ASSESSING THE IMPACT OF THE ECONOMIC AND FINANCIAL CRISIS ON POWER SECTOR INVESTMENTS IN LCR

COLOMBIA, PERU and JAMAICA

ESMAP
Energy Sector Management Assistance Program

The World Bank

Sustainable Development Department – LCR - Energy Unit

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Introduction

- Three case studies: Colombia, Jamaica & Peru
- Different context from first round of studies (East Asia late 2008): Post-crisis scenario well defined
- Power market model in Colombia and Peru: no central expansion and investment generation planning, no public investment plans, strong private companies and SOEs run as commercial enterprises
- Power market model in Jamaica: single buyer w/ competitive generation, centralized expansion planning with government regulator

Methodology

1. Impact of the crisis on demand scenarios and short and medium term investment plans
2. Potential financing needs for existing and future power projects
3. Identification of possible interventions

Impact of the crisis

Electricity demand growth

- Decreases in the growth rate of demand were observed in Colombia and Peru but not in Jamaica. The deceleration of demand growth was moderate in Colombia but more pronounced in Peru.

	Demand Growth			
	Pre-crisis	During crisis	Post-crisis	Comments
Colombia	4.0%	1.4%	4.0%	2-year delay in demand by 2016
Jamaica	0.9%	0.9%	1.1%	Generation Retirement postponed 2-3 years
Peru	8.0%	0.5%	3.3%	1-year delay in demand by 2016

- The variance across the three cases reveals the importance of understanding the country context.

Context for demand growth

- Colombia: Drop in economic growth in 2009 had significant impact on electricity demand; recovery already ongoing in 2010.
- Jamaica: Demand growth subdued even before the global crisis. Additionally, mining industry is self-generating: its collapse during the crisis did not have any impact on public service demand.
- Peru: Near double-digit growth in lead-up to crisis. Electricity demand growth rate reduced by lower activity in mining industry.

Impact of the Crisis on the Financing of Power Sector Investments

	Impact on financing
Colombia	- Market for syndicated loans closed in late 2008, was thin and very expensive in 2009 - Credit from international banks unavailable in 2008 and 2009 - Project finance not an attractive option for hydroelectric projects - Balance sheet financing more attractive for established companies - **Financing for generation continued mostly through balance sheet , using domestic corporate bond issues (AAA rating of SOEs and private companies)**
Jamaica	- Foreign exchange shortage limited financing for on-going operations - **Financial constraints created a virtual halt to new investment in the sector** - Renewable Energy program slashed from US$150 million to US$20 million due to IFIs scaling back their investments - Main private power producer (with monopoly on T&D) seeking US$100 mm in long term debt in 2008 secured just US$40 mm
Peru	- **Low investment cost gas-fired plants were developed using balance sheet financing in the domestic capital market** - Kallpa Thermal Project financial structuring (US$ 400mn project finance scheme) experienced completion difficulty due to less favorable financial conditions - Domestic capital market became a major source of financing in 2009 for new generation projects - Project finance an option due to the establishment of long term contracts for generation

Conclusions

Conclusions (1)

	Colombia	Peru	Jamaica
Impact of the crisis	• **Limited impact due to high "institutional quality": solid macroeconomic fundamentals, stable and predictable institutional and regulatory framework, and financially strong and operationally efficient agents** • Tightening of financial conditions made it more difficult to use project finance, in particular for hydro projects • Domestic bond markets became an important source of financing • Terms of contracting for equipment /civil works improved		• **Significant impact**: reduced availability and increased cost of financing: a deterrent for investors • Risk of supply crisis by 2014. •Replacement of inefficient diesel-based units deferred. • Renewable Energy/Energy Efficiency program considerably scaled down (by US$130 mm) • Reduction in electricity production cost and CO2 emissions postponed
	• Development of 2,400 MW hydro project using BOMT is at risk.	• Fall in electricity demand growth averted expected supply crisis in 2009, but demand-supply balance 2012-13 may be tight • Pre-crisis 'structural' issues with financing of hydro projects exacerbated • Project finance an option since reform established obligation for consumers to enter into long term contracts with generators	

