

Using @RISK in the Determination of Damages in International Arbitration

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Applications and Training**

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(with a little help from our friends – Eleanor Blalock, Leonardo Giacchino and Rory Walck)

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What is International Arbitration?



- A method used to resolve disputes between parties – generally viewed as a better method than gunboat diplomacy
- The dispute occurs between parties from different nations
- The parties choose this method in order to avoid the other party's domestic courts
- Different causes: commercial disputes, disputes under bilateral or multilateral treaties (NAFTA, DR-CAFTA, Energy Charter Treaty or one of the 2,500+ investment treaties signed between two governments), regulatory takings, etc.

Many Possible Venues



CHINA INTERNATIONAL ECONOMIC AND
TRADE ARBITRATION COMMISSION



香港國際仲裁中心

Hong Kong International Arbitration Centre



ARBITRATION INSTITUTE
OF THE STOCKHOLM CHAMBER OF COMMERCE

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The Need for Arbitration is Everywhere

Lumber Concern Seeks Damages

Published: July 12, 2002

VANCOUVER, British Columbia, July 11— Canada's largest softwood producer, the Canfor Corporation, demanded today that the United States pay it at least \$250 million in damages for duties aimed at stemming Canadian lumber imports.

Canfor filed a notice of claim against the United States under the North American Free Trade Agreement, saying duties and antidumping penalties imposed last year were unreasonable and discriminatory.

"The effect of the United States' conduct has been to impose significant harm on Canfor," the chief executive, David Emerson, said in a statement.

LEGAL/REGULATORY

A Victory for Holders of Yukos

December 2, 2009, 3:01 AM



An arbitration panel has ruled that shareholders in the former [Yukos](#) oil company, which was disbanded by the Russian government in 2007, are entitled to seek an estimated \$100 billion in damages from the Russian government, lawyers for

the Yukos shareholders said on Tuesday.

The decision, issued Monday, clears the way for a full airing of the dispute, in which lawyers are expected to argue that the Russian government had improperly expropriated Yukos under the pretext of collecting unpaid back taxes, Andrew E. Kramer writes in *The New York Times*.

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U.S. judge rules for Chevron in Ecuador case



Thu, Mar 11 2010

By [Grant McCool](#)

NEW YORK (Reuters) - Chevron Corp may pursue an international arbitration claim over environmental pollution allegations in Ecuador, a judge ruled on Thursday, part of a long-running case that carries a potential \$27 billion liability for the second-largest U.S. oil company.

Chavez Orders Expropriation of Owens-Illinois

Venezuela's President Did Not Detail His Complaints about the Company but Said It Is "Taking Away the Money of Venezuelans"



In this file photo, Venezuelan President Hugo Chavez drinks coffee prior to a press

(AP) Venezuelan President Hugo Chavez on Monday ordered the expropriation of U.S.-based glass maker Owens-Illinois Inc.'s unit in the South American country.

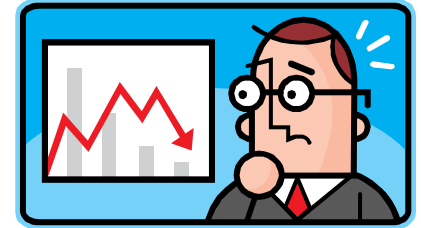
Chavez announced plans to expropriate the company in a televised speech, saying it operates in western Trujillo state.

[Chavez's Latest Takeover Won't be His Last](#)

The leftist leader criticized the company's practices in the

What We Do

- Help parties and arbitrators calculate financial and economic impacts of actions (or inactions) and events
- Help parties and arbitrators to evaluate and reconcile disparate forecasts of future activity
- Provide opinions on regulatory performance by the government involved in the dispute
- Help clients to assess their position in disputes
- Provide expert testimony on damages and regulatory issues



We calculate the damages when something goes wrong and testify on economic and regulatory issues

How We Use @RISK

- Damages require projections of variables into the future
- There are uncertainties in these projections that may be difficult to measure
- @RISK helps to evaluate
 - Likelihood of an outcome
 - Relative variability of potential results
 - Degree of risk that might need to be factored into a discount rate, a growth rate or any other relevant variable



Illustrative Case Studies

I. Water Dispute



Background Information

- As markets have opened, state-owned entities have been privatized
- New investors protected by investment treaty
- Claimant obtained concession to build & operate water & sewer system
- Claimant alleged that the regulatory agency made a series of decisions in the early years that impaired the value of the concession
- Only a few years into the contract, the government terminated investor's concession



