
- Un modelo economico/financiero que asegura la consistencia interna de todas las obligaciones y derechos otorgados en el contrato ?
- Pautas de contabilidad regulatoria para generar la informacion necesaria para evaluar todo lo descrito previamente…?
- Una evaluacion de la parte de la demanda?
- Una estimacion de las externalidades que se necesitan internalizar y que tienen que ser integradas en las tarifas/peajes?

Instrumentos para lar Regulacion

Informacion!!!

Modelo de Costos

Modelo Financiero

Contabilidad Regulatoria & Standares

Benchmarking

Medidas de Eficiencia

Canastas y Estructura Tarifaria

Contabilidad Regulatoria: Impacto

Ajustes con Contabilidad Regulatoria a los balances de las Companias de Agua en el Reino Unido (Year Ending March 1992)

	As stated			As Remodeled		
	Average CCA Capital Employed (£ million)	CCA Operating Profit (£ million)	CCA Rate of Return (percent)	Average CCA Capital Employed (£ million)	CCA Operating Profit (£ million)	CCA Rate of Return (percent)
Anglian	10,531.3	164.9	1.6%	907.5	192.1	21.2%
Northembria	3,252.9	27.5	0.8%	89.0	39.0	43.5%
North West	18,860.0	206.6	1.1%	1,094.9	224.0	20.5%
Severn Trent	19,847.7	168.9	0.9%	1,053.3	232.2	22.0%
Southern	9,528.8	43.6	0.5%	469.1	68.6	14.6%
South West	3,629.4	59.2	1.6%	479.9	65.9	13.7%
Thames	34,267.7	194.7	0.6%	1,513.0	216.0	14.3%
Welsh	7,396.2	102.3	1.4%	429.4	126.7	29.5%
Wessex	5,242.0	44.1	0.8%	334.0	56.6	17.0%
Yorkshire	11,875.8	97.1	0.8%	958.8	117.2	12.2%
TOTALS	**124,431.8**	**1,108.9**	**0.9%**	**7,329.4**	**1,338.3**	**18.3%**

Source: Carey, Cave, Duncan, Houston, Langford 1994.

Temas Oportunisticos Que la Contabilidad Regulatoria Debe Corregir

- Management fees—often equivalent to half of the firm net's profits
- Contracting subsidiaries or related companies to provide services or equipment at significantly higher prices than standard market prices
- Accuracy of reported investments
- Transfer of accumulated profits into the regulated capital base
- Transfer of capital in non-regulated areas of the firm into the regulated capital base of the firm
- Valuation of pre-privatized assets at replacement costs
- Using, when convenient, past performance as justification for demands for future higher tariffs
- Financial equilibrium, yes but based on best practices and the sanctity of the bid

MARCO LEGAL Y REGULATORIO: TEMAS A CUIDAR COMO FUENTE DE CONFLICTOS Y DE RENEGOTIATION

EQUILIBRIO FINANCIERO R= PQ-CO-T-D=rKi (pero CO eficiente)

SANTIDAD DEL CONTRATO

APUESTAS AGRESIVAS: R= PQ-CO-T-D<rKi

CONTABILIDAD REGULATORIA E INFORMACION

AMBIGUEDADES CONTRACTUALES

PAUTAS PARA AJUSTES Y COMPENSACIONES

RESOLUCION DE CONFLICTOS

INCENTIVOS-CARTA FIANZA,TIEMPOS, SANCIONES

AMBIGUA ASIGNACION DE RIESGOS: FORTUITO, (CAUSA SOBREVINIENTE)

Riesgo Regulatorio

Definicion: Tres fuentes de riesgo relacionadas

I. La perdida potencial de ingresos como resultado de cambios arbitrarios a lo acordado y contractuado o specificado marco legal y/o contrato que norma la regulacion de las inversiones en infraestructura

II. … como resultado de aplicacion arbitraria de las reglas

III. Area gris: perdidas potenciales de ingresos como resultado de interpretaciones por el regulador al contrato o marco

Notemos que…el papel del Regulador

Ante cualquier peticion de ajuste…

El Regulador es y debe ser el primer filtro

Aunque no tiene la autoridad para concederla, si la tiene para no autorizarla,… en primera instancia

Pero su opinion en el evento de apelacion al concedente u otro debe ser clave

Cost recovery

In most countries, revenues are barely sufficient to recover operation and routine maintenance costs

If tariff levels are to remain low, governments will have to continue to provide substantial investment subsidies, a challenge given limited fiscal space

If some of the investment financing is to be shifted from subsidies to commercial financing, tariffs would have to be increased

There are examples of gradual tariff increases in parallel with improved service provision (Brazil, Chile)

But sometimes tariff increases were eroded quickly through inflation (Nicaragua, Uruguay, Argentina)

In times of increased cost of living, tariff adjustments become politically even more difficult

Ente Fiscalizador/Regulador

Clave y critico para el exito: existencia, experiencia y autonomia

Esas tres caracteristicas en todas las evaluaciones salen como fuertes determinantes de

- **Menor renegociacion**
- **Reduccion de conflictos**
- **Alineamiento de costos y tarifas**
- **Desempeno sectorial**

Incidencia de Renegociacion de Contratos de Concesiones en Infraestructura en America Latina y Tiempo Medio de la Renegociacion 1988-2006

	Renegotiated Concession	Average Time to Renegotiation
Todos los Sectores	61%	1.6 anos
Electricidad	35%	2.1 anos
Transporte	79%	2.6 anos
Agua y saneamiento	91%	1.2 anos

Source: Guasch (2006)

Common Outcomes of the Renegotiation Process

	Percentage of renegotiated concession contracts with that outcome
Delays on Investment Obligations Targets	69%
Acceleration of Investment Obligations	18%
Tariff Increases	62%
Tariff Decreases	19%
Increase in the number of cost components with automatic pass-through to tariff increases	59%
Extension of Concession Period	38%
Reduction of Investment Obligations	62%
Adjustment of canon-annual fee paid by operator to government	
Favorable to operator	31%
Unfavorable to operator	17%
Changes in the Asset-Capital Base	
Favorable to Operator	46%
Unfavorable to Operator	22%

Source: Guasch (2004)

Desafios crecientes a la Regulacion

Choque externos

- **Precios de combustibles**
- **Precios de alimentos: capacidad de pago**
- **Devaluaciones**

Regulacion integrada: municipios vs nacional

Regulacion de empresas estatales

Evaluacion de Riesgo Regulatorio

Basado en:

- Experiencia: eventos, frecuencia e impacto
- Marco legal y regulatorio: existencia o incidencia de clausulas, procedimientos ambiguos
- Reputacion e imagen pais en terminos de seguridad juridica, respeto a contratos
- No hay que confundirlo con Riesgo Pais

Mitigacion de Riesgo Regulatorio

A traves de :

- Sistema o marco de Governabilidad (ver tabla de caracteristicas) que restrinje discrecion regulatoria
- Medidas que mejoran desempeno regulatorio
- Otras medidas

Medidas de Mejora de Desempeno Regulatorio

Evaluaciones mandatorias, periodicas e independientes de los reguladores: ex-post y publicas

Apoyar la participacion de la sociedad civil y la demanda para por transparencia regulatoria

Desarrollar capacidades en los Entes Reguladores

Adoptar y usar instrumentos regulatorios (por ejemplo contabilidad regulatoria)

Adoptar una politica de maxima transparencia absoluta, colgando toda la informacion y decisiones en la red para acceso publico

Otras medidas

Garantias de riesgo parcial
Seguro de riesgo politico
Garantias soveranas
Fideicomisos (escrow accounts)
Cartas de credito (letters of credit)
Stand-by-debt facilities
Hedging y otra derivateive instruments
Presupuesto publico comprometido o impuestos o tasas
Subsidios focalizados o en funcion de resultados
Contratos en moneda estranjera
Indexacion de contratos
Estabilidad legal en contrato: contratos ley
Tratados bilaterales
Mecanismos creibles y predecibles de resolucion de contratos

Ajustes Tarifarios Previstos (quinquenales)

Suelen efectuarse cada 5 anos

Necesita modelo de costos, contabilidad regulatoria, evaluacion de la base de los activos (asset base)

Resultado conforme a la tasa de retorno establecida en el contrato

Por ejemplo Chile rango de tasa de retorno 6-14%. Efecto contabilidad regulatoria, el regulador redujo la asset base en 39% de la dada por las empresas (cuando la empresa las cuestiono el panel las redujo en un 16%)

Calculo del Factor X

Consiste en la utilizacion de indicies o indicadores (comercial, operacional y financiero) para medir la diferencia entre las tasas agregadas de crecimiento de outputs e inputs y obtener la productividad a partir del correspondiente valor residual; o a traves dl uso de tecnicas econometricas (estimaciones de coste o produccion)

Palabras Finales…

…para ser justo, efficiente y accountable hay que tener la informacion (hechos) correctos …

Si el regulador no evalua …

=> No va a poder saber los hechos

=> Entonces …no puede generar resultados eficientes

=> Entonces, no sera justo mpara el operador, ni para los usuarios y contribuyenets de hoy y de manana!

Adendas de Bancabilidad

Principios:

- **Causantes: Que dice el contrato?**
- **Cuando se peticiona? Contexto de revision ordinaria quinquenal o fuera de ciclo?**
- **Impacto en nivel de tarifas u otro factor: marginal o substancial?**
- **Impacto en equilibrio financiero: marginal o substancial?**
- **En el contexto de apuesta agresiva: R= PQ-0C-T-D<rKi ?**
- **Incidencia y frecuencia de peticiones?**
- **Precedentes?**

Adendas de Bancabilidad II

Costo de capital:

- **Cual es el costo de capital de la empresa?**
- **Donde se ubica ese costo de capital vis a vis el de mercado benchmark (en el pais y sector)?**
- **Impacto en costo de capital?**
- **Acompanado de reduccion de niveles tarifarios?**
- **Otras compensaciones?**

Opciones

Costo a la renegociacion-reembolsable si autorizado (para nuevos contratos)

Clausula absoluta de no ajustes al contrato al menos hasta la revision quinquenal

Paneles de expertos.. Si es que se otorga

Uso de los medios de comunicacion

Carta fianza y garantias que muerdan (como porcentaje de la inversion o de los ingresos anuales)

Entender la asimetria de la regulacion y de la remuneracion

Benchmarking

II. Gobernabilidad Sistema Regulatorio

Gobernabilidad Sistema Regulatorio: Elementos Criticos

Autonomia

Transparencia

Rendicion de cuentas

Herramientas

Autonomia

Politica

Gerencial

Regulatoria

Transparencia

Social

Institucional

Instrumentos

Regulatorios

Institucionales

Resultados

Amplia Evidencia del Impacto de la buena Gobernabilidad Determinantes de:

- **Desempeno del sector:**
- **Incidencia de renegociaciones**
- **Alineamiento de costos y tarifas**
- **Reduccion de Riego Regulatorio**

- **EVIDENCIA**
- **Andres, Guasch , Lopez (2007)**
- **Sirtaine, Foster, Guasch (2005)**
- **Andres, Guasch, Straub (2006)**
- **Stern et al (2005), Correa et al (2006), etc**
- **Others**

III. Riesgo Regulatorio

Evaluacion de Riesgo Regulatorio

Basado en:

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- **Marco legal y regulatorio: existencia o incidencia de clausulas, procedimientos ambiguos**
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IV. TERCERIZACION DE FUNCIONES REGULATORIAS

Tercerizacion de Funciones Regulatorias

Util particularmente cuando:

- **i) existen inquietudes o problemas entorno a la independencia del regulador, su capacidad o legitimidad,**
- **ii) se necesita apoyo o expertise especial en la administracion efectiva de los contratos;**
- **iii) o por razones de costo beneficio**

Que Funciones Suelen ser Tercerizadas?

