Fiscal Risk Management in Mexico

October 29, 2012

Introduction

- Fiscal Risks identified and quantified in Mexico:
  - Budgetary impact of fluctuations in key assumed macro-economic variables
  - Long-term fiscal pressures/risks and contingent liabilities
- How can Fiscal Risk be Managed?
- Fiscal Risk Management Strategy
- Final Remarks

Short-Term Fiscal Risks

- Public finances are vulnerable to a number of macroeconomic shocks, related to fluctuations in:
  - GDP growth
  - Oil price
  - Oil volume
  - Interest rate
  - Exchange rate

Revenue and Expenditure Sensitivities in 2012	
	% of GDP
1. Half a percent change in GDP	0.06%
2. Ten dollar change in the oil price	0.30%
3. For a 100 mdb crude oil extraction	0.22%
4. One dollar change in the average exchange rate	0.20%
Revenue	0.30%
Financial Cost	0.10%
5. For 100 bps in the interest rate	0.10%

Long-Term Fiscal Risks and Contingent Liabilities

- Demographics, Health and Pensions
  - Fiscal Pressures – increasing health and pension costs related to demographic changes and epidemiological transition, pension system transition costs, etc.
  - Fiscal Risks – longevity risk, low pension coverage, changes in retirement age, health cost inflation, etc.
  - Federal government pension liabilities 60.5% of GDP

- Development Banks
  - Portfolio 3.7% of GDP

- Commercial Banking and Deposit Insurance System
  - Total system deposits 15.7% of GDP

- State-Owned Entities
  - 0.7% of GDP

- Sub-national Debt
  - 2.7% of GDP

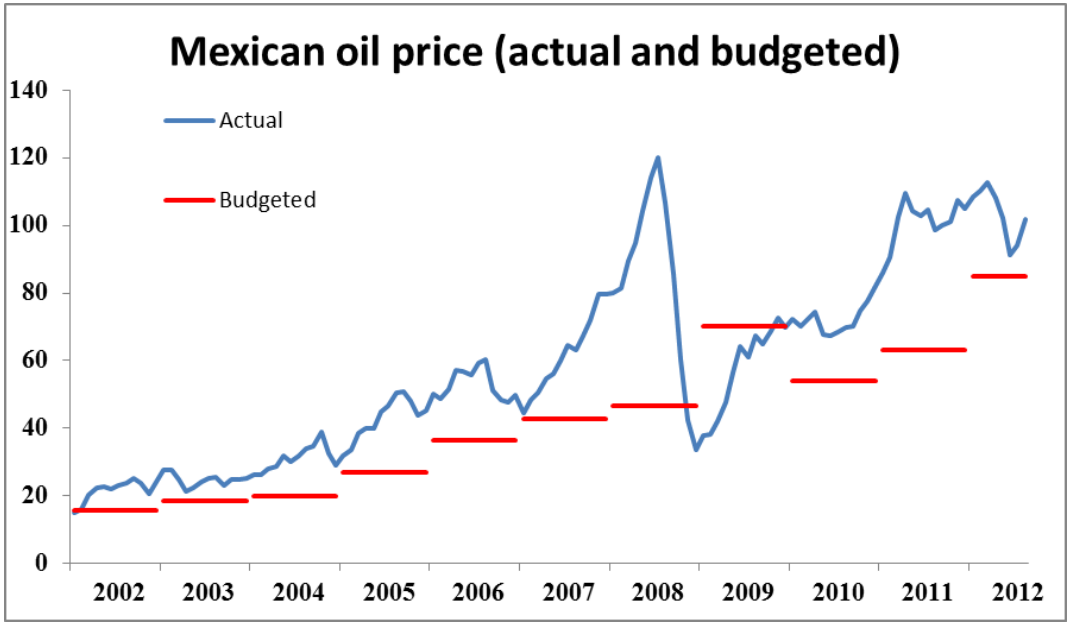
- Natural Disasters
  - Between 1971 and 2010 economic damages due to natural disasters averaged 0.1% of 2011 GDP
  - In 2010 the Federal Government spent 0.3% of GDP for public infrastructure reconstruction

How can Fiscal Risk be Managed?