Conclusions (2)

	Colombia	Peru	Jamaica
Proposed WBG Interventions	• Review of gas regulatory framework (TA) •Help to reach financial closure of the 2,400 MW hydro project	• Help the Government optimize domestic resources including hydroelectricity and gas (TA) • Mobilize LT financing for renewable energy projects (implementation of private projects through direct lending by private arms of IFIs and lending to the Government to optimize financial conditions).	• Recourse financing for IPPs (IFC, MIGA) , partial risk guarantees (WB) • Support EE and RE program through: (i) revolving credit, (ii) access to CF, GEF (project under preparation) • Support implementation of Government policy of diversification through LNG, energy security (EE, RE) and institutional strengthening (project under preparation)

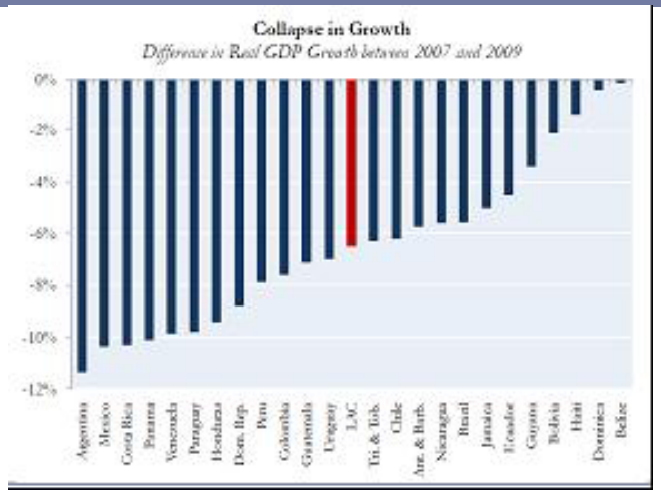
Annex 1:
Challenges in Developing the Study

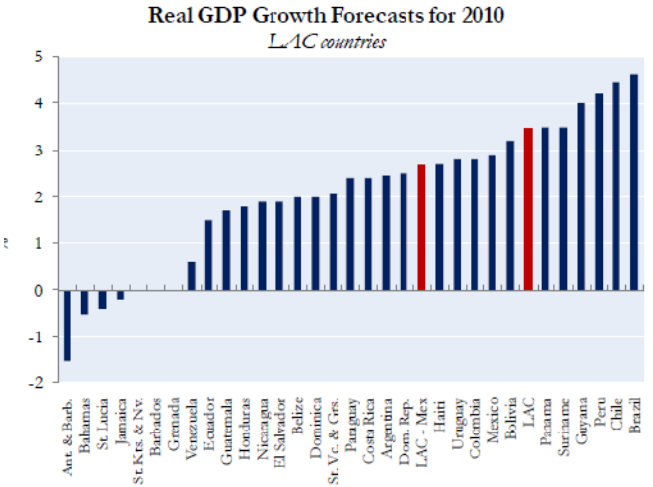
Challenges in Developing the Study

- It was difficult to obtain information on investment programs and financing terms
  - Risk was anticipated, due to the structure and nature of agents operating power sectors characterized by:
    - Significant presence of private companies
    - State-owned enterprises (SOEs) running as fully commercial entities
    - In Jamaica, no recently updated expansion plan
  - Mitigation Strategy:
    - Project team involving senior consultants and senior Bank staff with direct knowledge of and contacts in the sector
    - Interview the highest number of stakeholders to maximize representativeness and accuracy of information gathered

Annex 2:
Economic Context

Economic Context (1)





- International crisis hit hard in the Latin America and Caribbean region in late 2008 and early 2009
- High rates of GDP growth in 2007 collapsed in 2009
- Economic recovery started in late 2009
- A broad recovery is taking place in 2010

Economic Context (2)

Colombia

- Increased domestic security and > 5% GDP growth in 2002-2007
- Growth slowed down in early 2008
- 0.1% GDP growth in 2009
- Inflation reduced from 7.7% to 2% in 2009
- Economic recovery: est.2.5% GDP growth in 2010, 3.8% in 2011