Revision de tarifas/precios

Benchmarking

Monitoreo o fiscalizacion de contratos

Resolucion de Conflictos

Tercerizacion

Su incidencia tambien suele depender de la experiencia y edad del ente regulador y tambien suele ser vinculado a problemas especificos o de alto impacto

Otros beneficios es transferencia de conocimiento, uso de mejores practicas internacionales

Pero es positicamente sensitivo

Tercerizacion

Existen dos modalidades

- **i. “in-house” suele ser consultorias o apoyo tecnico al regulador, el que decide si usar in-house o tercerizacion de algun servicio**
- **ii. Ejecutado por el Gobierno, contratando separadamente asesores regulatorios o paneles de expertos y puede ser sutil o robusto (privado versus publico en cuanto a las recomendaciones)**
- **iii. Papel regional**

V. BENCHMARKING, EFICIENCIA Y FACTOR X

BENCHMARKING, EFICIENCIA Y FACTOR X

Benchmarking: Instrumento regulatorio para evaluar el desempeno de la entidad regulada

Principio:

- **Simple:Comparar el desempeno de la empresa en relacion a otras comparables y/o a la mas eficiente**
- **Robusta: Comparacion controlando por una serie de factores (como escala de operaciones)**

Cada vez mas usado en el contexto de revisiones tarifarias para evaluar las ganancias en eficiencia para compartirlas con los usuarios a traves de las nuevas tarifas

Se puede evaluar y benchmark,

- **Eficiencia de la empresa, (varios indicadores de productividad), absoluta y relativa**
- **Costo de capital**
- **Costos operacionales**
- **Tasas de retorno**

Essencial para…

Determinar eficiencia de costos operativos (OPEX) y guiar la decision de que valor de esos costes se autoriza para computar las tarifas para cubrirlos

Determinante para evaluar la productividad relativa

Determinacion del Factor X en las revisiones quinquenales de concesiones bajo el criterio de regulacion por precios topes

Ganar apoyo en los medios: Imagen y argumentos para sostener acciones tarifarias

Presion publica para mejorar desempeno

Benchmarking: Tipologia de Metodologias

- Indicadores Clave (CORE) y summario o Indicador de Desempeno Total (metodo de metrica parcial)
- Valores de desempeno basados en estimados de Costos o de Produccion (Metodo total, DEA, SFA)
- Desempeno relativo a Empresa Modelo -ala Chile (metodo ingeniril)
- Proceso Benchmarking (analisis detallado de las caracteristicas de la operacion)
- Encuesta de Usuarios Benchmarking (idntificar las percepciones de los usuarios)

Calculo del Factor X

La seleccion dl factor X esta basado en la evaluacion del regulador del potencial del crecimiento de la productividad en la empresa regulada

Consiste en la utilizacion de indicies o indicadores (comercial, operacional y financiero) para medir la diferencia entre las tasas agregadas de crecimiento de outputs e inputs y obtener la productividad a partir del correspondiente valor residual; o a traves dl uso de tecnicas econometricas (estimaciones de coste o produccion)

Es forward-looking (no debe estar basado en el pasado)

De ahi que la seleccion del factor X este basado en…

Cual es la tendencia en la tasa de crecimiento de productividad en el sector?

La empresa esta operando por debajo de las mejores practicas en el sector? En cuanto (%) es menos eficiente?

Empirical Results: Changes in Trends…

	Distribución de la electricidad		Telecomunicaciones fijas		Distribución del agua	
	Transición	Post-transición	Transición	Post-transición	Transición	Post-transición
Número de suscritos (*)	=	↑	↑	↑	=	↑
Producto (*)	=	↓	↑	↑	=	↓
Número de empleados	↓	↓	↓	↓	↓	↓
Número de empleados – Sector	=	↑	=	↑	↓	↑
Productividad laboral (*)	↑	↑	↑	↑	↑	↑
Pérdidas en la distribución del servicio	↓	↓	↓	↓	↓	↓
Calidad	↑	↑	↑	↑	↑	↑
Cobertura (*)	=	=	↑	↑	=	=
Precios	↑	↑	↑	↑	↑ ?	↑ ?

Nota: (*) Estas variables fueron reportadas tras considerar los efectos fijos de la firma y otros fenómenos contemporáneos en la economía.
Fuente: Andres, Foster y Guasch (2004).

Summary of Results

Our results suggest that:

- **PPPs generated significant improvements in labor productivity, efficiency, and product/service quality: LARGE EFFICIENCY GAINS.**
- **PPPs generated improvements also in output and coverage, but less impresive, with the exceptions of those in the telecom sector..**
- **For non-greenfield projects, the big effects happened in the earlier years or during the transition period.**

The PPP design characteristics are critical determinants of the extent and level of the captured efficiency gains, and for who appropriates the efficiency gains

But we also found a very high incidence of ex-post PPP award problems and conflicts

3. PPP´s and CONCESSIONS: Clarifications

PPP´s are between public financing and privatization

Tipes of PPPs: concesiones, BLT, BLTM, BOT, DBOT, DBFO, DBFOM, JV

Semantic Clarificatión : PPP´s vs Concesiones:

PPP´s imply Payments and financial commitments by the Government and Projects not financially viable (imply indebtedness and commitments to future payments)

Concessions: Financially viable projects, revenues for the Government, no government indebtedness

Starting Point: Infrastructure Program

Strategic planning, prioritization of projects, and economic valuation analysis should lead to a modality of implementation according to the following:

Public Investment

- **State management**
- **Private management**

Concessions (fully financially viable)

PPPs (not fully financially viable)

Projects by private initiative

Institutionality: Best Practice

Separation of functions and jurisdiction

- **Strategic Planning: project identification projects: Sectorial Ministry**
- **Screening, approval and prioritization of projects: Inter-ministerial Sub-Cabinet, led by Finance Minister**
- **Preparing the transaction: PPP Agency**
- **Regulation-oversight- fiscalization of contract: Autonomous Regulatory Agency**
- **Overall evaluation: Observatory**

Best Practices for Ex-post Performance Monitoring

It requires:

- **A good contract and concession design**
- **A good regulatory framework**
- **A properly design regulatory agency**
- **The right set of regulatory instruments**

Why regulation/fiscalization

Contractual obligations

Sole provider-monopoly conditions

Residual discretion in contracts

Regulatory risk

Predictability, transparency and credibility

The issue of autonomy/independence:

- **Arm length from parties: government, operator and users**
- **Filter**

Regulatory/Oversight Agency

Critical for success and ex-post management: existence, experience and autonomy

Those three characteristics are key determinants of:

- **Less renegotiation**
- **Reduction of conflicts**
- **Alignment of costs and tariffs**
- **Sector Performance**

In that specific context, economic regulation is about:

- **Contract enforcement and supervision**
  - **It's about prices….but also about quality**
- **Managing scheduled and unscheduled contract revisions, including toll revisions and consultation processes**

Problem: MC pricing => deficit if economies of scale

- **=> no private operator will be interested …unless matching subsidies**

=> textbooks tell you to rely on Ramsey pricing

- **Charge MORE customers who have no alternative (according to elasticity of demand of each user)**
- **=> not great socially and potential for abuses + practice???**

=> Average Cost (AC) pricing as the main practical option?

- **main question is what is the relevant average cost to be used for setting the average tariff?**

- **THIS IS DRIVEN BY THE FINANCING SIDE OF THE BUSINESS**

How do we go from basic to the real world of economic regulation?

In principle:

- *If no uncertainty*: just compute the average tariff level and put it in the contract
  - For given quality standards, demand forecast, …

But what happens in a world with uncertainties?

- Changing cost of debt and equity
- Changing demand pattern?
- Foreign exchange crisis?
- Changes in prices of some inputs?
- What is a reasonable rate of return?
- … the sum of expected tariff revenue generated needs to equal the sum of costs plus rate of return on investment (financial equilibrium)

=> need to be able to track "tariff drivers"

Alternative Regulatory Models

	France (Water Sector)	Latin America	Great Britain	United States	India
Separate Regulator?	No	Yes	Yes (national)	Yes (national and state)	Yes (national and state)
Specifity of Regulatory Contract	Medium	High (Bolivia, Chile, Peru) Low (Brazil, Colombia)	High	Low (general principles interpreted in case law)	Low (general principles without case law)
Regulatory Decisions Reviewed by Special Appellate Tribunal?	Yes	No except for Bolivia	Yes (Competition Commission)	No	No, but proposed by government
Ownership of Regulated Entities	Private	public (varies by country)	Public	Publice	public
Form of Private Sector Participation	Concessions and leases	Concessions that are close to full privatization	Full privatization	Full privatization	Full privatization/Concessions

Basic regulatory tools?

- Value of the assets associated with the concession?
- Cost of capital?
- Efficiency of the OPEX AND CAPEX?
- A financial/economic model which ensures the internal consistency of all obligations and rights granted through the contract ?
- Regulatory accounting guidelines to generate the information needed to assess all of the above…?
- A sense of the demand side?
- An estimate of the externalities that need to be internalized which may have to be built in tolls?

Information needed for tariff adjustments or the setting of price caps

- Cost of capital
- Value of existing assets
- Program of future investments
- Expected productivity changes in industry (not of the firm)
- Estimation of demand growth
- The impact of factor X adjustments of existing or potential competitors (when competition is feasible)

Regulatory Accounting: Deficiencies

Adjusted Results for Electricity Distribution Businesses (Year Ending March 1992)

	As Stated			As Remodeled		
	Average CCA Capital Employed (£ million)	CCA Operating Profit (£ million)	CCA Rate of Return (percent)	Average CCA Capital Employed (£ million)	CCA Operating Profit (£ million)	CCA Rate of Return (percent)
Eastern	1,316.2	120.4	9.1%	718.4	155.3	21.6%
EME	998.0	107.2	10.7%	628.6	128.4	20.4%
London	1,060.4	111.0	10.5%	541.8	96.7	27.0%
MANWEB	671.0	77.8	11.6%	358.3	96.7	27.0%
Midlands	1,021.7	94.7	9.3%	542.0	121.6	22.4%
Northern	617.9	59.1	9.6%	313.9	80.8	25.7%
NORWEB	890.7	81.4	9.1%	468.6	95.1	20.3%
SEEBOARD	702.0	49.9	7.1%	244.0	89.2	36.3%
Southern	1,035.7	121.3	11.7%	660.5	143.1	21.7%
South Wales	467.4	43.4	9.3%	261.6	59.5	22.7%
SWEB	743.2	60.5	8.1%	346.6	84.1	24.3%
Yorkshire	915.7	89.4	9.8%	531.0	112.9	21.3%
TOTALS	**10,439.9**	**1,016.1**	**9.7%**	**5,615.4**	**1,306.2**	**23.3%**

Source: Carey, Cave, Duncan, Houston, Langford 1994.

Expected Tariffs Adjustments (quinquenial)

Usually every 5 years

Requires cost model, regulatory accounting, evaluation of asset base

Complying with rate of return established in contract

Example, in Chile range of rate of return depended of sector 6-14%. Through the application of regulatory accounting, the regulator reduced the asset based by 39% to the one submitted by the operator. Upon appeal, on arbitration, the panel reduced only by 16%.

