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Innovative financial solutions for implementing debt and risk management strategies: The case of Uruguay

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Outline

1. Context and Motivation
 2. Financial hedging as a fiscal insurance policy
 3. Innovative features of the oil price hedging program implemented with the World Bank in 2016
 4. Active risk-management framework: the 2013 weather-insurance and changes in Uruguay's energy matrix
 5. Political-economy considerations and role of credit rating agencies and multilateral institutions
 6. Concluding remarks
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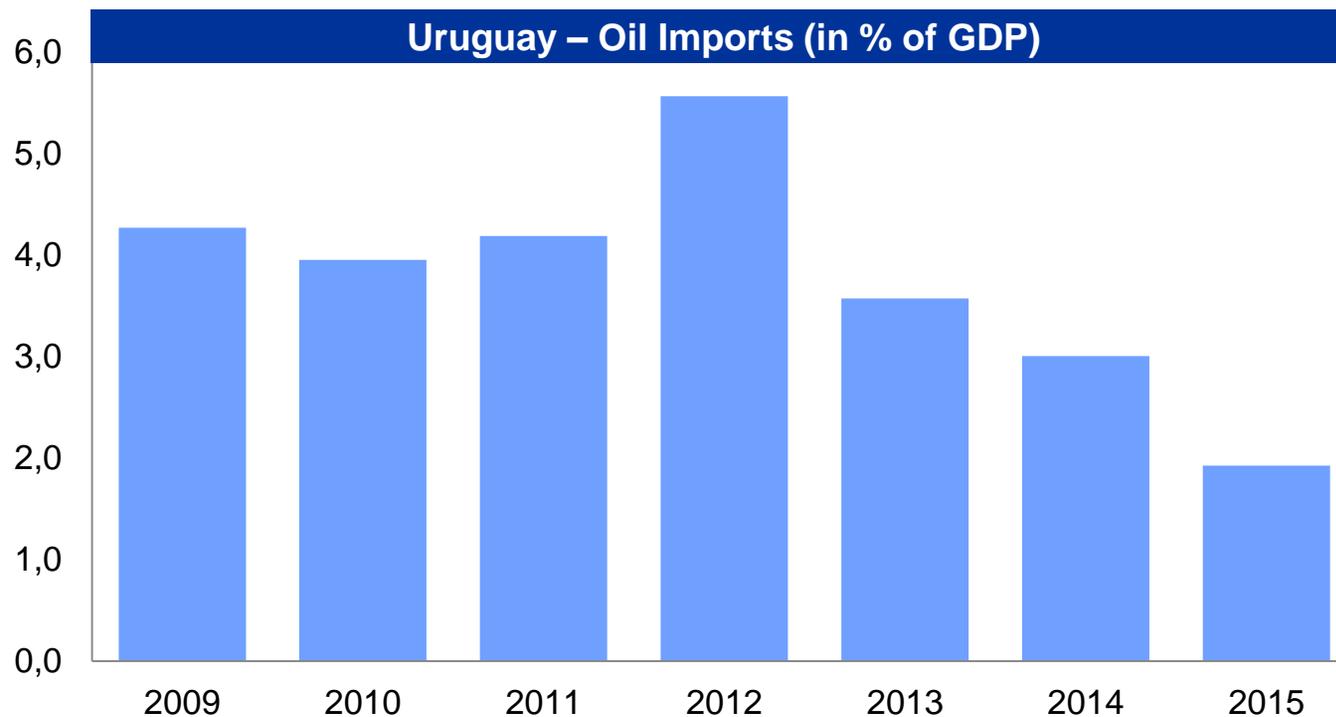
1. Context and Motivation

- A large number of emerging market economies have high fiscal exposure to fluctuations in commodity prices.
 - Oil price volatility is the highest among commodities and prices do not exhibit a natural long term average, so **fiscal risks can be acute:**
 - Increased vulnerability of governments' balance sheets (impinges on sovereign creditworthiness)
 - Puts pressure on the government to divert resources away from priority areas
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The case of Uruguay

- Despite progress in diversifying the energy matrix, Uruguay continues to be net importer of crude oil.
- Significant hikes in oil prices can have a negative impact on the country's economic activity and public sector finances and the state-owned oil enterprise.