- Self-Insure
  - Governments are often not risk averse, and thus in most circumstances should not purchase insurance but rather self-insure (Arrow and Lind, 1970).
- Mitigate and manage to reduce pressures/risk
  - Enhance supervision and regulation (e.g. financial sector)
  - Implement structural measures (e.g. pension liabilities)
- Transfer risk to markets
  - Insurance products
  - Hedging strategies
- Technical, political economy and market perception considerations drive decisions on how to manage risk
  - Choice may depend on nature of risk
- In Mexico the overarching goal is to meet the balanced budget target and avoid highly disruptive and costly adjustments during annual budget implementation

Fiscal Policy in Mexico

- Fiscal Responsibility Law (FRL), 2006
  - Fiscal policy is guided by a balanced budget rule
- Formula for estimating oil prices in budget
- Oil-revenue stabilization funds



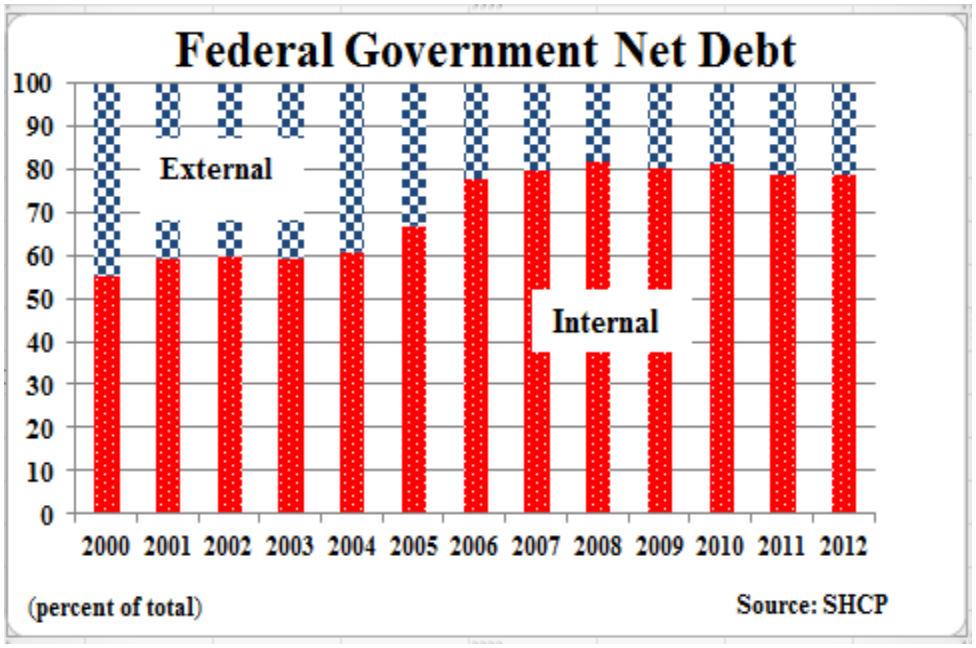
Fiscal Policy – Oil Revenue Stabilization

- Oil-revenue stabilization funds
  - Smooth revenue volatility
  - Mitigate impact of international oil price shocks
  - Transfers limited by 1.5% of GDP caps
  - Limited purpose and size

- Oil price hedge
  - Leverage resources in stabilization fund by purchasing put options
  - Options purchased for net exports at budgeted oil price