Berlin Wall Photo © Thierry Noir – Reprinted under GNU Free Documentation License

Result



International Arbitration

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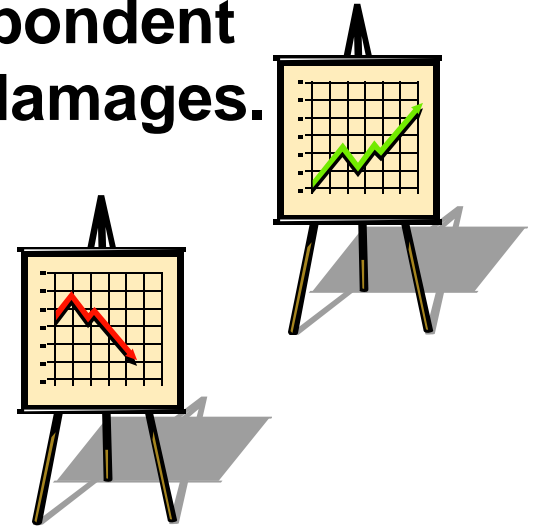


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Valuation Techniques

- Damages experts for Claimant and Respondent used valuation techniques to estimate damages.
- Claimant obtained a positive value
- Respondent obtained a negative value

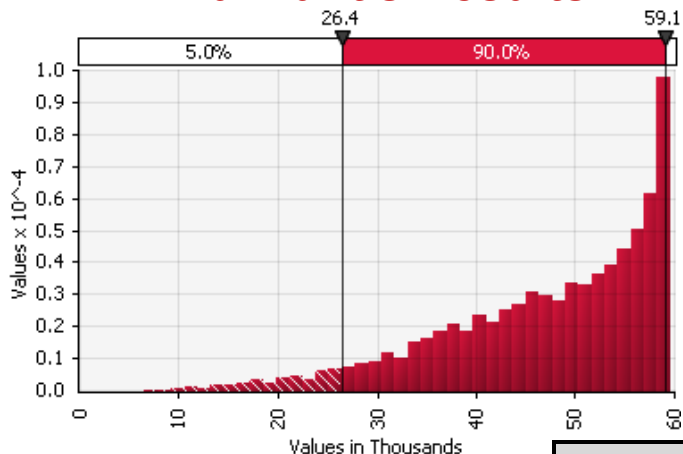


Both sides used @RISK to evaluate their analyses

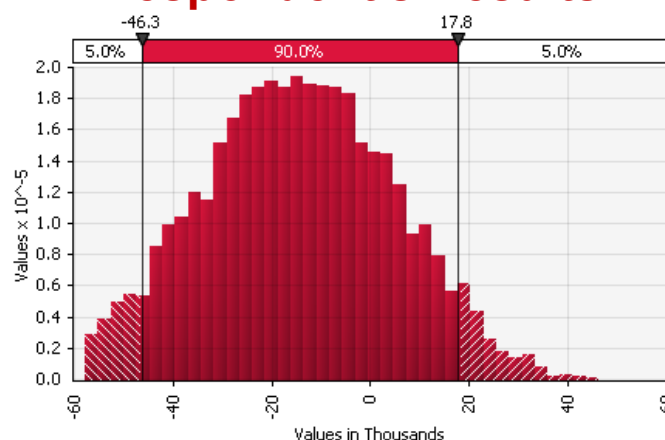
@RISK Methodology

- Inputs: *initial collection rate, long-term collection rate, annual improvement of collection rate and amount of external financing*
- Output: *net present value (NPV) to shareholders*

Claimant's Results



Respondent's Results



	NPV (in Millions)	
	Claimant	Respondent
Minimum	6.57	(57.75)
Maximum	59.60	46.32
Mean	47.22	(14.50)
Std. Dev.	10.55	19.18



Assumptions for @RISK Methodology

- **Collection Rates**
 - **Claimant:** used a survey of similar water utilities conducted by an independent agency
 - **Respondent:** used a historically low percentage without allowing long term collections to improve much
- **Percentage of external financing**
 - **Claimant:** used actual capital structure from financial statements
 - **Respondent:** used an assumed discrete distribution with different scenarios