Calculating X Factor

Requires the use of indicators (commercial, operational and finance) to evaluate the difference between grothw rates of outputs and inputs and to obtain the productivity based on residuals; or through the use of econometric techniques (cost and production estimates)

CONFLICT RESOLUTION

Critical for effective ex-post management: conciliation and arbitration, and special courts when possible

A well defined and effective mechanism

Not all currently being used are adequate (example, arbitration with three members, with each party choosing one, and the third by agreement NO GOOD)

Better, an arbitration panel, say three selected by curriculum, ex-ante

SUMMARY OF RESULTS

Strong economic impact (productivity, quality of service, coverage and prices) and on poverty (access)

Could have been done much better

Issues:

- **Contract/concession design**
- **Incidence of renegotiation**
- **Tariff setting adjustments and cost of capital**
- **Financial equilibrium**
- **Regulatory framework and capacity**
- **Poor conflict resolution**
- **Risk assignments**
- **Communications and buy-in**
- **Social issues not properly addressed**

Lessons: New Efforts Should be Placed in Properly Addressing:

I. Pre-Concession Issues

II. Concession Design Issues

III. Concession Award Issues

IV. Regulatory Issues

- a) Institutional
- b) Economic/Technical
- c) Administrative Procedures

LESSONS AND DESIGN FOCUS: Moving Forward

Increased regulatory risk (2-6%), cost of capital, most projects left not fully financially viable, backlash effects

Key determinants of Sector Performance:

- Design of Concession
- Regulatory Framework: inducing firms to produce at efficient costs and aligning tariffs with costs

Competitive concession award process

Increased transparency of process

Communications campaign and secure consensus

Proper sector restructuring

Regulatory credibility

Clear rules for and limits to government and regulator discretion
Respect for and enforcement of the sanctity of the bid at the time of the auction
Dissuasion through financial incentives of opportunistic renegotiations and development of a credible commitment to the non-renegotiation of opportunistic petitions
Costly unilateral changes of the agreed-upon contractual terms of the concession
An incentive-based regulatory framework
Price caps vs rate of return
Performance Indicators rather than investment committments
Appropriate regulatory and antitrust legislation
Autonomous regulatory institutions, well-trained and well-compensated professionals, and effective enforcement.
An appropriate set of regulatory instruments such as regulatory accounting system, cost and financial models, and benchmarking referential data
Competition in the provision of services in as much as it is feasible.

Structure

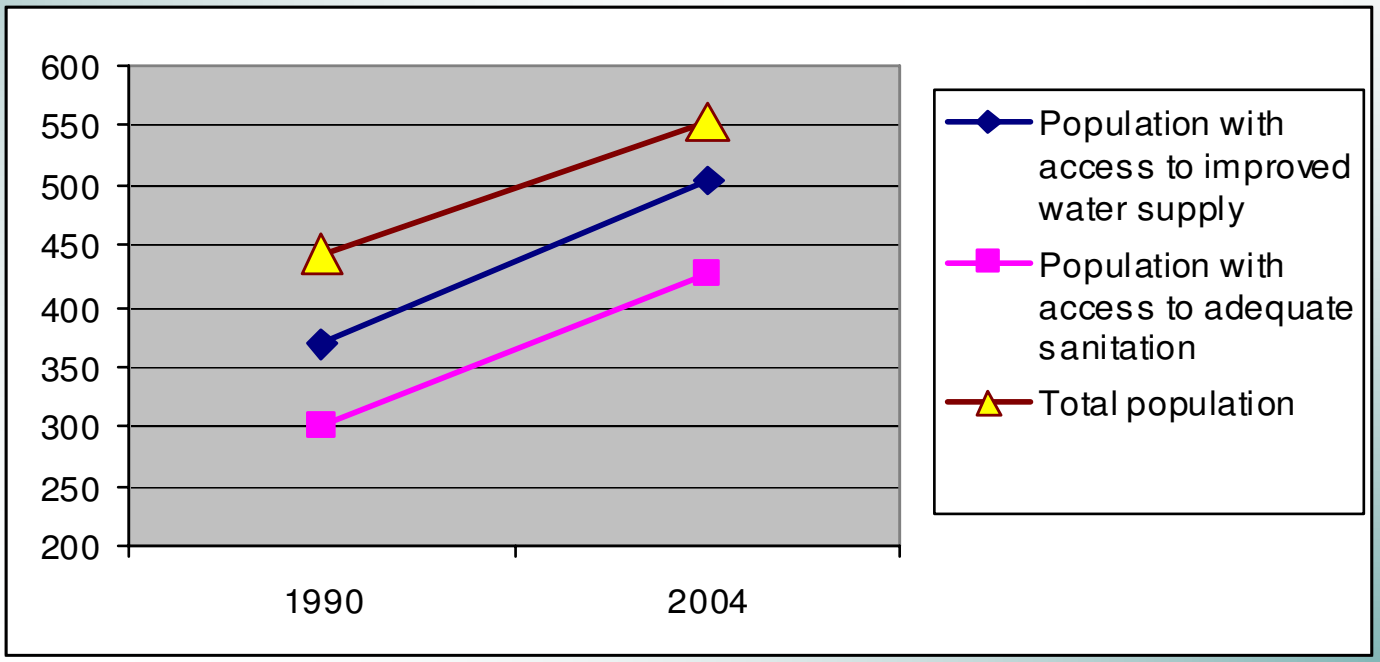
The state of water and sanitation in LAC: Achievements and challenges

Perspectives: The way forward

How the World Bank assists countries in achieving their objectives

Access

Access has improved signficantly…



… but the number of those unserved remains high

Poor service quality (1)

Intermittent supply is common in many cities in LAC:

- Only two countries – Chile and Uruguay – provide continuous supply to all their cities.
- In Mexico, 45% of the population receives water on an intermittent basis
- In Peru, the average supply is 17 hours per day
- In the poorest countries the great majority of users receives water only a few hours per day (Honduras, Haiti, Guyana)

Households spend high amounts on household-level storage to cope with intermittent supply

Poor service quality (2)

In most cities there are no publicly available data on drinking water quality, and drinking water quality is often considered poor

Households spend high amounts on bottled water, filters, chemicals and boiling to cope with poor water quality

With 18 billion liters/year Mexico has the second-highest consumption of bottled water in the world after the US, partially as a result of poor water quality

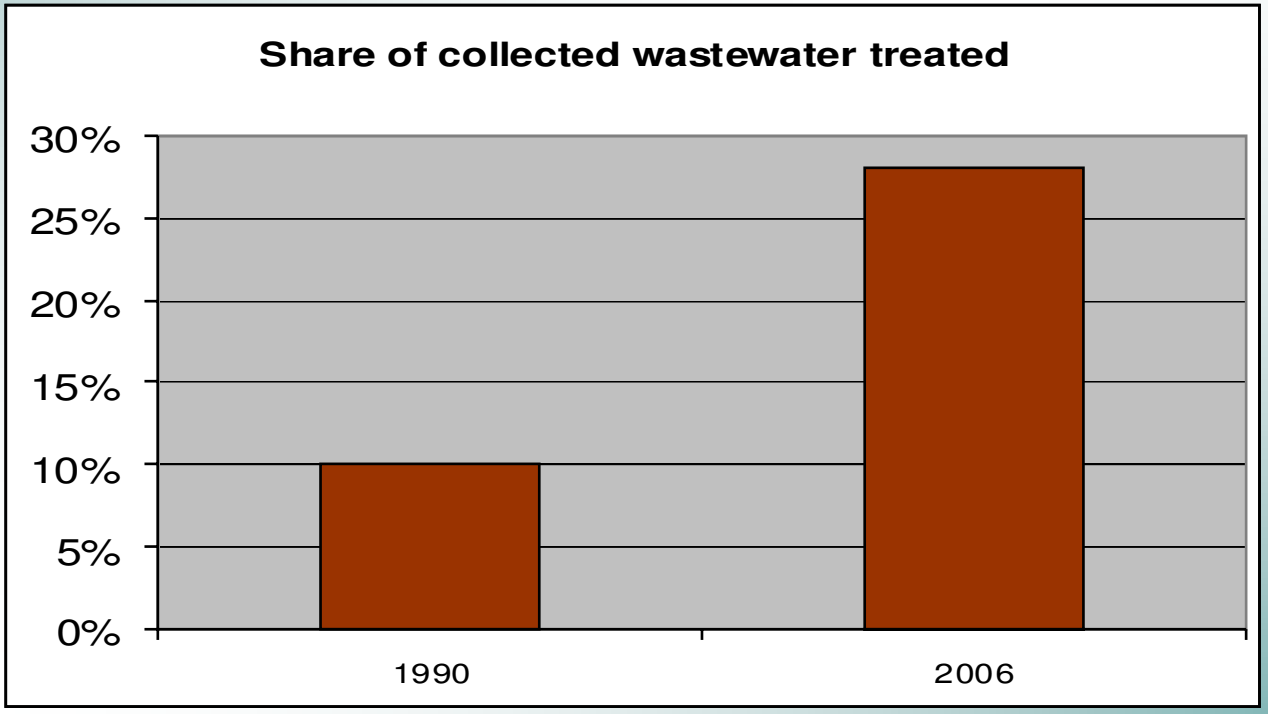
Sewer overflows are a problem

Sanitation

The United Nations has declared 2008 “The International Year of Sanitation”
The investment needs are higher for sanitation than for water given lower access
Sanitaiton and hygiene promotion are highly effective health interventions
Nevertheless, water supply has traditionally taken priority over sanitation
Sanitation and hygiene offer limited scope for recurrent cost recovery
Institutional responsibility for sanitation is often not clear

Wastewater treatment

The share of treated wastewater has increased significantly….

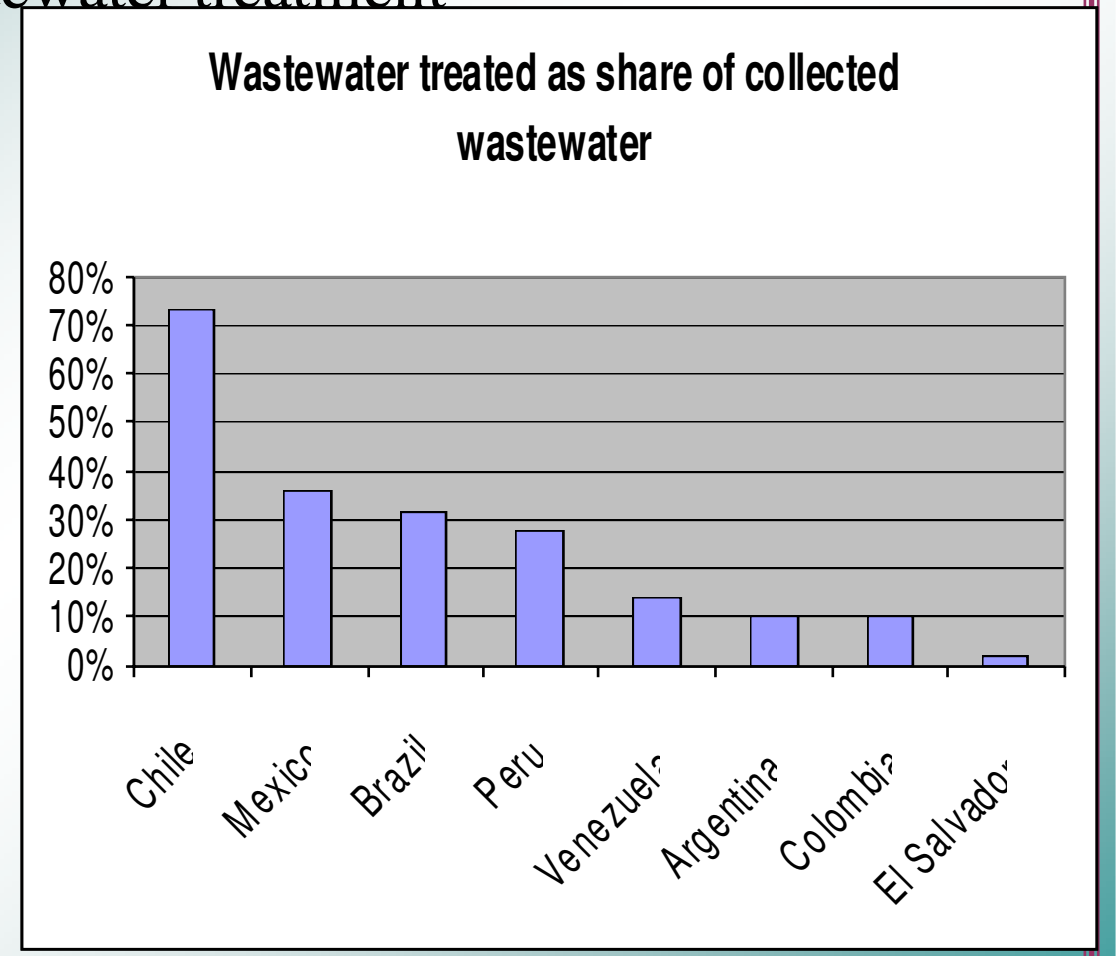


but at 28% remains lower than other regions (e.g. 52% in China)