Peru

- One of the best performers in LAC: 8%-10% GDP growth since 2006
- Investment grade in 2008
- 0.8% GDP growth in 2009
- Economic recovery: est.6% GDP growth in 2010

Jamaica

- Subdued economic growth since 2005
- GDP fell 3.5% in 2009, driven by drop in remittances and in mining revenues
- Inflation increased to +15% p.a. 2008-09
- Tepid economic recovery expected:
- -1.1% GDP growth in 2010, 0.6% 2011
- High debt level and large fiscal deficit

Annex 3:
Power Market Events and Issues

Power Market Events and Issues: Colombia

	Colombia
Impact of natural gas	• Dash for gas in late 1990´s • 2,757 MW in gas-fired plants • Gas no longer an option to increase capacity (limited reserves)
Second generation reforms	• Administrated capacity payment replaced by firm energy market in 2006. • Centralized auction to procure firm energy obligations
Issues	Gas market failed in 2009 and does not seem to provide adequate incentives for expanding transportation capacity and supply

Power Market Events and Issues: Jamaica

	Jamaica
Structure	• Former state-owned vertically integrated utility (JPS) equitized and 80% of shares sold to private agents. It owns 76% of generation and has a monopoly over transmission and distribution in the country •Three private IPPs: JEP (126 MW), JPPC (60 MW), Wigton Wind Farm (20 MW) • Bauxite/Aluminum industry self generating for own electricity consumption (not relying on public service)
Heavy dependence on fossil fuels (oil products)	• Only 5% generation from renewables (RE) • Changes in fuel prices directly transferred to customers
Institutional and Regulatory framework	• High number of institutions involved in the sector • Recently created regulatory authority in consolidation process

Power Market Events and Issues: Peru

	Peru
Impact of natural gas	• Cheap gas from Camisea field available in 2004 caused a sharp change in the energy matrix • 1,800 MW in gas-fired plants • Existing Camisea gas fields could only support 2,400 MW in new plants
Second generation reforms	• Reforms adopted 2006 • Obligation for long-term contracts to meet demand • Centralized transmission planning
Issues	• Reliance on gas-fired generation is not sustainable in the long-term: renewable energy needed • Barriers for developing substantial hydro potential: gas prices do not reflect opportunity costs and price caps for new supply contracts may under-compensate for project risks and costs

Annex 4:
Generation Expansion and Investment Needs

Post-crisis Investment Plans

=> Indicative generation expansion plans

- **Colombia:** Generation expansion already defined: projects under construction and firm energy obligations awarded
- **Jamaica:** New generation expansion (150MW) delayed until 2015-2017
- **Peru:** Only app. 40% of 2010-14 capacity under construction or identified

	Colombia		Jamaica		Peru	
	Size (MW)	Investment (US$ million)	Size (MW)	Investment (US$ million)	Size (MW)	Investment (US$ million)
2010			10	24	560	243
2011	273	480			50	75
2012	360	245	45	108	1128	1045
2013	1220	2217	11	27	1680	1389
2014	0	0			254	383
Total	**1853**	**2942**	**66**	**159**	**3672**	**3135**

Funding Power Investments Post-crisis

Colombia	• Private generators confident funding US$1 billion in hydro projects with corporate bonds and IFI loans, backed by balance sheet (same reasons that made it possible during the crisis) • Financing 2,400 MW hydro project under BOMT scheme is at risk due to financial crisis and drop in demand
Jamaica	• LNG terminal (currently under review) necessary to develop generation expansion plan post-crisis. • Jamaica Energy Partners 60 MW interim capacity addition suffering from a lack of financing. •MDBs and IFIs concerned about over-exposure to sector • Generation "re-powering" investments likely to be pursued to avoid supply shortage in medium term
Peru	• Private investor expects to fund US$300 million investment in168 MW hydro project in domestic market and IFI loans using project-finance • New generation projects with long-term contracts awarded in 2010 could be candidates for project finance