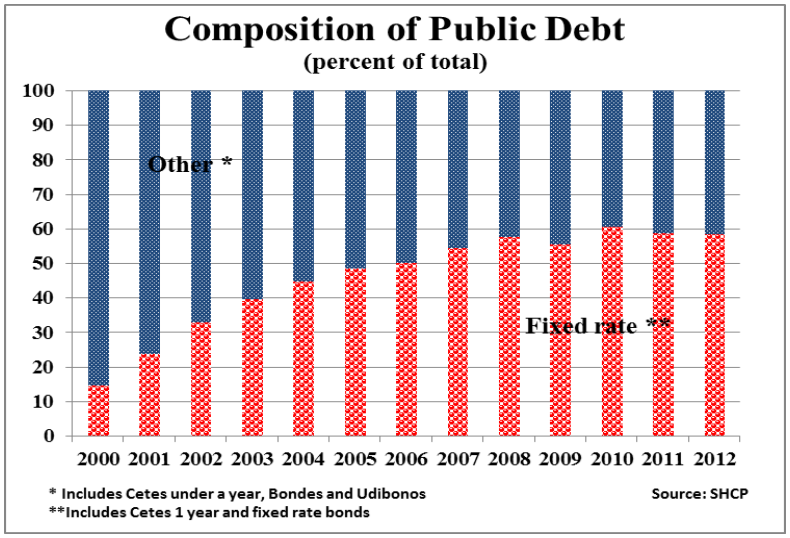
Debt Management

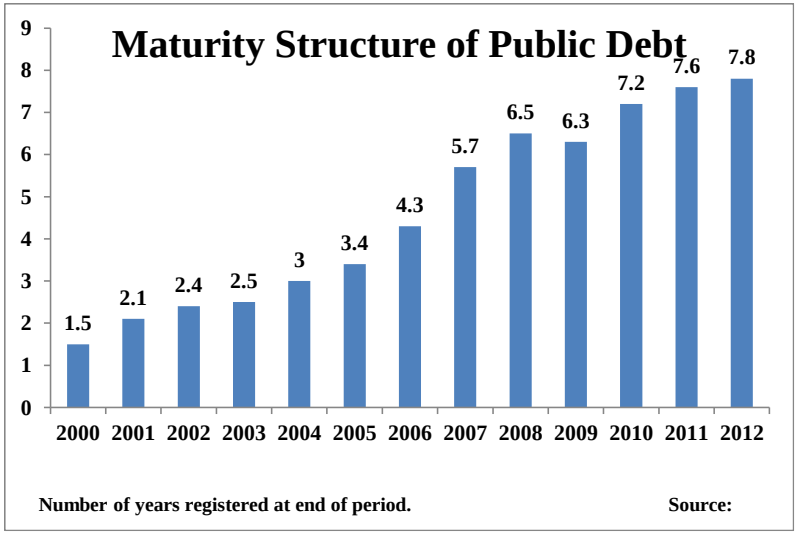
- Mexico strengthened its public debt profile, limiting its vulnerability to short-term macroeconomic risks by:
  - Substituting external for domestic debt



Debt Management

- Phasing out currency-linked debt
- Increasing fixed-rate instruments
- Lengthening maturities
- Broadening the investor base