Wastewater treatment

There are vast differences between countries

Many wastewater treatment plants are not operating effectively due to inadequate operation and maintenance



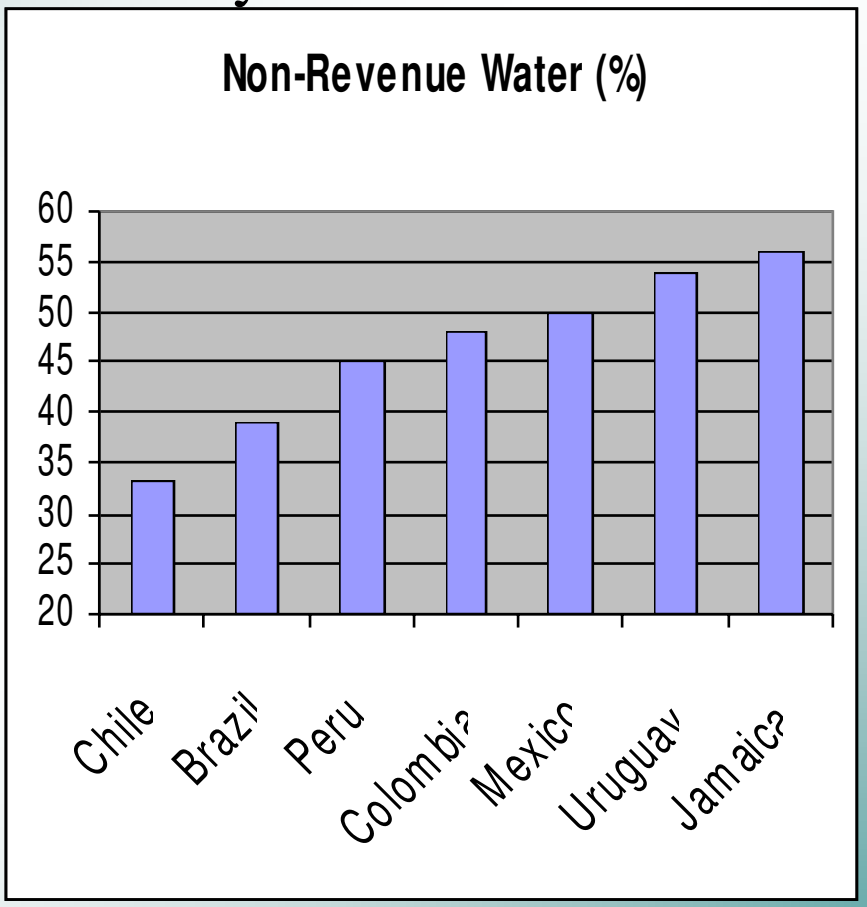
Source: World Bank compilation of national regulator and utility data

Low Efficiency

Non-Revenue Water in the region is about 40%, i.e. 40% of the water produced does not reach the customer or is not being billed

Good practice is less than 25% NRW

About one third of customers are not metered



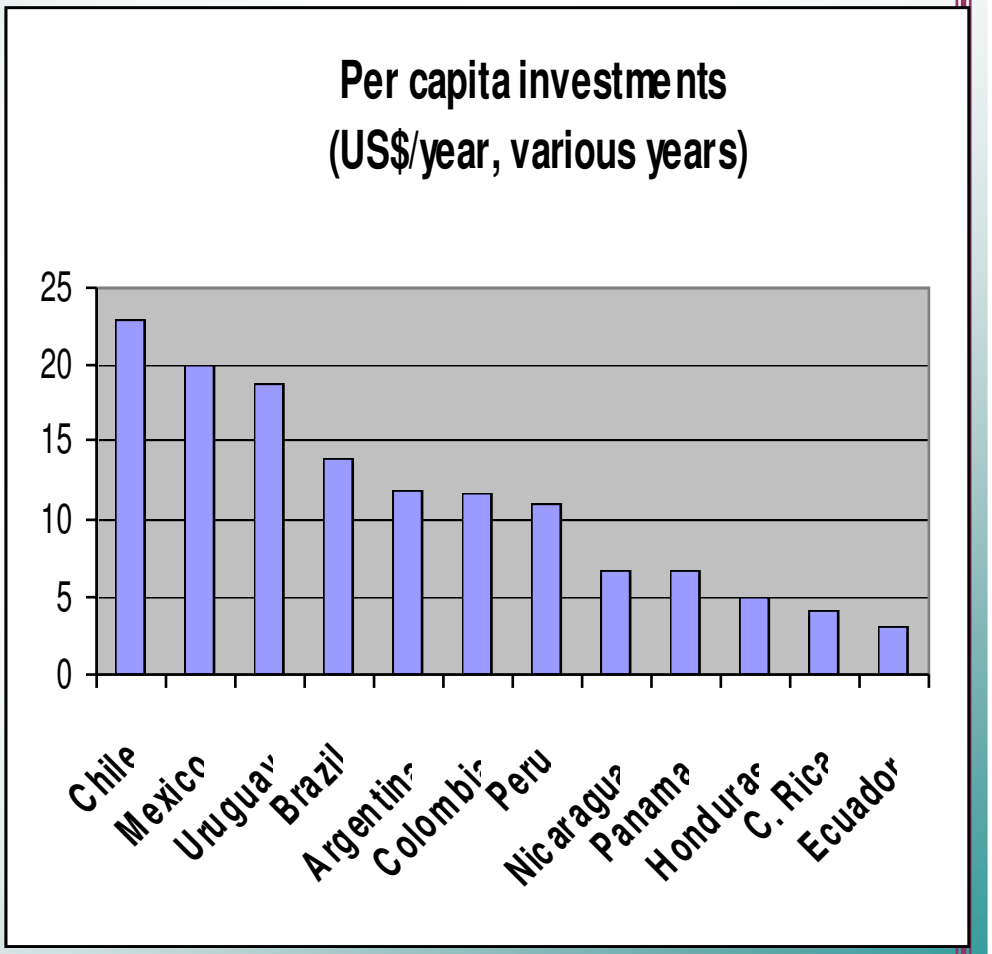
Source: World Bank compilation of national regulator and utility data

Investment (1)

Annual average investment of US$ 3.7bn in 13 countries 1997-2004 (US$8/capita)

Investment needs are at least US$ 12/capita

Substantial differences between countries



Source: World Bank compilation of national regulator and utility data

Investment (2)

Very limited self-financing by utilities (except for Brazil and Chile)

Most financing is domestic through grants from national and state-level governments, even for funds contracted by governments as external debt

Utilities have not tapped much into domestic capital markets (again except for Brazil, Chile and to some extent Mexico)

Investments are volatile, affected by economic crises and policy changes that determine the amount of grant funds available

Service provision

Fragemented sector:

- More than 8,000 formal urban providers
- Tens of thousands informal providers in rural and marginal urban areas

> 90% of users served by public service providers

Type of formal urban service provider	*Number*
Municipalities (direct service provision)	**> 6000**
Municipally-owned utilities	**> 1,000**
Cooperatively-owned utilities	**990**
Municipal private concessions (incl. mixed companies)	**~250**
Regional public utilities	**47**
Regional private utilities	**19**
National utilities	**12**
Total	**> 8,300**

Public-Private Partnerships

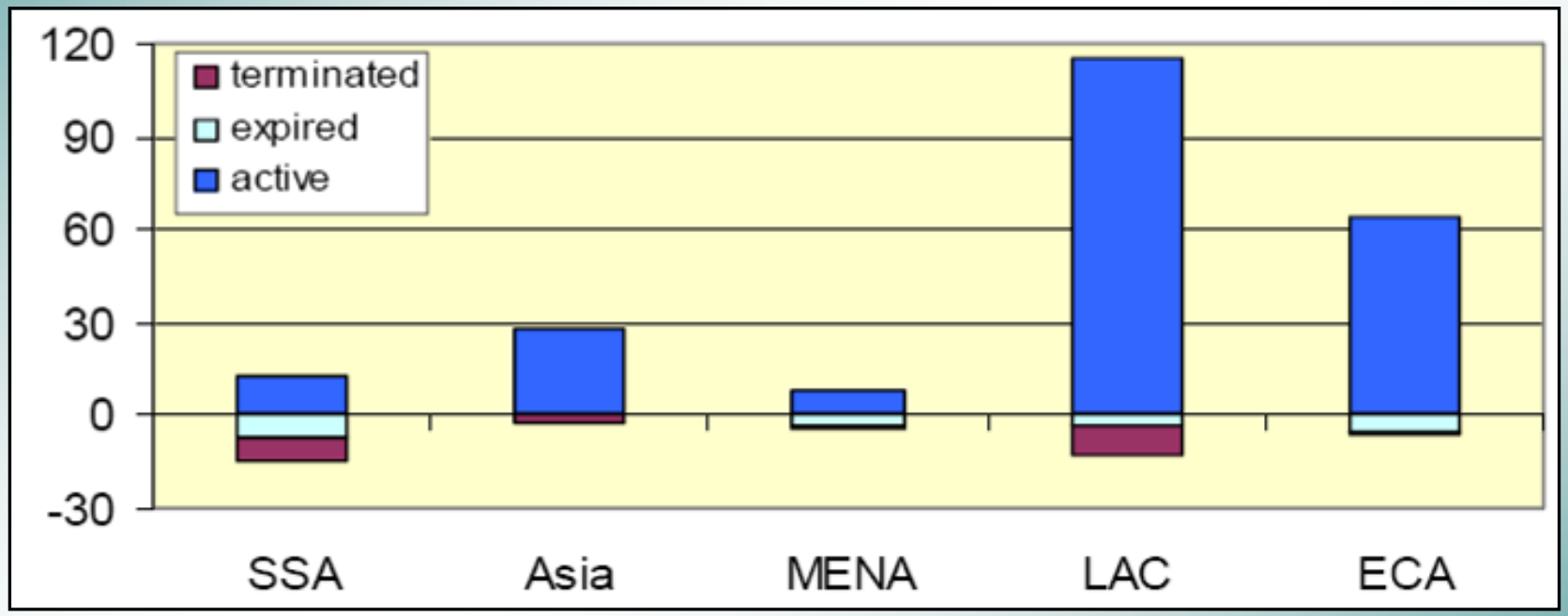
A few high-profile terminations: Buenos Aires and La Paz concessions

But there are also many less publicized success stories: Chile, Colombia (Cartagena, Barranquilla, Monteria), Argentina (Salta), San Pedro Sula (Honduras), Mexico (Saltillo) among others

The objective is to improve the operational efficiency and service quality of the sector, not attracting private investment

Colombia Model (mixed companies) - developed a specific scheme that combines public and private financing, with significant public money available upfront to allow the private operator to quickly turn around the utility

Water utility PPPs: number of projects active, expired and terminated by regions-



85% of PPPs awarded for water utilities since 1991 are still active, only 8% were terminated early

The way forward

Increasing financing is essential, but not sufficient

How much scope is there to increase cost recovery?

