ZAMBIA'S FISCAL REGIME IN MINING

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First Look: Revenue

FIGURE 1

Mining's Share of GDP: Zambia

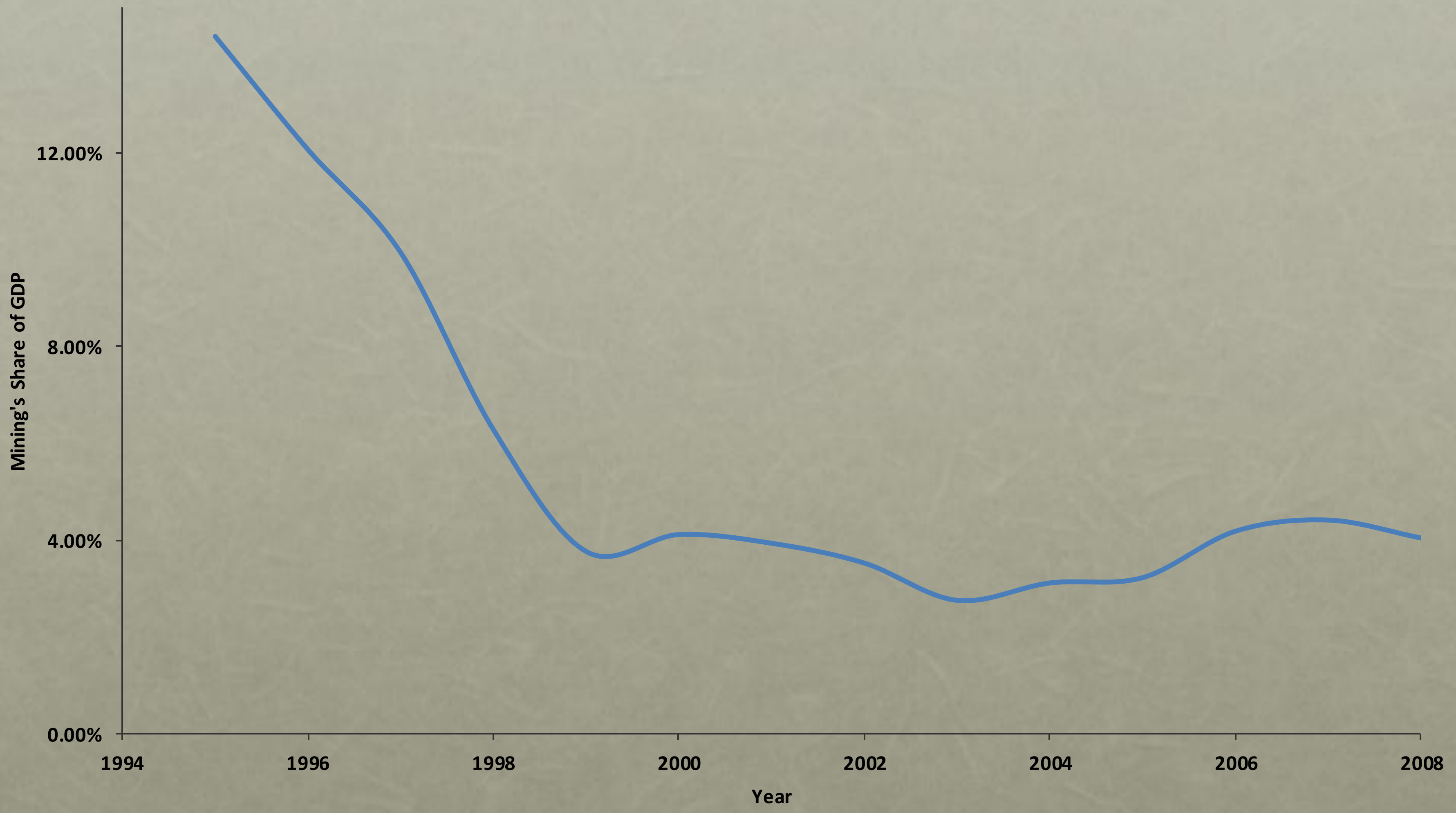
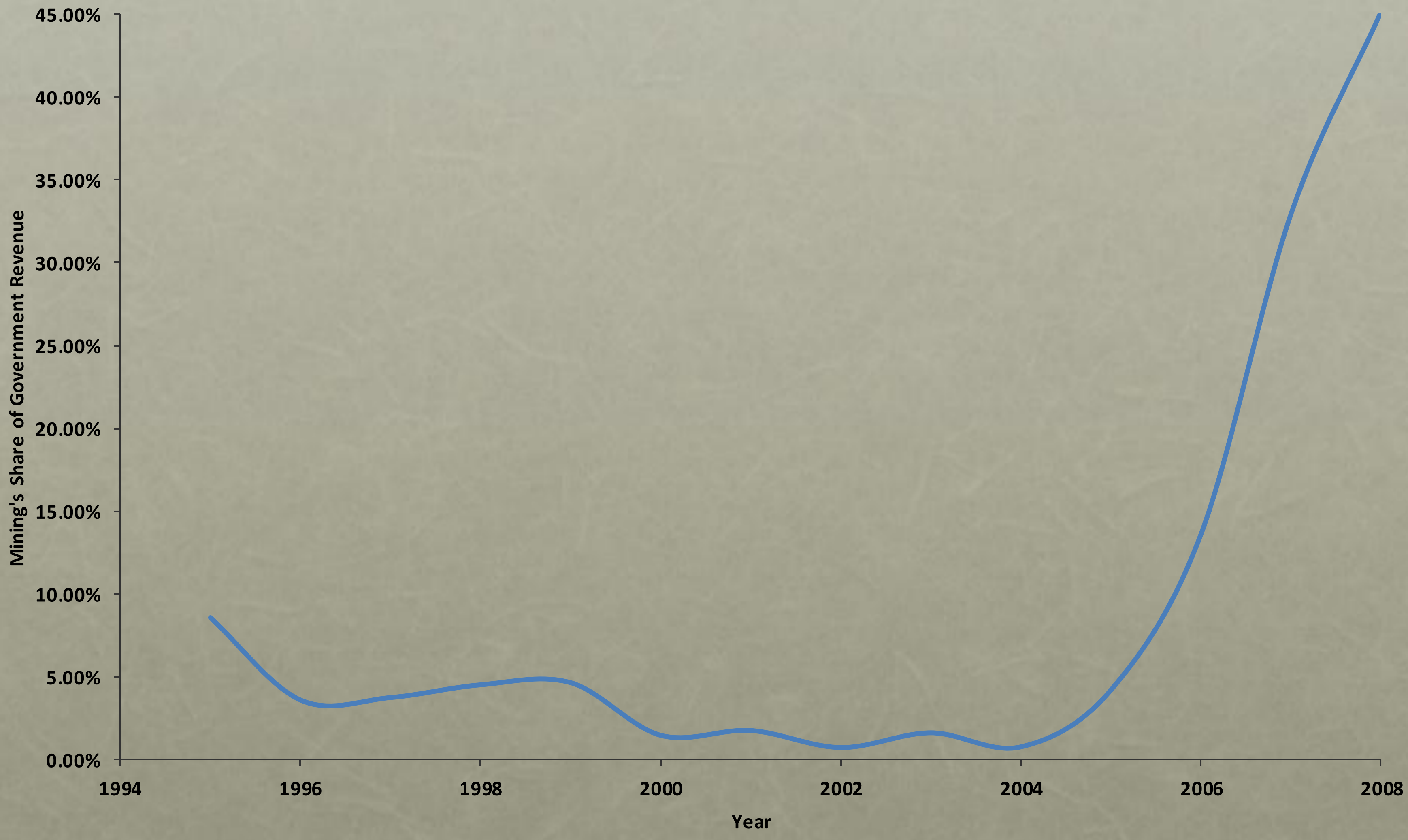