2. Financial hedging as a fiscal insurance policy



Using financial markets to protect the economy from abrupt changes in oil prices. Criteria used:

1. Would be executed by the Central Government (Debt Management Unit)
 2. As a hedge, not speculative (and “plain vanilla”)
 3. Cost of the program is transparent and known since inception (no downside or contingent liabilities)
 4. Develop technical capacity on legal and operational framework before execution (looked closely at the case of Mexico)
 5. Sustain it over time (recurrence)
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3. Oil hedging program with World Bank (WB)

- During 2016, the Ministry of Finance of Uruguay and the Treasury Department of the WB worked together to design and execute an oil price hedging program.
 - The program was established as a way to “buy certainty”, i.e. paying for insurance protection to moderate the negative impact of significant oil price increases on Uruguay’s fiscal budget and the overall economy.
- The first-ever commodity hedge transaction where the WB is the direct counterparty to the sovereign.
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Financial hedging instrument used

The government paid an insurance premia to buy an option call, which gives the right (but not the obligation) to buy oil at a predetermined price during certain period.

→ It's non-speculative: we decided against other forms of derivatives (like collar options), that would have lowered the cost of the premium, but exposed us to downside risks.

Parameters we needed to evaluate that affect cost of premia:

- Underlying Asset (type of oil)
 - Volume hedged
 - Strike Price
 - Horizon
 - Settlement mechanics
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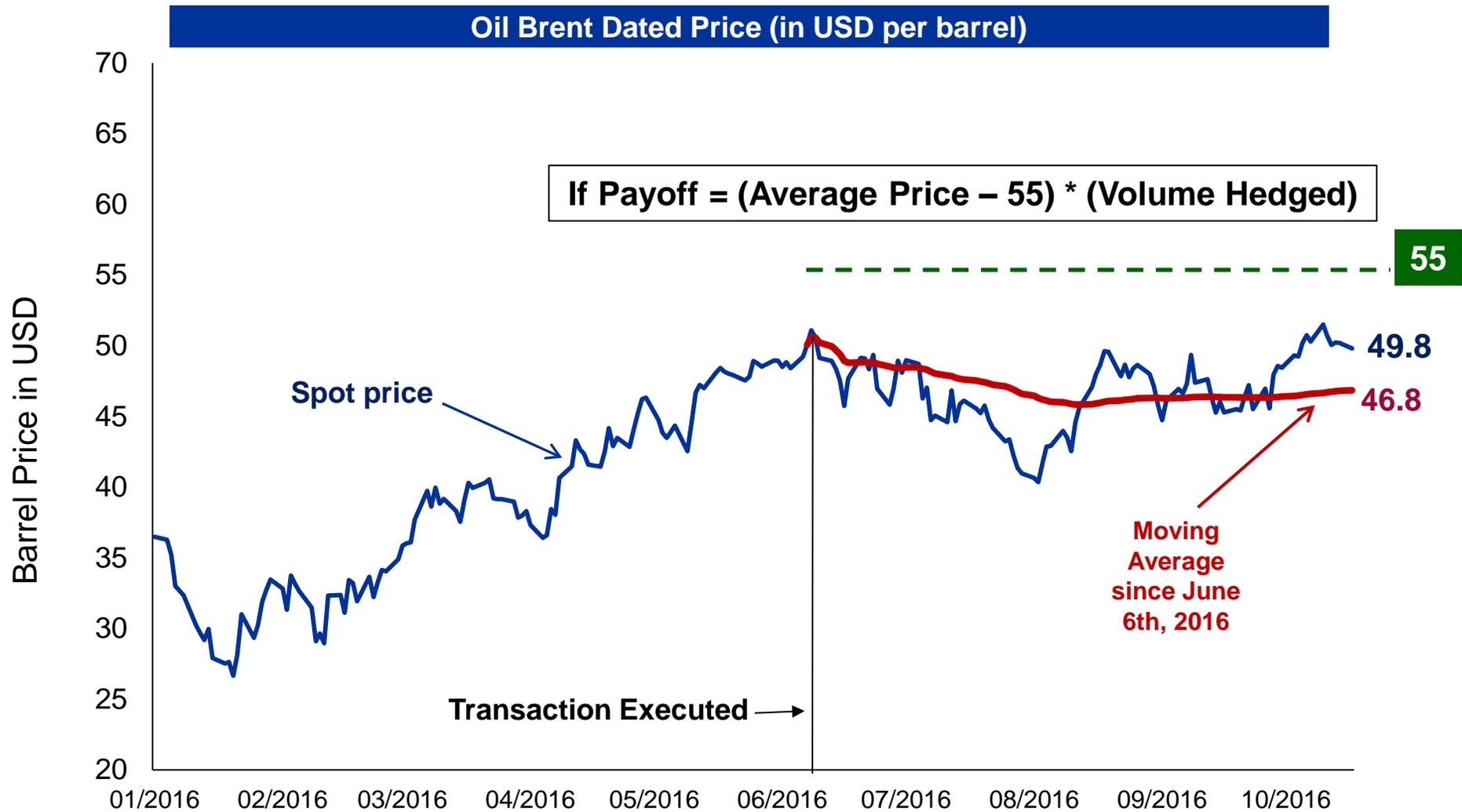
Design and contract characteristics