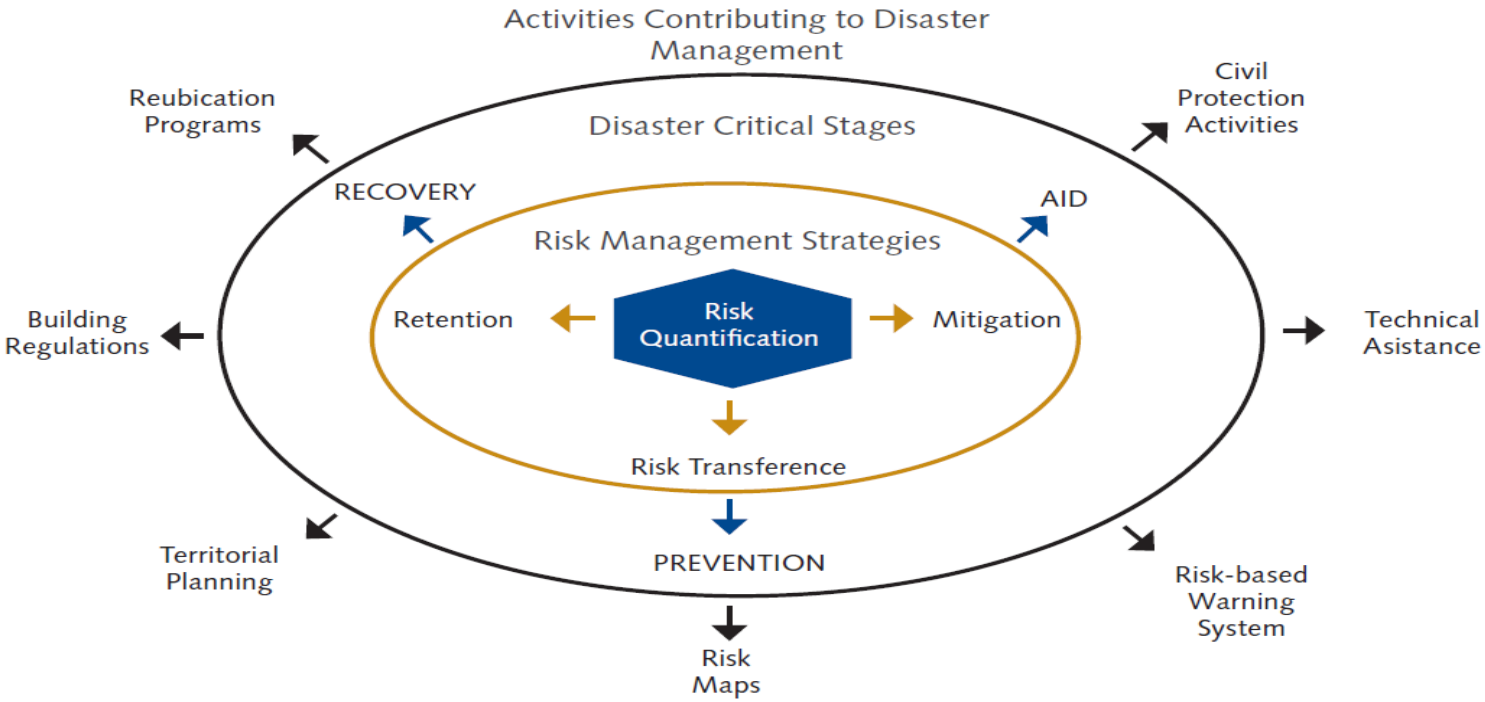


Disaster Risk Management

- Measurement of risk led to a new way of thinking about risk management
  - Data collection and risk models
  - Physical inventory of assets
  - Quantify risks on the basis of probabilistic estimates
  - More detailed information reduces risk premiums
- Limited history of high impact events prevents use of traditional statistical tools to analyze and measure risk
  - Quantify risks on the basis of probabilistic estimates
- Once risk is understood a financial risk management strategy can be designed and existing funding mechanisms improved

Disaster Risk Management

Mexican Risk Management Model



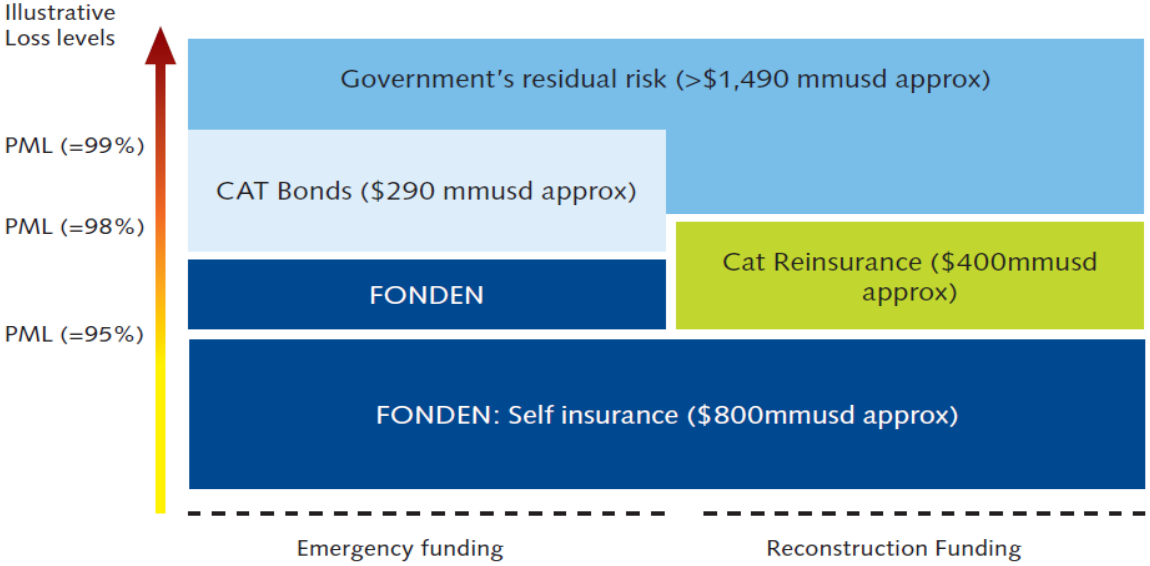
Source: Secretaría de Hacienda y Crédito Público (SHCP).

Disaster Risk Management

- Retention
  - National Fund for Natural Disasters (FONDEN)
    - Ensures sufficient financial resources are immediately available in the aftermath of a natural disaster
    - Line item within federal budget to finance damaged public infrastructure and low-income housing
- Transfer
  - Reinsurance
    - Catastrophic excess loss insurance
      - Annual indemnity-based reinsurance product
      - Covers large annual deviations of aggregate losses to FONDEN
      - Promotes private sector supervision
    - Multi -Cat Bond
      - Provides cover against the risk of not having enough emergency funds quickly after a major disaster happens.