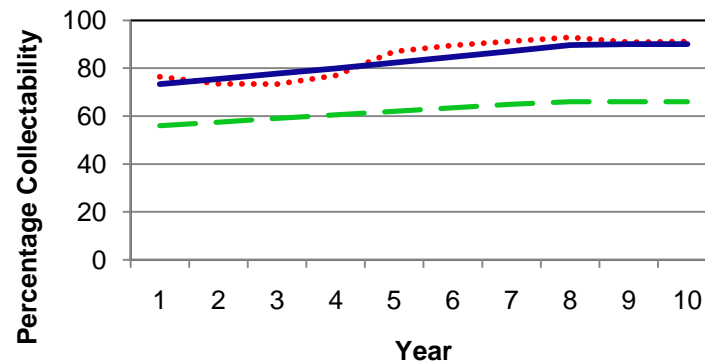
Collection Rates

Claimant:

	Mean	Standard Deviation	Min	Max
Initial Collection Rate	73.4%	17.4%	55.7%	90.4%
Long-Term Collection Rate				97.7%
Annual Improvement of Collection Rate	2.9%	1.4%		

Respondent:

	Mean	Standard Deviation	Min	Max
Initial Collection Rate	56.0%	13.0%	48.0%	87.0%
Long-Term Collection Rate	66.0%	13.0%	55.0%	95.0%



..... Survey — Claimant - - Respondent



Illustrative Case Studies



II. Oil and Gas Dispute

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The Issues

- Host Country required fee linked to the value of oil produced by the oil company (Gross Revenue)

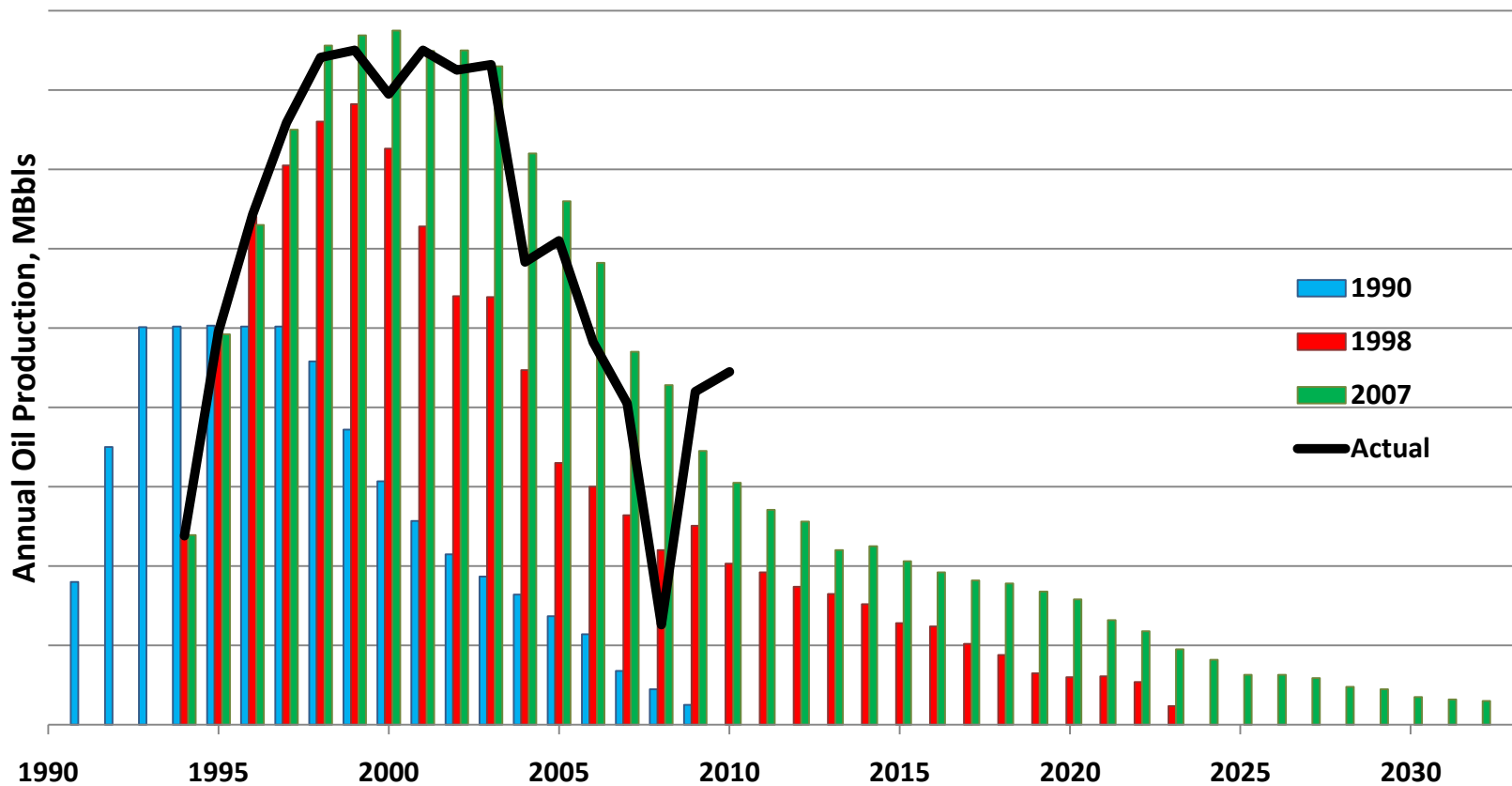
- ***Gross Revenue = Oil Production x Oil Price***