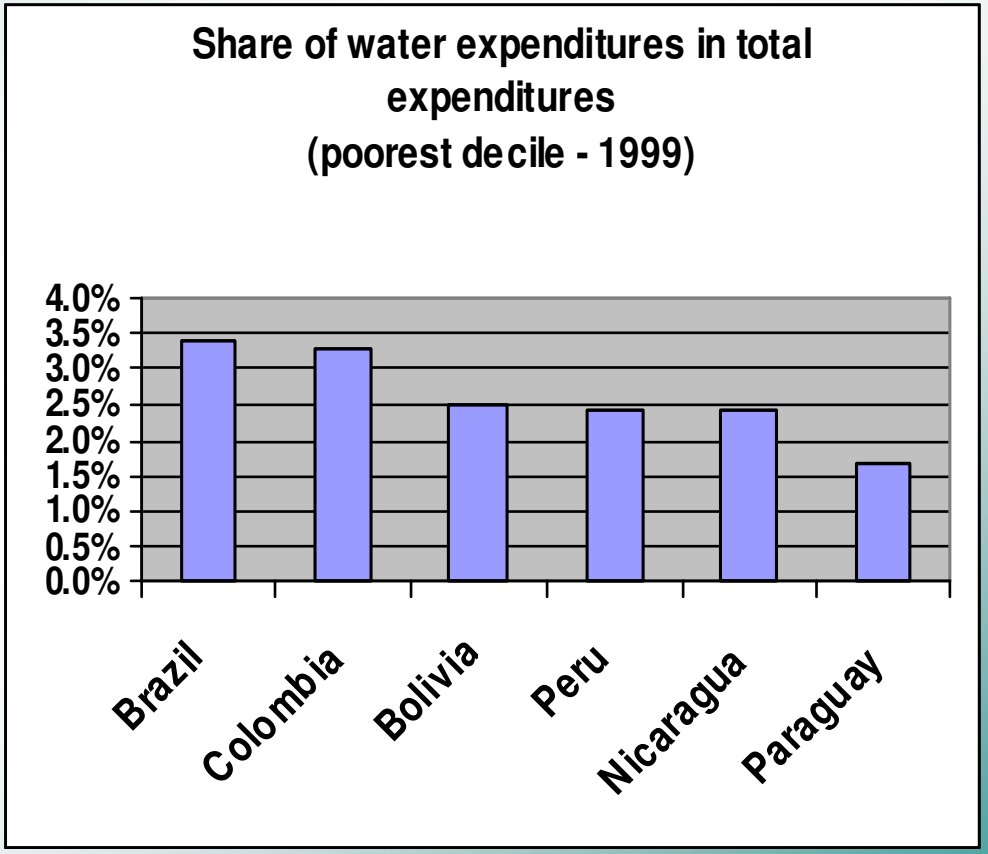
Better management models are needed to provide good-quality services, including to the urban poor and rural areas

Both public and private management works

Improved regulation and better efficiency are needed

Current tariff levels and affordability

- The poor connected to the network spend about 2.5% of their expenditures on water, which is below the 5%-maximum “rule of thumb”
- The poor without access usually spend much more for water provided in tanker trucks, or walk long distances in rural areas



Source: Soares et al. (2002), Revista Panamericana de Salud Pública

Cost recovery

In most countries, revenues are barely sufficient to recover operation and routine maintenance costs

If tariff levels are to remain low, governments will have to continue to provide substantial investment subsidies, a challenge given limited fiscal space

If some of the investment financing is to be shifted from subsidies to commercial financing, tariffs would have to be increased

There are examples of gradual tariff increases in parallel with improved service provision (Brazil, Chile)

But sometimes tariff increases were eroded quickly through inflation (Nicaragua, Uruguay, Argentina)

In times of increased cost of living, tariff adjustments become politically even more difficult

Targeting subsidies at the poor

Cross-subsidies are often not effective:

- Area-based tariffs (such as those based on the socio-economic strata in Colombia) involve substantial leakage of subsidies to the non-poor
- Increasing-block tariffs often are poorly designed and are also not very effective at targeting the poor
- Cross-subsidies from industrial and commercial users are common, but have limits because these users have other options and the revenue base may be limited in small towns

Means-tested subsidies (Chile) are effective at targeting the poor, but few countries meet the requirement to use them effectively

Financing mechanisms

Investment Subsidies (prevalent today):

- Matching grants (Mexico 50:50)
- Colombia (Participaciones)
- Most other countries

Debt and equity (more in the future?):

- Using pension funds (FNTS in Brazil)
- Commercial financing (Chile)
- Stock exchange (Brazil)

Regulation

Regulatory agencies have been created in most countries in the region

- In federal countries some states/provinces have created regulatory agencies (Brazil, Argentina)
- Some agencies cover only water and sanitation (Chile, Peru, Honduras, Nicaragua)
- Others cover multiple sectors (Panama, Jamaica, Guyana)
- Some countries have not created regulatory agencies (Ecuador, Venezuela, Guatemala, El Salvador, DR, Haiti)

Often municipalities are the service providers, casting uncertainty about the exact role of national or state-level regulatory agencies

Most agencies remain weak and have limited autonomy

Agencies were designed to regulate PSP contracts, while most utilities are public or cooperatives

Still, regulatory agencies have played an important role in improving the transparency in the sector

Bank activities – how to reach the poor

Lima experience

PSP in Colombia

Paraguay: rural

Bank activities - Financing

Sub-national financing facility

Ecuador: Incentive-based subsidies (Praguas)?

Bank activities - Addressing Climate Change

Adaptation to the Impact of Rapid Glacier Retreat in the Tropical Andes: A major World Bank project that will seek to address the impact of tropical glacier retreat in Peru, Ecuador and Bolivia. The project will invest $33 million and will begin between July and August of this year.

Bank activities – sector governance

SNIS in Brazil

Support for regulation through ADERASA

Workshop in Medellin on corporate governance

Knowledge sharing through country topic overviews on Wikipedia

NUEVAS TENDENCIAS E INICIATIVAS EN LA REGULACION DEL TRANSPORTE

Jose Luis Guasch
Banco Mundial y Universidad de California, San Diego

OSITRAN, Lima, Peru

Diciembre 2007

TEMAS

Negociacion y Renegociacion de Contratos-Adendas de Bancabilidad
Riesgo Regulatorio
Tercerizacion de Ciertas Funciones Regulatorias
Evaluacion de Eficiencia
Desempeno PPP/Concesiones y Empresas Estatales
Indicadores y Benchmarking
Resolucion de Conflictos: Panel de Expertos
Evaluacion de Gobernabilidad y Desempeno Regulatorio
Contratos y regulacion basado en niveles y calidad de servicio
Tasas de Retorno en Concesiones y PPPs
Intermodalidad de Transporte
Contratos Modelo

Agenda

Contexto

Teoria Economica Regulatoria

- **Que nos dice?**

Como aparece la regulacion economica en concesioned de transporte?

- **Enfasis en temas tarifarios**
  - **Porque preocuparse de restricciones financieras en decisiones tarifarias en servicios de infraestructura?**

Implicaciones para el regulador?

Contexto (1)

Crecientes demandas para regulacion?

- **Creciente numero de concesiones de peaje o hibridas**
  - **Incluyendo interes en modelo MVP (LPV)**
- **Peaje sombra**
- **PFI experiencias**
- **Alto numero de conflictos en concesiones/PPPs**

… todo eso requiere formas de intervencion regulatoria

- **…aun mas dado el alto numero de concesiones que se han renegociado, fallido o se han cancelado!!!**

Contexto (2)

En este contexto regulacion economica se refiere a:

- **Cumplimiento de contrato (enforcement) y supervision**
  - **Es sobre precios….pero tambien sobre calidad (incluyendo securidad)!!!**
- **Manejando y gerenciando revisiones de contrato previstas e inprevistas, incluyendo revisiones de tarifas y procesos consultivos**
- **… no nos olvidemos de la coordinacion con la "overall road management authority"**

Impacto Contabilidad Regulatoria

Adjusted Results for Electricity Distribution Businesses (Year Ending March 1992)

	Presentado			Reformulado con la contabilidad		
	Average CCA Capital Employed (£ million)	CCA Operating Profit (£ million)	CCA Rate of Return (percent)	Average CCA Capital Employed (£ million)	CCA Operating Profit (£ million)	CCA Rate of Return (percent)
Eastern	1,316.2	120.4	9.1%	718.4	155.3	21.6%
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TOTALS	**10,439.9**	**1,016.1**	**9.7%**	**5,615.4**	**1,306.2**	**23.3%**

Source: Carey, Cave, Duncan, Houston, Langford 1994.

Impacto Contabilidad Regulatoria

Adjusted Results for Water Services Companies (Year Ending March 1992)

	As stated			As Remodeled		
	Average CCA Capital Employed (£ million)	CCA Operating Profit (£ million)	CCA Rate of Return (percent)	Average CCA Capital Employed (£ million)	CCA Operating Profit (£ million)	CCA Rate of Return (percent)
Anglian	10,531.3	164.9	1.6%	907.5	192.1	21.2%
Northembria	3,252.9	27.5	0.8%	89.0	39.0	43.5%
North West	18,860.0	206.6	1.1%	1,094.9	224.0	20.5%
Severn Trent	19,847.7	168.9	0.9%	1,053.3	232.2	22.0%
Southern	9,528.8	43.6	0.5%	469.1	68.6	14.6%
South West	3,629.4	59.2	1.6%	479.9	65.9	13.7%
Thames	34,267.7	194.7	0.6%	1,513.0	216.0	14.3%
Welsh	7,396.2	102.3	1.4%	429.4	126.7	29.5%
Wessex	5,242.0	44.1	0.8%	334.0	56.6	17.0%
Yorkshire	11,875.8	97.1	0.8%	958.8	117.2	12.2%
TOTALS	**124,431.8**	**1,108.9**	**0.9%**	**7,329.4**	**1,338.3**	**18.3%**

Source: Carey, Cave, Duncan, Houston, Langford 1994.

Regulatory Accounting: Deficiencies

Adjusted Results for Water Services Companies (Year Ending March 1992)

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Source: Carey, Cave, Duncan, Houston, Langford 1994.