Disaster Risk Management

- Financial Instruments for DRM



Source: Secretaría de Hacienda y Crédito Público (SHCP).

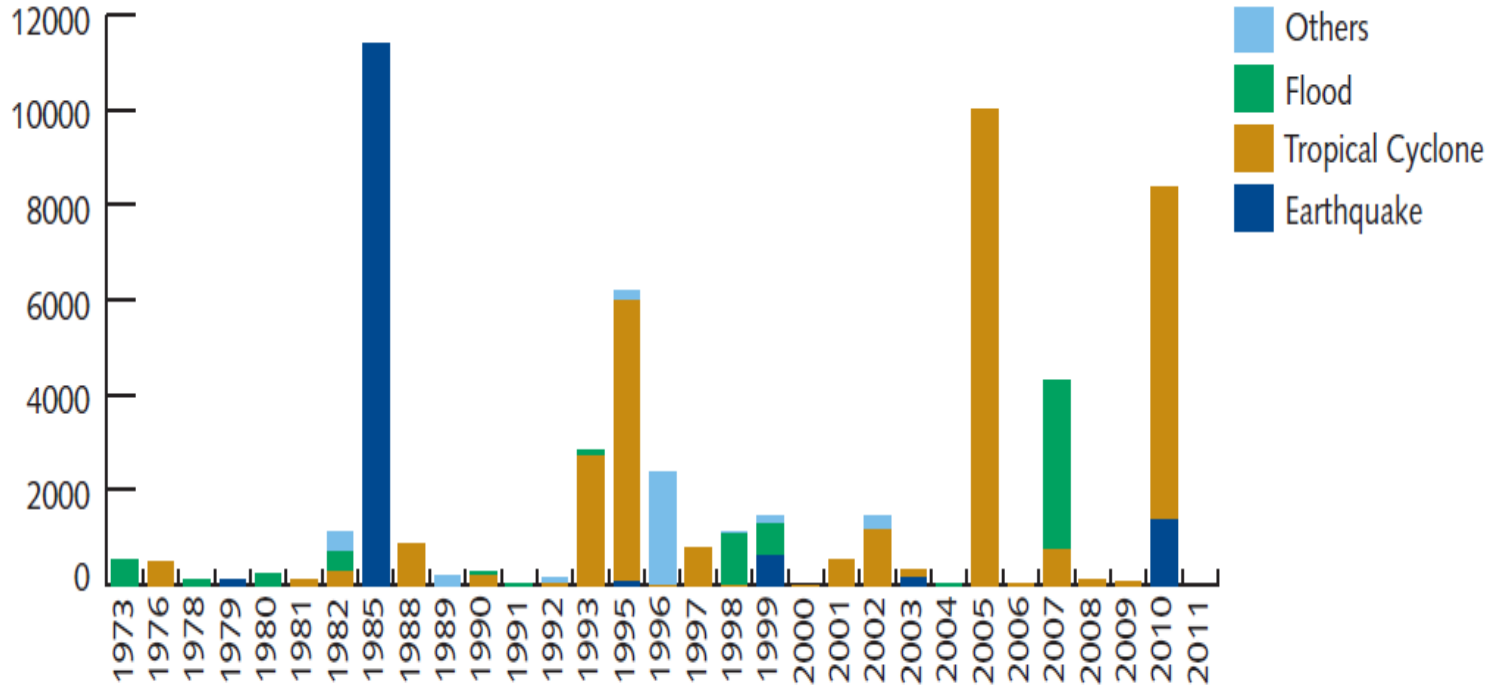
- Objective
  - Ensure availability of financial resources in the aftermath of a natural disaster
  - Avoid disruptions to overall budget or fiscal outcome

Final Remarks

- Identification, disclosure, measurement and management of fiscal risks
- Improved quantification of long term and contingent liabilities
- Enhanced supervision by relevant government bodies and private sector
- Evolving innovative approach to fiscal risk
  - Changing nature of risks
  - Availability of new instruments
  - Learning curve (reflected in premia)
  - Technical, political and market perception considerations

Disaster Risk Management

- Economic Losses per Event in Mexico, 1970-2010 (in millions of US dollars in 2011)



Source: Center for Research on Epidemiology of Disasters, Catholic University of Louvain.