- ✓ Instrument: **Asian Call Option**
- ✓ Underlying Asset: **Dated Brent Crude**
- ✓ Volume hedged: **6 million barrels**
- ✓ Strike Price (SP): **USD 55 per barrel**
- ✓ Term: **12 months** (Period: June 2016 - June 2017)
- ✓ Settlement: At end of period; SP compares with period-averaged oil price.
- Disbursement in premium: **USD 15,7 million**





Evolution of oil prices and timing of execution

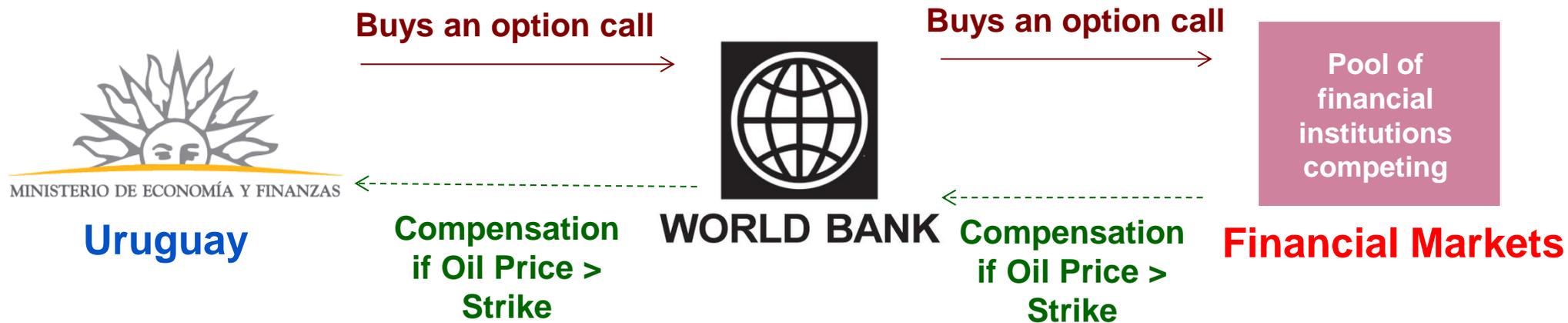


→ Implied volatility in oil price is key driver of insurance premia



Mechanics of the operation: innovative features

The World Bank is the financial intermediary in the transaction:



- The governments faces the WB as counterparty, who in turn takes the “mirror” position with financial market institutions
- The WB passes-through to Uruguay the best pricing terms it can get, based on fiduciary responsibility



Why did we partner with the WB?

1. Collaboration and Capacity Building

- ✓ Technical expertise and advisory services

2. Financial Intermediation

- ✓ Market access and speed of execution
- ✓ Simplify documentation and bidding process
- ✓ Reduced counterparty risk (Triple-A rating)
- ✓ Small fee and does not use-up credit line
- ✓ Aligned incentives (WB takes no open position)

3. Institutional Support

- ✓ Following best practices and strengthens confidence in implementation
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4. Active risk-management framework: weather-insurance and changes in Uruguay's energy matrix



The Oil Hedging program is part of a broader strategy to manage fiscal risks, which includes:

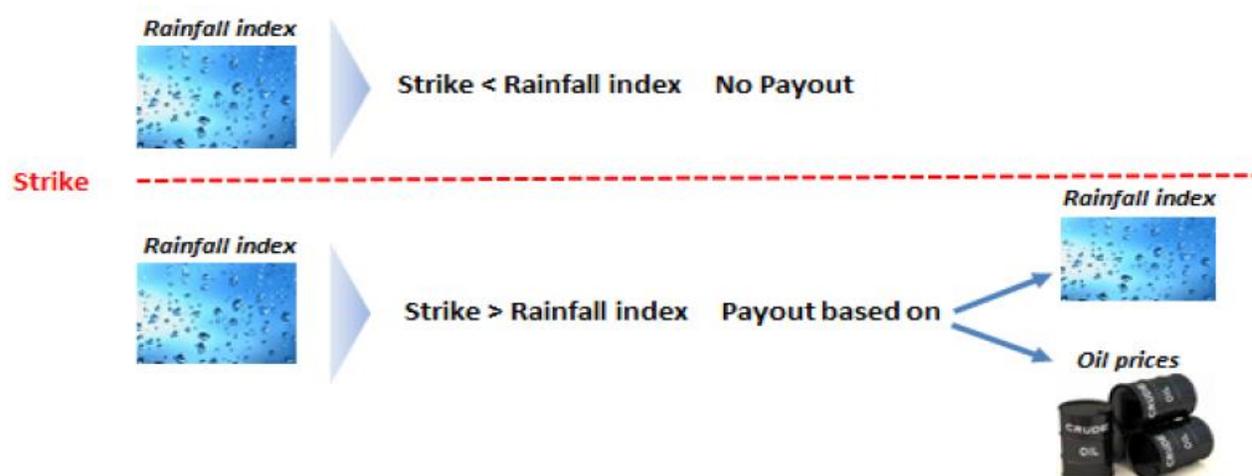
- **Energy Stabilization Fund**
- **Weather & Oil Price Insurance with the World Bank (2013)**
- **Diversification of energy matrix towards renewable resources (reducing vulnerability)**

→ Protecting the economy against global volatility by underpinning macro-financial resilience and reducing fiscal risks is a key pillar of the government's strategy



Weather & Oil Price Insurance with the World Bank

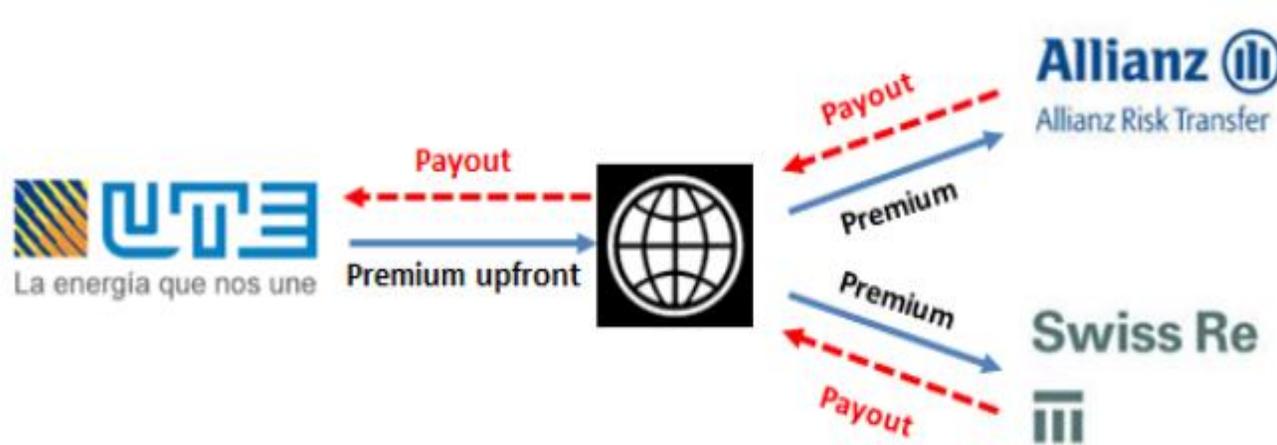
- On December 2013 the World Bank executed a USD 450 million weather and oil price insurance transaction for Uruguay's state-owned public electric company (UTE).
- Pay-out was structured on a sliding scale, depending on the severity of the drought, and on oil price levels.



- UTE would receive a payout from the World Bank if the weather index is below the pre-determined trigger.
- The amount of the payout depends on the level of the rainfall index and market oil prices at that time.