Temas Oportunisticos Que la Contabilidad Regulatoria Debe Corregir

Management fees—often equivalent to half of the firm net's profits

Contracting subsidiaries or related companies to provide services or equipment at significantly higher prices than standard market prices

Accuracy of reported investments

Transfer of accumulated profits into the regulated capital base

Transfer of capital in non-regulated areas of the firm into the regulated capital base of the firm

Valuation of pre-privatized assets at replacement costs

Using, when convenient, past performance as justification for demands for future higher tariffs

Financial equilibrium, yes but based on best practices and the sanctity of the bid

Metodologias: Frontier Analysis

Metodo no-parametrico: Data Envelopment Analysis (DEA)

Metodo Parametrico: Stochastic Frontier Analysis (SFA)

Frontier analisis permite la descomposicion del crecimiento de la productividad total de los factores TFP, en sus componentes: cambios tecnico, eficiencia, escala y asignativo

DEA mas apropiado cuando la muestra es pequena

DEA

Usa programacion dinamica para construir una frontera lienar en tramos y es deterministica

La frontera productiva puede ser orientada en insumos o en producto final

Necesita imponerse la escala de produccion CRS o VRS

Datos: volumen de insumos y de produccion para cada empresa (si hay precios se puede calcular la eficiencia alocativa)

SFA

Usa tecnicas econometricas para estimar una frontera estocastca parametrica (asumiendo generalmente una tecnologia de translog flexible

Permite la estimacion de fronteras de produccion estocastica, o de fronteras de costos o de funciones de distancia

La tecnologia de escala aqui se evalua estadisticamente (no se impone)

Datos:para frontera de produccion: volumen de isumos y producto; para frontera de costosa largo mplazo, costos, precios de insumos y volumen de producto

Se obtienen…

Frontera de Costos : c=g(y,w), coste minimo requerido para producir output con precios de insumo w;

Funcion de Distancia: d=h(x,y); mide la brecha de eficiencia, respecto al optimo; esta distancia puede ser utilizada para la seleccion del Factor X

EFICIENCIA: Ejemplo Puertos Europeos

Estudio sobre 22 puertos, evauacion de eficiencia : eficiencia tecnica (no datos de costos)

Medida de Capital: metros cuadrados (proxy)

SFA distance funcion: eficiencia relativa de los puertos. Permite la captura de procesos multi-output, solo usa datos fisicos y no necesita informacion en produccion o precio de los factores

Resultados 60% eficiencia promedio: podrian mover 40% mas mercancia con los mismos recursos que utilizan

Rango 28% a 90% Algeciras (Espana), Rotterdam vs Pireo (Grecia) y Tarragona (Espana)

V. Tasas de Retorno en Transporte: Benchmarking

Esfuerzos limitados en esta area

Los datos que se necesitan no suelen estar disponibles y los disponibles suelen ser incompletos o tener altos sesgos

Datos privados vs de fuentes publicas o quais-publicas

Estudio: Sirtaine, Pinglo Guasch y Foster 2005

Metodologia: Capital Asset Pricing Metodo CAPM

- **ra= rf+b(rm-rf)**
- **Subvalua tasa de retorno**
- **Projecto IIR (TIR)**

Considerar: Management Fees, Inversiones (precios de transferencia y otros

- **Otras fuentes : Cost of Capital Quarterly, Yearbook (IBBotson Associates) Transportations (incluye betas)**

Resultados: Transporte

Coste de Equity inicio proyecto: 13.5%

WACC: inicio proyecto 11%

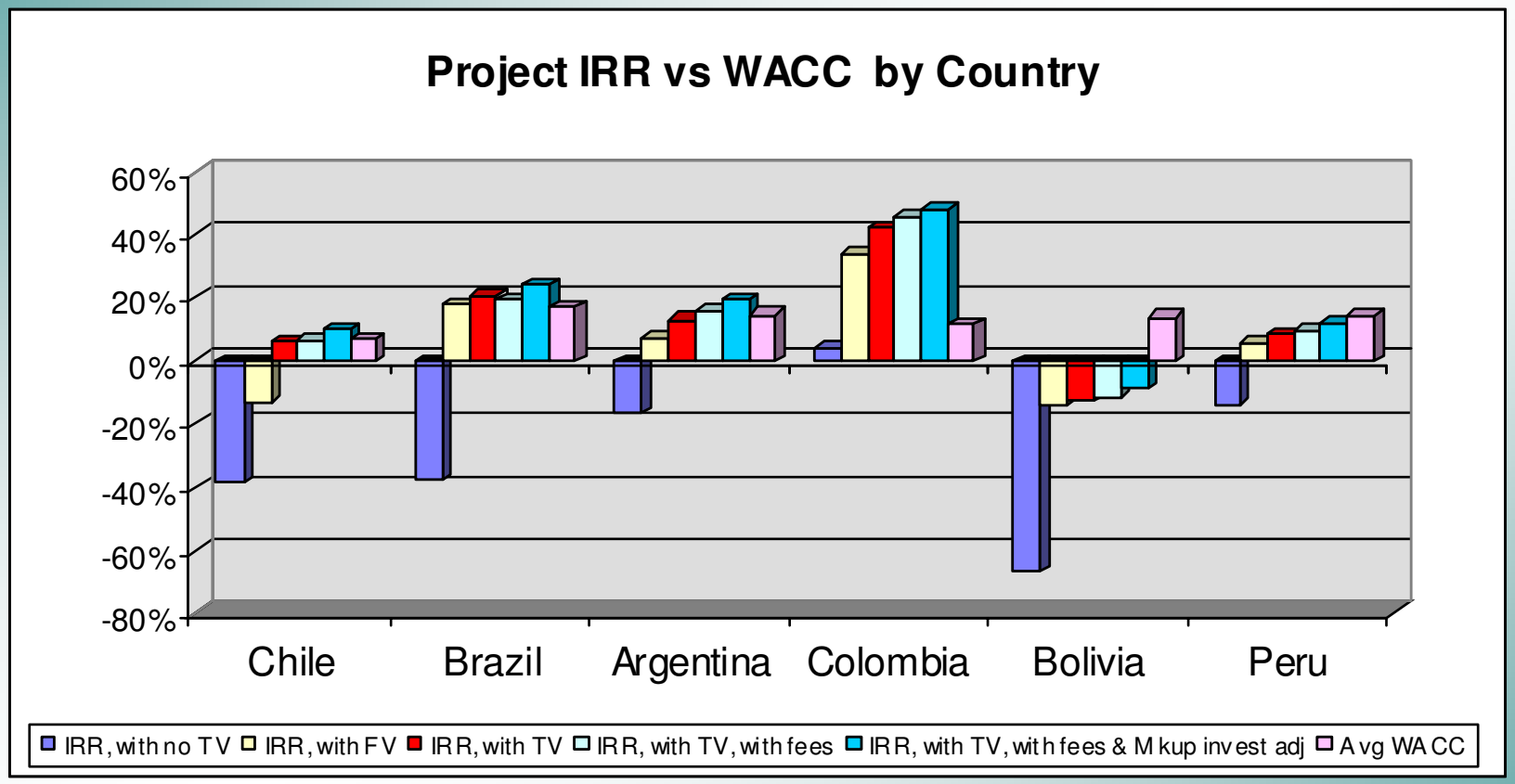
TIR: 7-19%

Average Profitability by Sector of Privatized and Concessioned Firms and the Cost of Equity in Latin American and Caribbean Countries, 1990-2002(percent)

Sector	IRR (adjusted) [a]	Initial Cost of Equity [b]
Telecommunications	21.0	14
Water and Sanitation	**11.0**	**15.5**
Energy	14.5	14
Transport	**11.5**	**13.5**

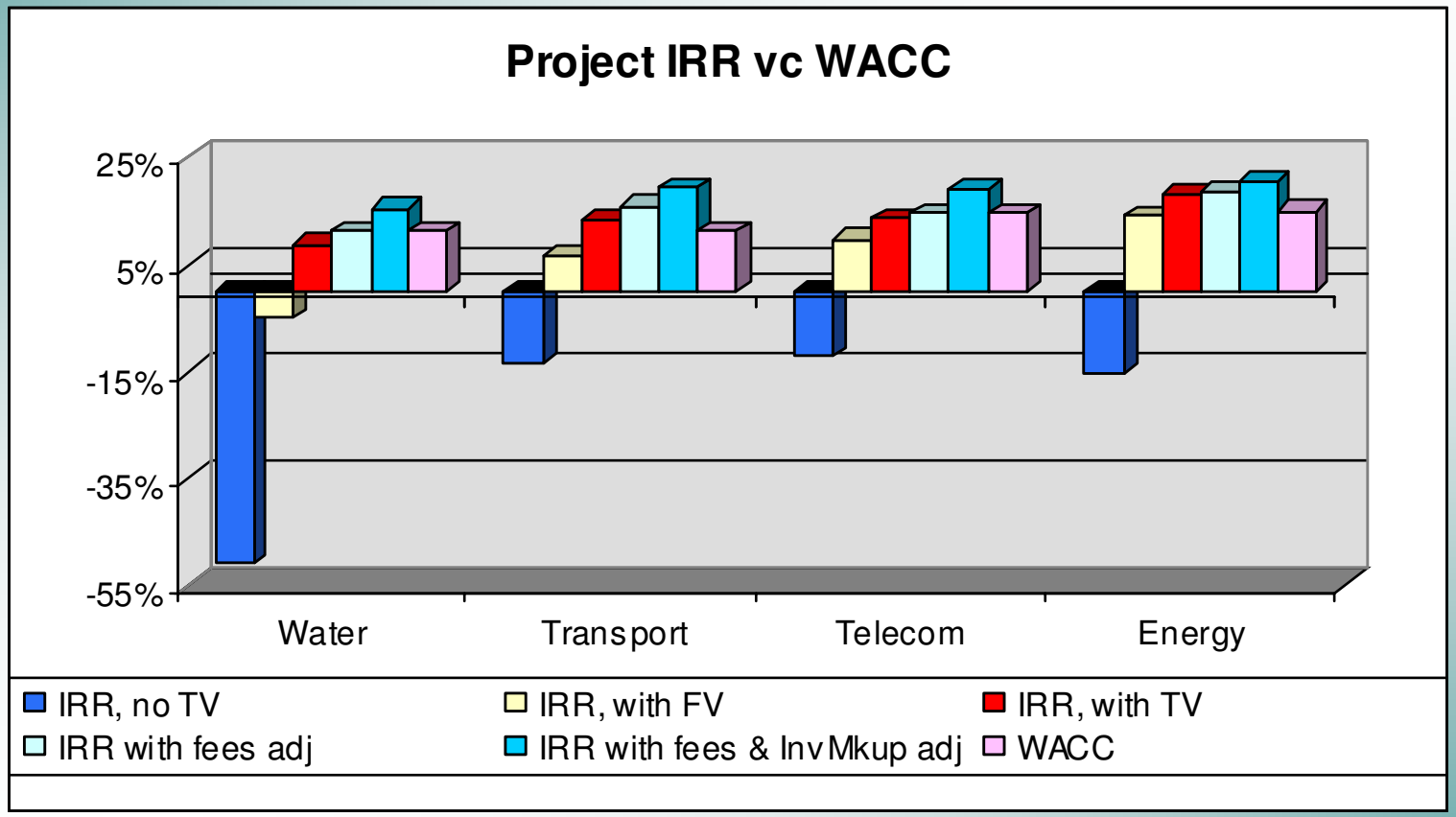
a. The IRR has been adjusted to incorporate management fees.
b. Cost of equity is evaluated at the time of the transaction.
Source: Guasch and others (2004).