where

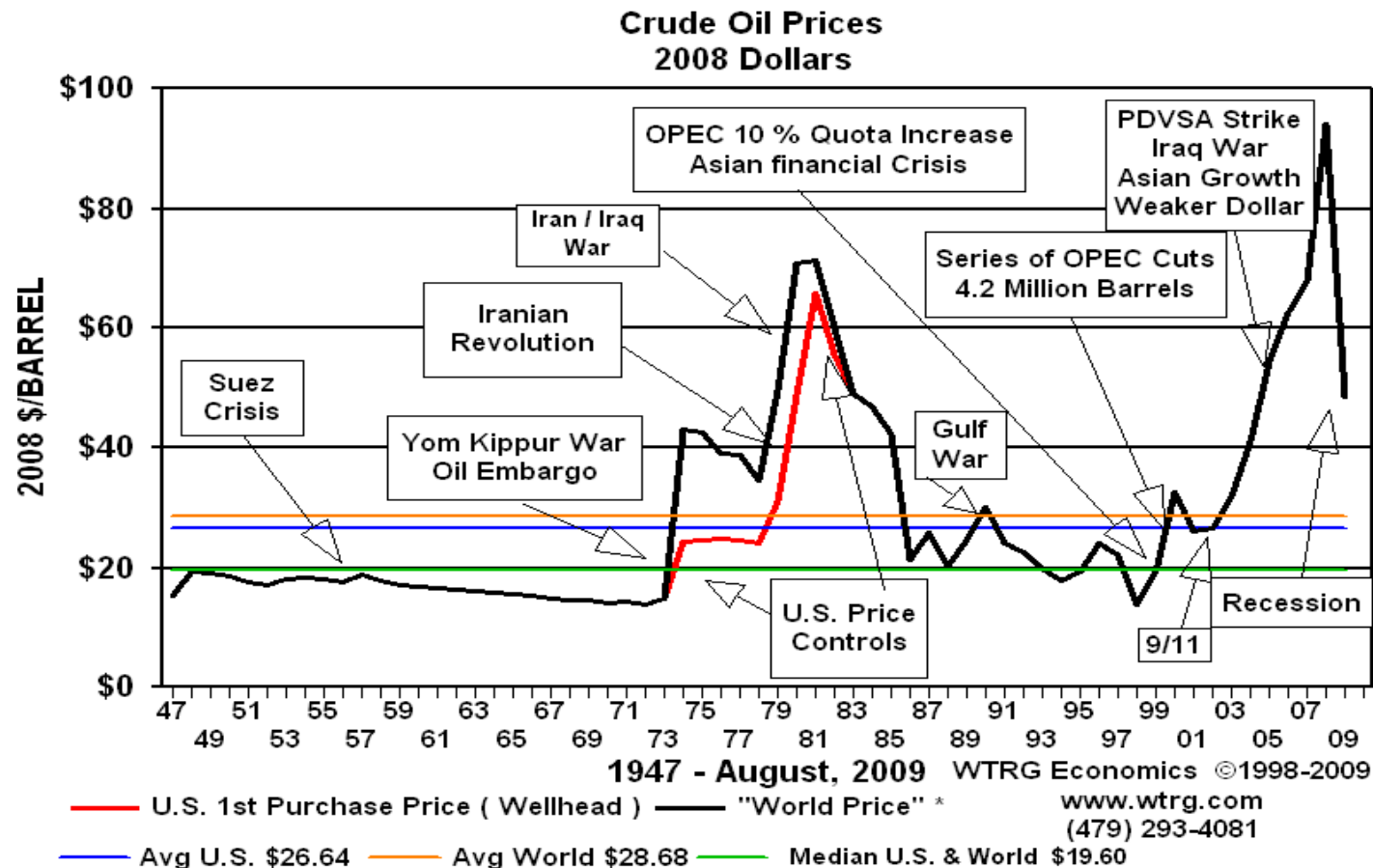
- Actual oil production varies from forecasts
 - Oil price varies widely both short term and long term
 - Exchange rate fluctuations also impact the calculation of Gross Revenue
- ***Oil company claims the fee is prohibited by the investment treaty***