Mechanics of the transaction:

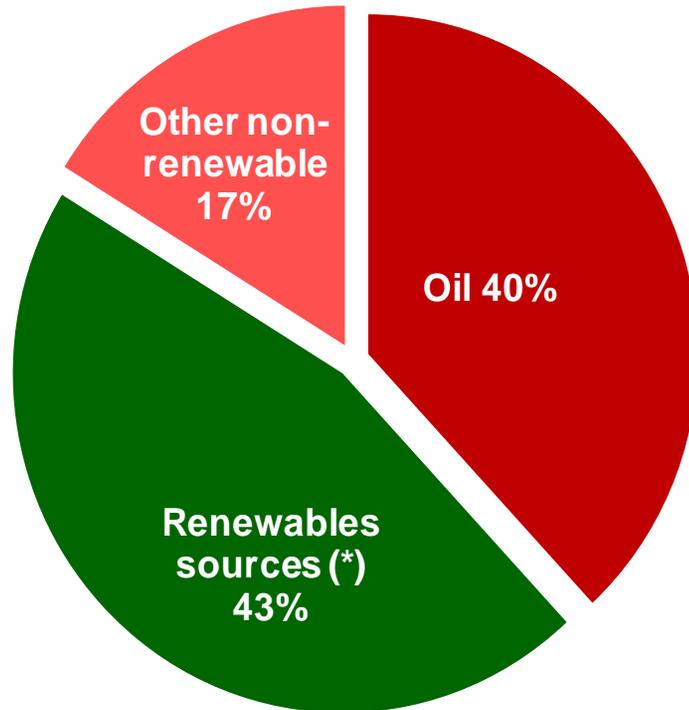


- The World Bank entered into a mirroring agreement with insurance companies Allianz and Swiss Re and effectively transferred the risk onto these entities.
- This insurance —the largest of-its-kind at that moment— was arranged for 18 months, time needed for other projects of renewable energy to join the matrix (mostly wind power).

Significant change in the energy matrix of Uruguay

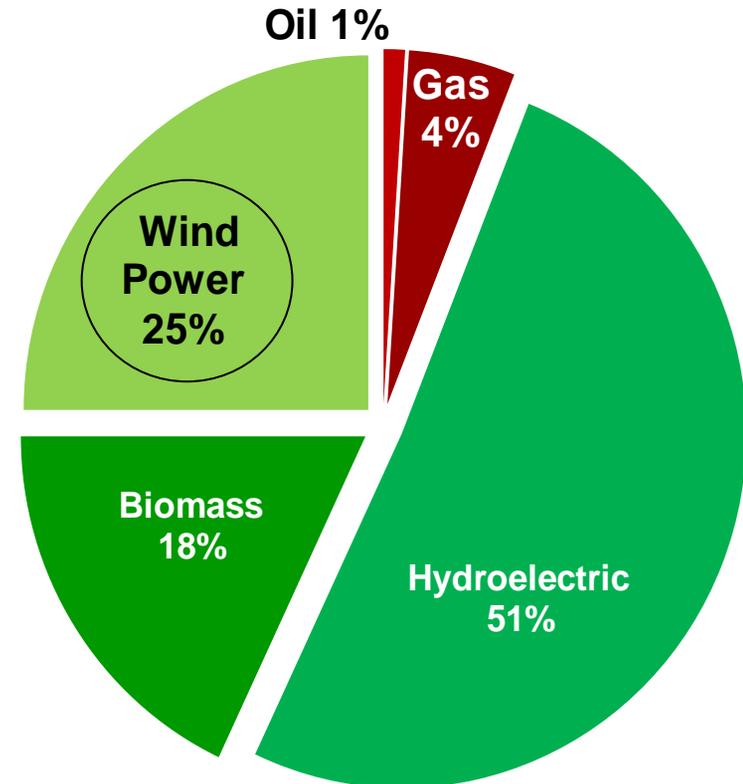


Global Primary Energy Matrix *



RENEWABLE SOURCES MAKES UP
43% OF ENERGY MIX (FROM 35% IN 2008)