FIGURE 2

Mining Share of Total Government Revenue: Zambia



Recent Data Indicate Some Revenue Increases

But the trend in general remains. That is, in light of significant growth in mineral prices, and presumably profitability, government revenue growth lags growth in the sector

Fiscal Regimes
(for lack of a better term)

1 Tax – Royalty
- Royalty
- General Tax System (Profits, Withholding, VAT, Tariffs, Excess Profits [RRT])
- Equity Participation (Free, Purchased or Carried)

2 Production Sharing
- Royalty
- General Tax System (Profits, Withholding, VAT, Tariffs, Excess Profits [RRT])
- Equity Participation (Free, Purchased or Carried)
- Production Share

3 Service Contract
- Royalty
- General Tax System (Profits, Withholding, VAT, Tariffs, Excess Profits [RRT])
- Equity Participation (Free, Purchased or Carried)
- Total Value of Production less above payments and payments to contractor

Fiscal Regimes
(for lack of a better term)

	Tax-Royalty	Production-Sharing	Service Contract
Royalty	X	X	X
General Tax System*	X	X	X
Equity Participation (Free, Purchased or Carried)	X	X	X
Production Share		X	
Total Value of Production (less payments)			X

* Profits, Withholding, VAT, Tariffs, Excess Profits (RRT)

Zambia's Fiscal Regime

- A Tax – Royalty System (since privatization) with a minority equity participation.
- In general, regime is similar to those in other countries (See paper).
- Few countries have production sharing or service contracts in non-hydrocarbon mining.
- Devil is in the details (computation of the bases) so it is important to understand how bases are derived.