Tasa de Retorno Promedio por Pais



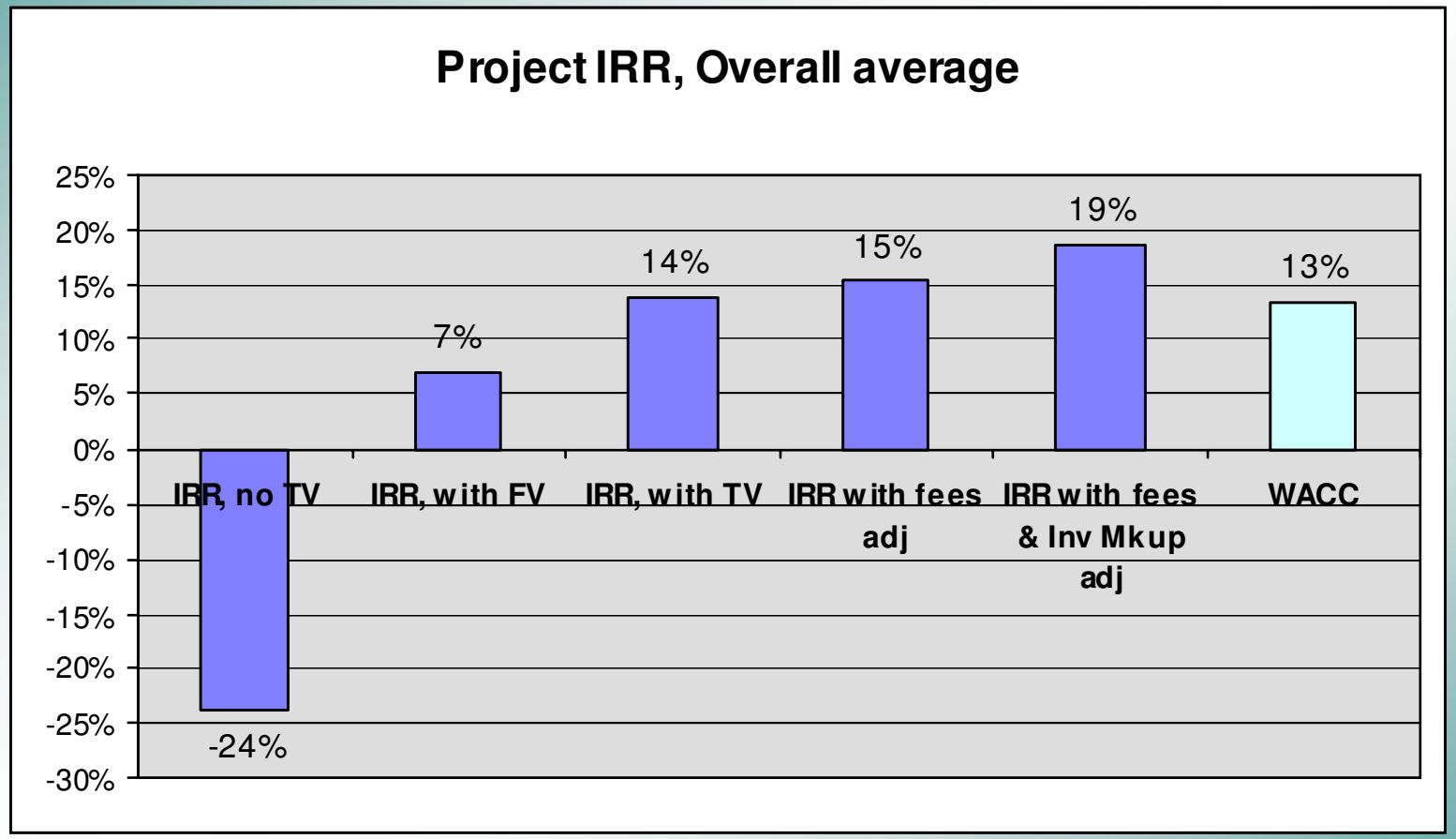
Source: own calculations, based on concessions' historical financial statements and the authors' growth assumptions.

Tasa de Retorno a Largo Plazo por Sector



Source: own calculations, based on concessions' historical financial statements and the authors' growth assumptions.

Distribucion de la Tasa de Retorno



Source: own calculations, based on concessions' historical financial statements and the authors' growth assumptions.

Definition of the Project Internal Rate of Return

Project IRR is the rate which ensures $\sum_{t=0}^{y} CFt / (1 + IRR)t = 0$

Where : CF = net cash flow generated by the concession, i.e. EBITDA – Inv. – ΔWC – Bid price

t = 0 is the first year of operation

y = last year of historical data available (2001)

Definition of the Cost of Equity

$CE = rf + ß * (rm - rf) + Crp$

Where: rf = risk-free rate

ß = beta of the project

rm = expected stock market return

Crp = Country risk premium

Definition of the Weighted Average Cost of Capital

WACC = E / (D + E) * CE + D / (D + E) * (1-T)* CD

Where: E = Book value of equity

D = Long-term debt

CE = Cost of equity

CD = Cost of debt

T = Corporate income tax rate

EL DESEMPENO REGULATORIO AFECTA LA TASA DE RETORNO DE LA INVERSION: ABSOLUTA Y RELATIVA A COSTOS?

SI!!!

Construccion Indice de Calidad Regulatoria

	Weight	Scoring
Legal solidity	0.33	1 if regulatory framework established by law, 0 otherwise.
Financial capacity	0.33	Sum of scores on factors detailed below.
•Financial independence	0.17	•1 if funded from regulatory levy, 0 if funded from public budget
•Financial strength	0.17	•Regulatory budget as % sectoral GDP normalized on [0,1] scale
Decision-making autonomy	0.33	Sum of scores on factors detailed below.
•Independence of appointment	0.11	•0 if appointed directly by executive, 1 if screening by legislature
•Duration of appointment	0.11	•1 for a single fixed term, 0 for indefinite appointment
•Collegiality of decisions	0.11	•1 if headed by regulatory commission, 0 if by individual regulator

Note: Scores between 0 and 1 are given for intermediate cases.

Resumen de la Estimacion de Impacto

Dependent variable	IRR-WACC simple differential without terminal value	IRR-WACC simple differential with terminal value	IRR-WACC simple differential with terminal value and adjustment for management fee	IRR-WACC simple differential with terminal value and management fee and adjustment for transfer pricing
Financial independence	-0.340	-0.174	-0.151	-0.135
Financial strength	-0.372	-0.332**	-0.355**	-0.370**
Legal solidity	-0.026	0.077	0.070	0.080
Independence of appointment	-0.109	-0.068	-0.101	-0.109
Duration of appointment	-0.125	-0.011	-0.038	-0.030
Collegiality of decisions	0.455**	0.256**	0.271**	0.267**
Constant	-0.341	-0.047	-0.022	0.002
P-value	0.156	0.072*	0.052**	0.045**
Adjusted R-squared	0.124	0.208	0.237	0.248
No. of observations	32	30	30	30

Notes: Regressions based on 30 observations; *, **, *** indicate significance at 10 percent, 5 percent, and 1 percent level respectively

Resumen de Resultados

Dependent variable	IRR-WACC simple differential without terminal value	IRR-WACC simple differential with terminal value	IRR-WACC simple differential with terminal value and adjustment for management fee	IRR-WACC simple differential with terminal value and management fee and adjustment for transfer pricing
First principal factor	0.064	0.041	0.029	0.024
Second principal factor	-0.114	-0.017	-0.026	-0.019
Third principal factor	-0.219**	-0.115**	-0.130**	-0.127**
Collegiality of decisions	0.400**	0.202**	0.216**	0.210**
Constant	-0.649	-0.136	-0.133	-0.095
P-value	0.065*	0.057*	0.040**	0.043**
Adjusted R-squared	0.164	0.186	0.212	0.207
No. of observations	32	30	30	30

Notes: Regressions based on 30 observations; *, **, *** indicate significance at 10 percent, 5 percent, and 1 percent level respectively

Resumen Resultados

Dependent variable	ln(IRR-WACC absolute differential without terminal value)	ln(IRR-WACC absolute differential with terminal value)	ln(IRR-WACC absolute differential with terminal value and adjustment for management fee)	ln(IRR-WACC absolute differential with terminal value and management fee and adjustment for transfer pricing)
Financial independence	1.071	-0.653	-0.001	0.071
Financial strength	2.619**	-2.478	-2.488**	-2.140**
Legal solidity	-0.697	0.928	0.412	0.844**
Independence of appointment	1.147	0.974	0.577	-0.050
Duration of appointment	-0.478	1.412	1.053	0.767
Collegiality of decisions	-1.771	-0.810	-0.456	-0.243
Constant	-1.104	-2.618**	-2.365**	-2.487**
P-value	0.094*	0.273	0.125	0.049**
R-squared	0.171	0.069	0.156	0.242
No. of observations	32	30	30	30

Notes: Regressions based on 30 observations; *, **, *** indicate significance at 10 percent, 5 percent, and 1 percent level respectively

MULTIMODALIDAD

Critico para el desempeno sector transporte

Elementos

- **Ley Multimodal**
- **Seguros**
- **Single "bill of landing"**
- **Operadores Multimodales**
- **Grupos de interes: Transportistas**
- **Accesos**

RESULTADOS

Resultados

Positivos

- **Alta inversion privada**
- **Liberacion de recursos publicos**
- **Ganancias en eficiencia, servicio, cobertura y productividad**
- **Obras/proyectos realizados**

Negativos

- **Alto nivel de conflictos**
- **Excesivas renegociaciones**
- **Altos costos al gobierno ex-post**
- **Reducida captura de los beneficios por los usuarios**
- **Perdida de credibilidad y legitimidad del modelo**
- **Cierto rechazo (se cuestiona) al modelo: Backlash**

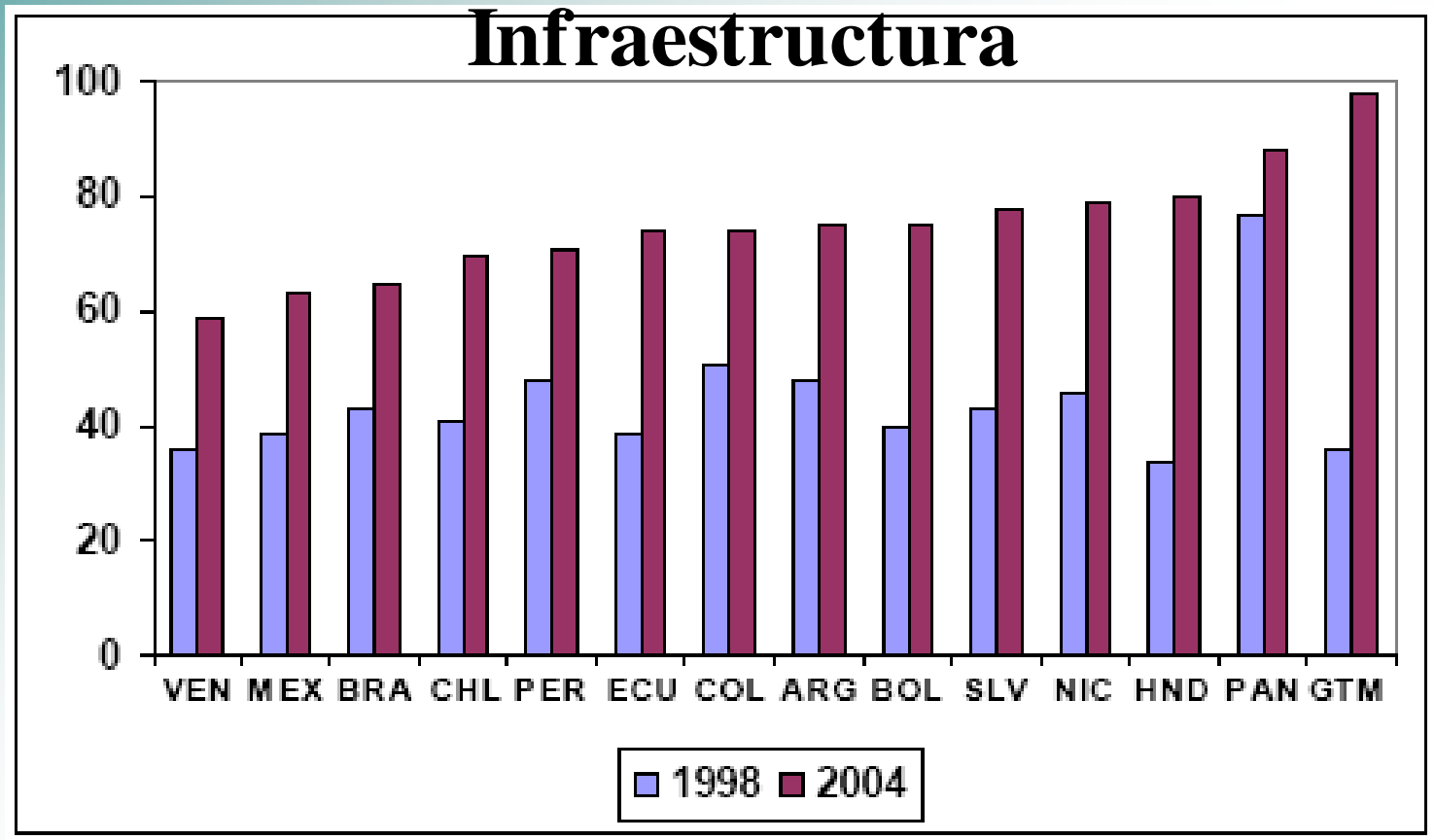
EN RESUMEN: SE PUDO Y SE PUEDE HACER MEJOR