Sources of Electric Generation *



95% OF ELECTRICITY IS GENERATED WITH
RENEWABLE SOURCES

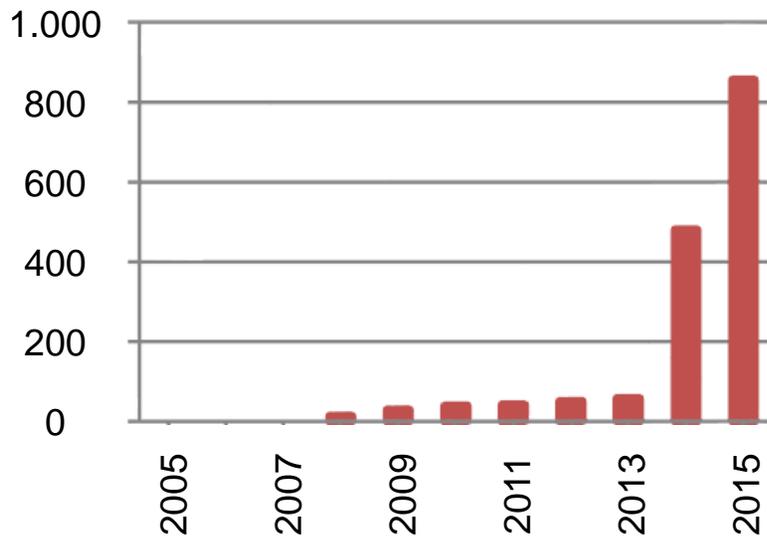
(*) Renewable sources include: **Wind Power; Biomass; Bioheat; Hydroelectric and Solar**
Non-Renewable sources include: **Oil, Natural Gas and Thermal**

Strong increase in windpower capacity and generation

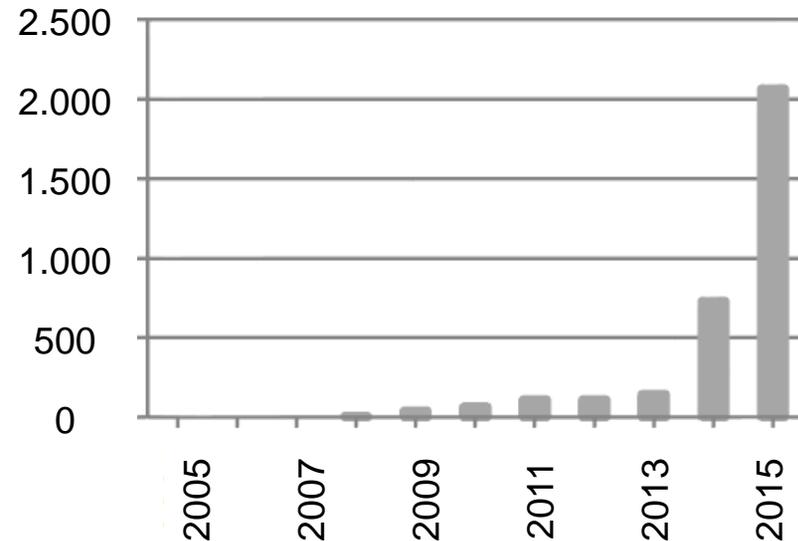


- Uruguay expects to surpass 1,300 MW of wind power installed capacity by the end of 2016.
- For 2017, Uruguay aspires to have 35% of wind-generated electricity, close to Denmark (42%), the global leader.

Wind Power Installed Capacity (in MW)



Wind Power Electricity Generation (in GWh)



Source: Ministry of Industry, Energy and Minery



4. Political-economy considerations

- The political costs of hedging may outweigh the benefits, even if the economic case is clear. Financial hedging makes explicit the fiscal risks faced and the costs that need to be borne to mitigate them (while the no-hedging policy does not).
 - Importance to make clear that objective is not speculative but to contribute to fiscal certainty.
 - The WB, together with other development agencies, could do more to promote awareness and understanding by countries of market hedging opportunities.
 - Scope and incentives for countries to use financial derivatives to off-load commodity price risk would be higher if fiscal risk mitigation through capital markets was given more weight in credit-rating assessments.
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Concluding remarks (I)

- The oil hedging program with Uruguay in 2016 (and the weather derivative before that) is an example of how the WB can develop customized strategies that meet countries' specific risk-management needs, using financial markets.
 - Potential candidates for replication would include member countries that are highly exposed (as an exporter/importer) to a specific commodity or groups of commodities, making the country's fiscal position and economic activity vulnerable to international commodity price fluctuations.
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Concluding remarks (II)

- What explains the limited take-up of financial commodity hedging instruments by governments (**need for a survey?**)
 - Active dialogue between multilaterals, private insurance companies and credit rating agencies would provide stronger incentives for countries to adopt fiscal risk-mitigation strategies using financial markets.
 - Is there scope for risk-pooling between EM countries with opposite commodity exposures, intermediated by WB?
 - Implementation of hedging programs at the sub-sovereign level (SOEs): need for robust governance rules, with clear separation of roles and accountability.
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