Figure 3
Zambia: Revenue Shares from Elements of Fiscal Regime

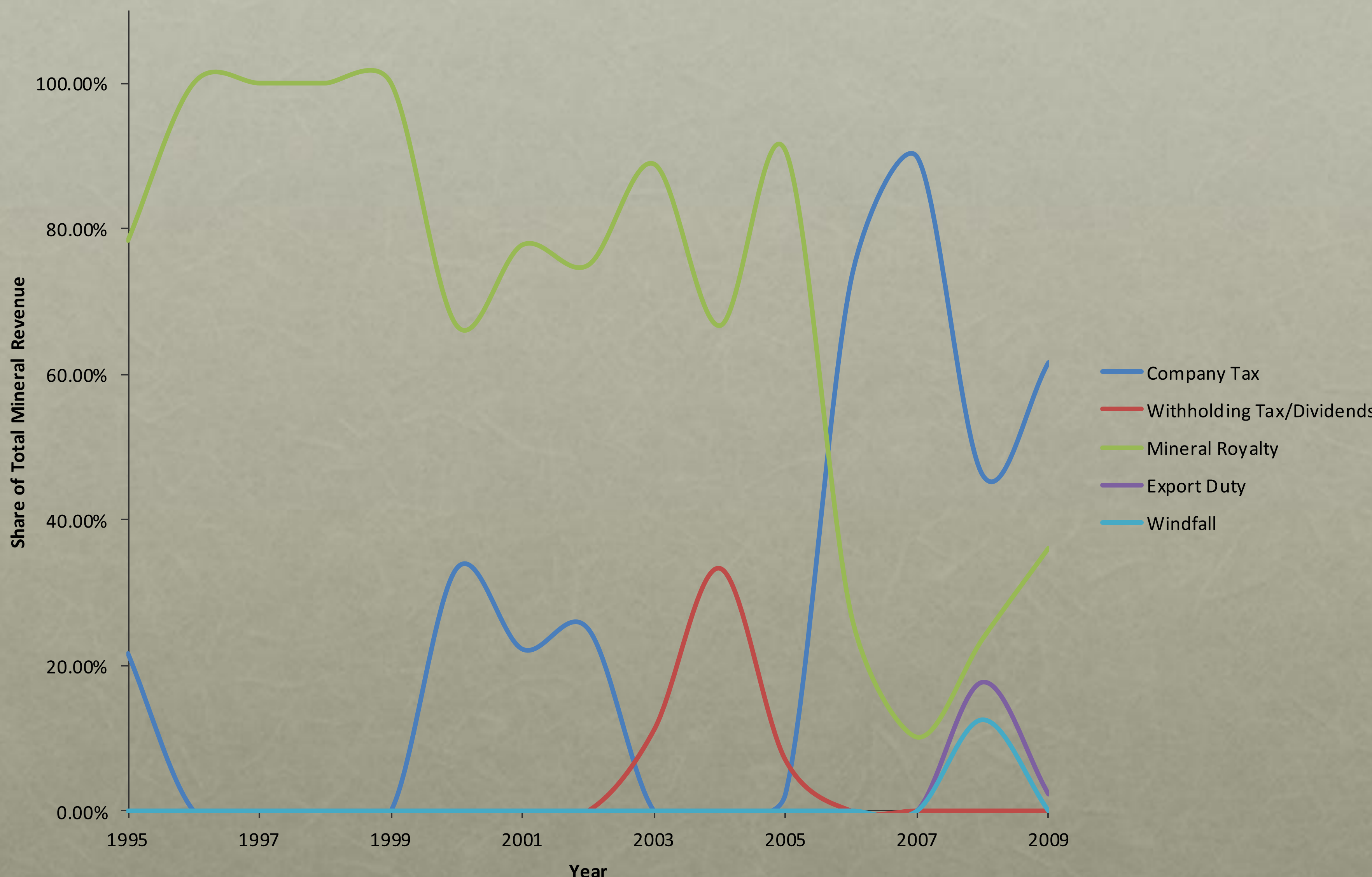
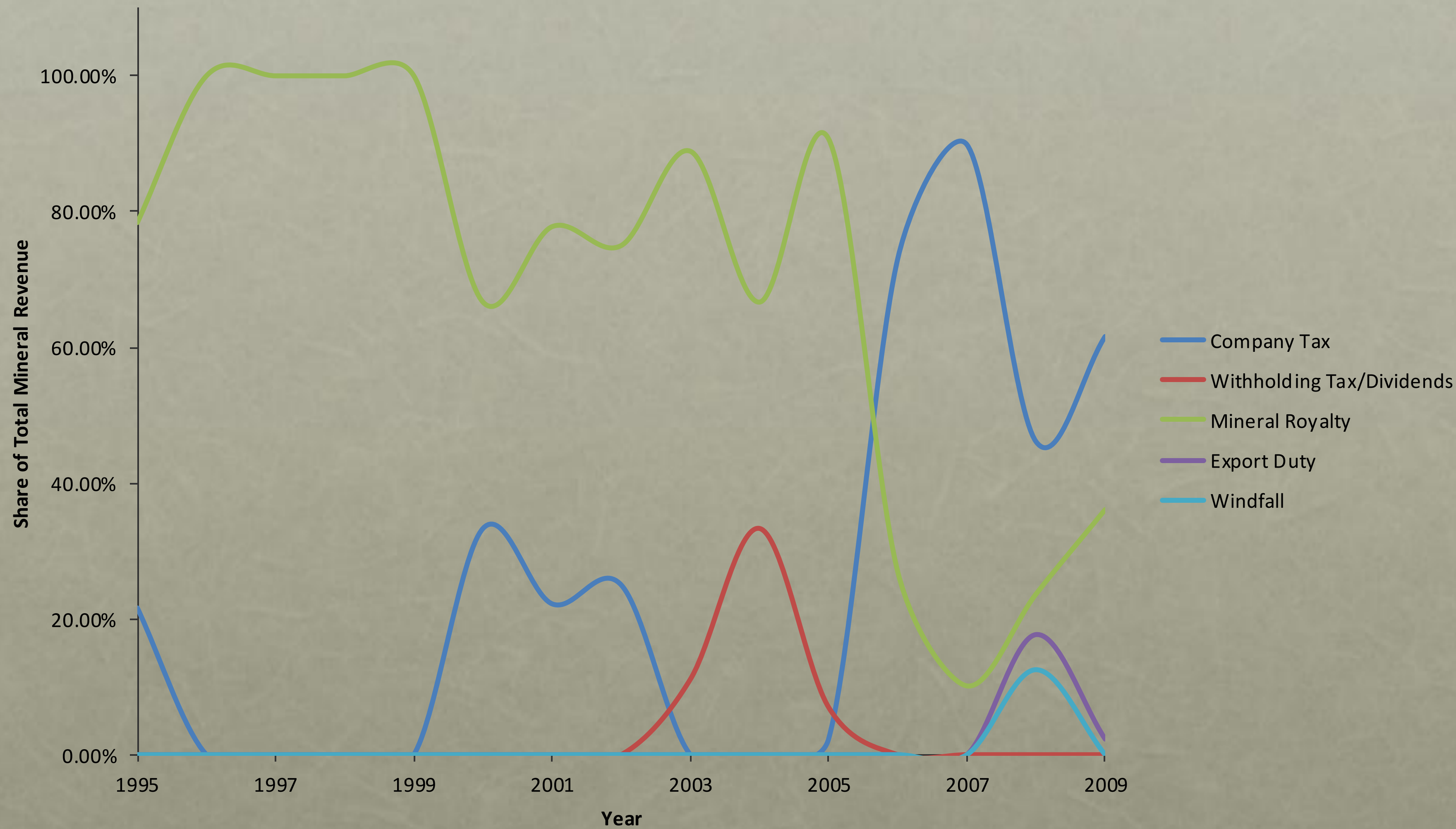