Historic Oil Production Forecasts



Historic Oil Prices

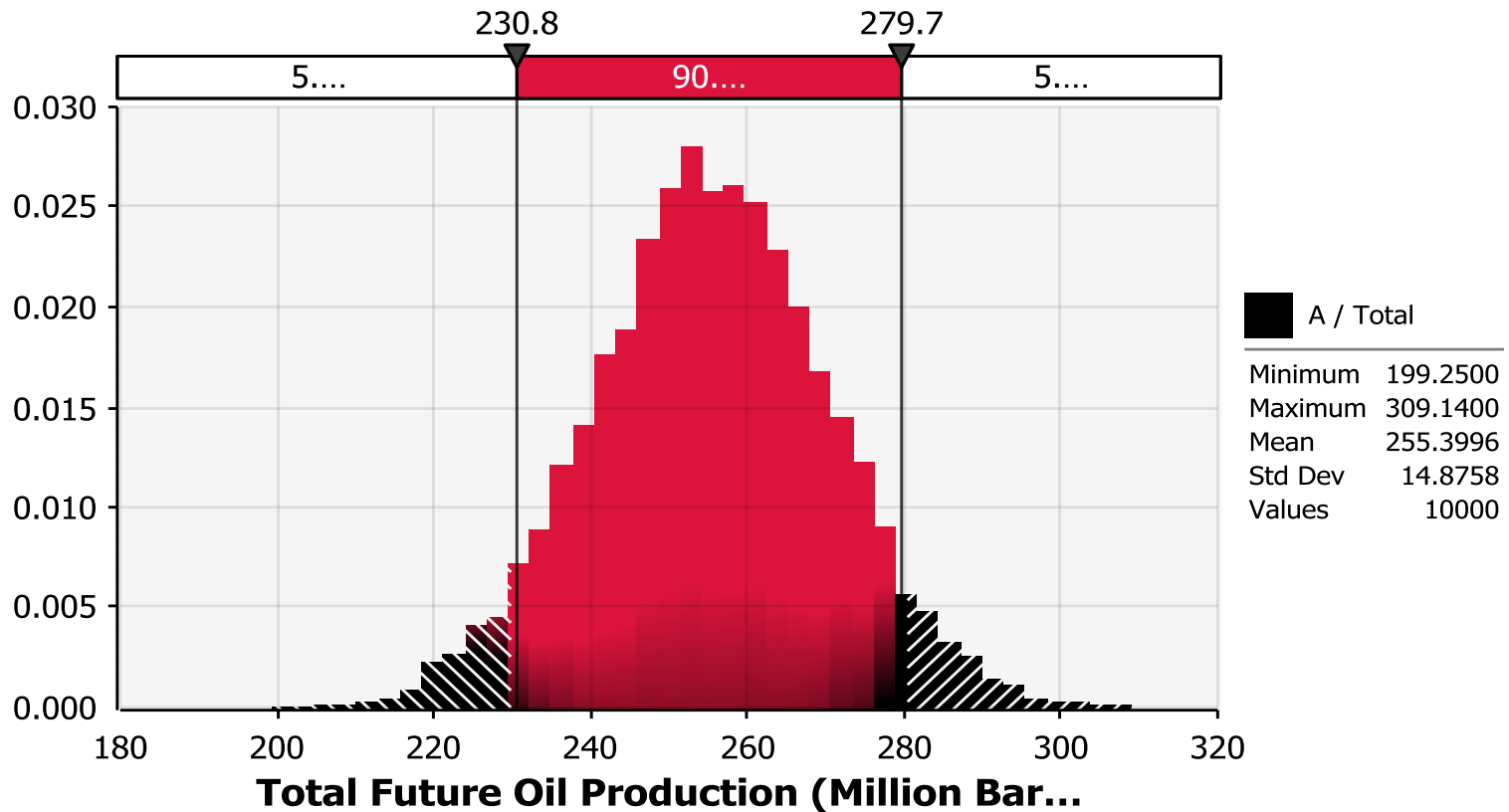


Use of Monte Carlo Simulation

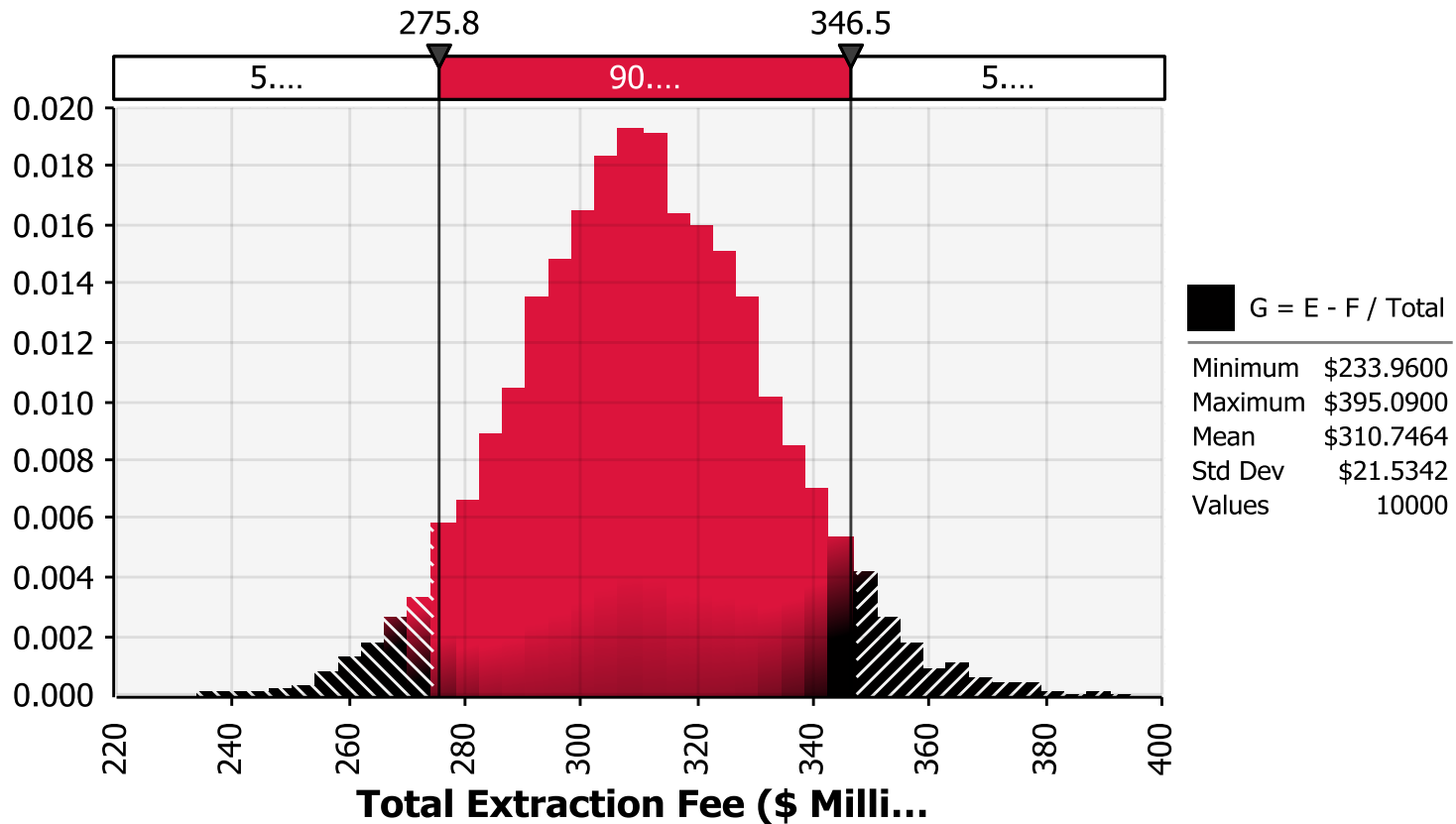
- **Challenge:** To evaluate the way the variables used to calculate Gross Revenue might interact over the entire life of the oil field - decades into the future - and how that interaction may cause the fee amount to vary
- ***Use of @RISK:*** To assess the variability so that the arbitrators could better understand the possible range of future fees



Results – Future Oil Production



Results – Total Extraction Fee



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