Resultados Empíricos: Cambios en Tendencias…

	Distribución de la electricidad		Telecomunicaciones fijas		Distribución del agua	
	Transición	Post-transición	Transición	Post-transición	Transición	Post-transición
Número de suscritos (*)	=	↑	↑	↑	=	↑
Producto (*)	=	↓	↑	↑	=	↓
Número de empleados	↓	↓	↓	↓	↓	↓
Número de empleados – Sector	=	↑	=	↑	↓	↑
Productividad laboral (*)	↑	↑	↑	↑	↑	↑
Pérdidas en la distribución del servicio	↓	↓	↓	↓	↓	↓
Calidad	↑	↑	↑	↑	↑	↑
Cobertura (*)	=	=	↑	↑	=	=
Precios	↑	↑	↑	↑	↑ ?	↑ ?

Nota: (*) Estas variables fueron reportadas tras considerar los efectos fijos de la firma y otros fenómenos contemporáneos en la economía.
Fuente: Andres, Foster y Guasch (2004).

Porcentaje de la Poblacion Questionando las Participacion del Sector Privado en Infraestructura



Note: The 1998 results reflect survey respondents who disagreed or strongly disagreed with the statement, "privatizations of state companies have been beneficial for the country." The 2004 numbers are of those who were less satisfied or much less satisfied with public services after privatization, in terms of price and quality.

Source: Latinobarómetro surveys for 1998 and 2004

Lecciones finales: Revisiones

1. Gobernabilidad
2. Santidad de Contrato: “Credible Commitment”
3. Marco legal y regulatorio
4. Asignacion y mitigacion de riesgos
5. Resolucion de conflictos
6. Diseño de Concesion y Contrato es crítico
7. Indicadores de desempeno
8. Eliminar ambiguedades
9. Disuadir renegociaciones es esencial: la santidad del contrato
10. Institucionalidad
11. Fiscalizacion/regulacion separada
12. Sin olvidarse del tema social

Tomando en cuenta Impacto Social y Politico

- **Transparencia general del Proceso y del Financiamiento**
- **Programas de Comunicación: Motivacion**
- **Participación y Responsabilidad de la Comunidad Afectada**
- **Apoyo a los Pobres y a los Afectados/Perdedores: Políticas tarifarias sociales, subvenciónes y estructura**
- **Mejor focalizacion de los subsidios**
- **Infraestructura para los Pobres**

Ajustes Tarifarios Previstos (quinquenales)

Suelen efectuarse cada 5 anos

Necesita modelo de costos, contabilidad regulatoria, evaluacion de la base de los activos (asset base)

Resultado conforme a la tasa de retorno establecida en el contrato

Por ejemplo Chile rango de tasa de retorno 6-14%. Efecto contabilidad regulatoria, el regulador redujo la asset base en 39% de la dada por las empresas (cuando la empresa las cuestiono el panel las redujo en un 16%)

Temas Clave en el Marco Legal: Institucionalidad

Separacion de funciones: Critico

- **Planificacion proyectos: Entidad Sectorial-**
- **Filtro y Prioritizar proyectos: Comite Interministerial**
- **Preparar la transaccion: Agencia PPP**
- **Fiscalizar-regular-monitorear contrato: Superintendencia autonoma**

MARCO LEGAL Y REGULATORIO: TEMAS A CUIDAR COMO FUENTE DE CONFLICTOS Y DE RENEGOTIATION

EQUILIBRIO FINANCIERO

SANTIDAD DEL CONTRATO

APUESTAS AGRESIVAS: R= PQ-0C-T-D<rKi

CONTABILIDAD REGULATORIA E INFORMACION

AMBIGUEDADES CONTRACTUALES

PAUTAS PARA AJUSTES Y COMPENSACIONES

RESOLUCION DE CONFLICTOS

INCENTIVOS-CARTA FIANZA,TIEMPOS, SANCIONES

AMBIGUA ASIGNACION DE RIESGOS: FORTUITO, (CAUSA SOBREVINIENTE)

Ente Fiscalizador/Regulador

Clave y critico para el exito: existencia, experiencia y autonomia

Esas tres caracteristicas en todas las evaluaciones salen como fuertes determinantes de

- **Menor renegociacion**
- **Reduccion de conflictos**
- **Alineamiento de costos y tarifas**
- **Desempeno sectorial**

ee

Impacto Contabilidad Regulatoria

Adjusted Results for Electricity Distribution Businesses (Year Ending March 1992)

	Presentado			Reformulado con la contabilidad		
	Average CCA Capital Employed (£ million)	CCA Operating Profit (£ million)	CCA Rate of Return (percent)	Average CCA Capital Employed (£ million)	CCA Operating Profit (£ million)	CCA Rate of Return (percent)
Eastern	1,316.2	120.4	9.1%	718.4	155.3	21.6%
EME	998.0	107.2	10.7%	628.6	128.4	20.4%
London	1,060.4	111.0	10.5%	541.8	96.7	27.0%
MANWEB	671.0	77.8	11.6%	358.3	96.7	27.0%
Midlands	1,021.7	94.7	9.3%	542.0	121.6	22.4%
Northern	617.9	59.1	9.6%	313.9	80.8	25.7%
NORWEB	890.7	81.4	9.1%	468.6	95.1	20.3%
SEEBOARD	702.0	49.9	7.1%	244.0	89.2	36.3%
Southern	1,035.7	121.3	11.7%	660.5	143.1	21.7%
South Wales	467.4	43.4	9.3%	261.6	59.5	22.7%
SWEB	743.2	60.5	8.1%	346.6	84.1	24.3%
Yorkshire	915.7	89.4	9.8%	531.0	112.9	21.3%
TOTALS	**10,439.9**	**1,016.1**	**9.7%**	**5,615.4**	**1,306.2**	**23.3%**

Source: Carey, Cave, Duncan, Houston, Langford 1994.

Common Questionable Actions That Need To Be Addressed Through Regulatory Accounting

Management fees—often equivalent to half of the firm net's profits

Contracting subsidiaries or related companies to provide services or equipment at significantly higher prices than standard market prices

Accuracy of reported investments

Transfer of accumulated profits into the regulated capital base

Transfer of capital in non-regulated areas of the firm into the regulated capital base of the firm

Valuation of pre-privatized assets at replacement costs

Using, when convenient, past performance as justification for demands for future higher tariffs

Financial equilibrium, yes but based on best practices and the sanctity of the bid

Tercerizacion de Funciones Regulatorias

Util particularmente cuando:

- i) existen inquietudes o problemas entorno a la independencia del regulador, su capacidad o legitimidad,
- ii) se necesita apoyo o expertise especial en la administracion efectiva de los contratos;
- iii) o por razones de costo beneficio

Que Funciones Suelen ser Tercerizadas?

Revision de tarifas/precios

Benchmarking

Monitoreo o fiscalizacion de contratos

Resolucion de Conflictos

Tercerizacion

Su incidencia tambien suele depender de la experiencia y edad del ente regulador y tambien suele ser vinculado a problemas especificos o de alto impacto

Otros beneficios es transferencia de conocimiento, uso de mejores practicas internacionales

Pero es positicamente sensitivo

Tercerizacion

Existen dos modalidades

- i. “in-house” suele ser consultorias o apoyo tecnico al regulador, el que decide si usar in-house o tercerizacion de algun servicio
- ii. Ejecutado por el Gobierno, contratando separadamente asesores regulatorios o paneles de expertos y puede ser sutil o robusto (privado versus publico en cuanto a las recomendaciones)
- iii. Papel regional

TEMAS

Indicadores y Benchmarking
Negociacion y Renegociacion de Contratos
Evaluacion de Eficiencia
Desempeno PPP/Concesiones y Empresas Estatales
Resolucion de Conflictos: Panel de Expertos
Evaluacion de Gobernabilidad y Desempeno Regulatorio
Tercerizacion de ciertas funciones regulatorias
Contratos y regulacion basado en niveles y calidad de servicio
Tasas de Retorno en Concesiones y PPPs
Intermodalidad de Transporte
Contratos Modelo

Incidencia de Renegociacion de Contratos de Concesiones en Infraestructura en America Latina y Tiempo Medio de la Renegociacion 1988-2006

	Renegotiated Concession	Average Time to Renegotiation
Todos los Sectores	58%	1.6 anos
Electricidad	28 %	2.1 anos
Transporte	72%	2.6 anos
Agua y saneamiento	83%	1.2 anos

Source: Guasch (2006)

Porque Preocupa las Renegociaciones?

- Elimina el efecto competitivo de la licitacion
- Viola la santidad del contrato
- Se renegocia en un entorno bilateral con escasa transparencia
- Apuestas agresivas favorece empresas expertas a la renegociacion, no a las mas eficientes
- Sugiere deficiente diseno de contratos y proyectos, cuestiona eficiencia de particiapcion privada
- Deficiente contabilidad presupuestaria
- Tambien gobierno puede usarlo para saltarse el proceso presupuestal

Cuales son los resultados de las Renegociaciones?

Los terminos del contrato mejoraron substancialmente para los operadores, en promedio

La repercusion en los usuarios de las ganancias en eficiencia ha sido adversa

Los usuarios quedaron peor

Impacto fiscal adverso

Muy Baja Incidencia de Concesiones Canceladas

1990-2001

Total World Infrastructure PPI Projects	Cancelled	Percentage
2,485	48	2.1%
	Composition	***By Sector***
	19 toll roads	5.8%
	9 energy	
	7 water & sanitation	3.5%
	8 telecom	

Source: Harris (2002)

Impacto de criterio de asignacion de PPP/Concesion en Renegociacion: Licitacion competitive versus adjudicacion directa en America Latina por Sector, 1980s–2004

Award process	Telecom	Energy	Transport	Water and sanitation	Total	Share of total (percent)
Competitive bidding	245	95	231	125	696	78 (46% renegotiated)
Direct adjudication (bilateral negotiation)	15	143	37	4	199	22 (8% renegotiated)
Total	260	238	268	129	895	100

Source: Guasch (2004)