FIGURE 3

Zambia: Revenue Shares from Elements of Fiscal Regime



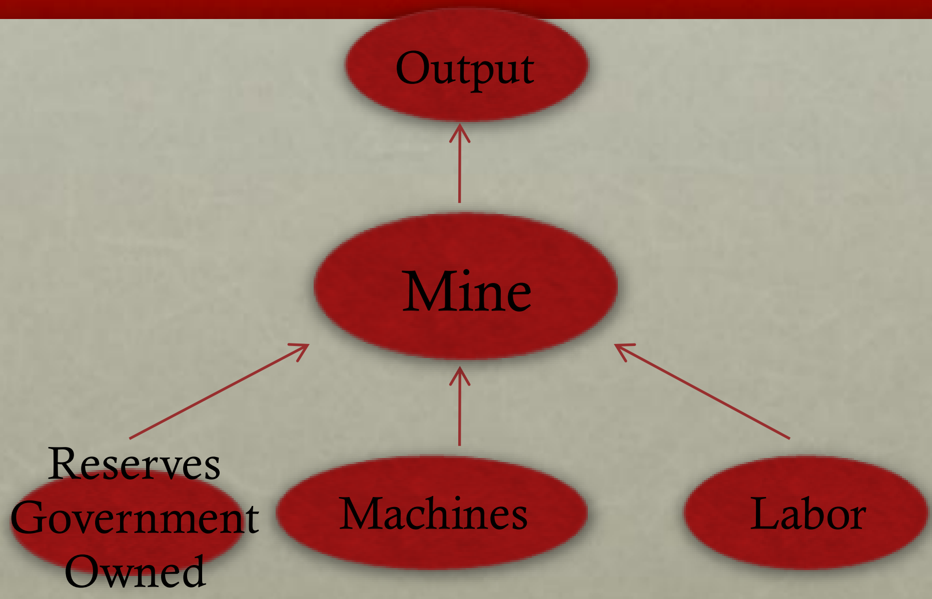
Approach and Evaluation Depends on Perspective

Relative prices matter for both supply and demand.

Governments need to provide price signals(not set prices) and must respond to price signals in an international environment.

Implication: Type of payment matters for efficiency – All payments to government are not simply "rent."

Part of Framework



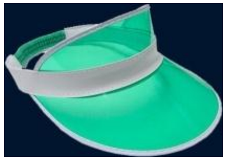
- There is a separation of ownership between the factors of production.
- Governments that own reserves do not give title to the reserves to the mining company.
- Person owning the machines is the "operator" and demands machines, labor and reserve (or extraction) services.
- Demand for reserves (and extraction) is a derived demand from the demand for output.
- In effect, resource-owning governments are suppliers of a productive factor – an input – not an output.

But governments do more than merely act as resource owners

A Government May Wear As Many as Four Hats

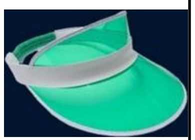
1. Resource Owner

2. Tax Collector



3. Investor

4. Mine Operator

Function	Some Potential Gains	Some Potential Costs
Ownership Function (Stewardship of the Reserve Base) 	Financial returns to ownership • Bonus • Auction Bids • Royalties (including variable royalties) • Excess Profit Schemes	• Reduction in wealth via accumulated extraction • Lost diversification
General Tax Function 	• Personal Income Tax • Profits Tax • VAT • Tariffs • Property Tax	• Distortions in private sector decision making • Administrative and compliance costs
Passive Investment Function 	• Dividends • Capital Gains • Interest (if passive investment is via loans) • Price Participation Agreements	• Less diversification (both domestic and international) given investment budgets • Foregone current government expenditures (such as debt reduction or education)
Operating Company 	• Returns to management (in addition to dividends and capital gains)	• Further losses in diversification • Lost efficiency in public sector enterprises

IMPLICATIONS

- Prices are Signals
  - Both to producers and to the resource owner
- Structure of Contracts and Deals will Depend on:
  - Existing diversification
  - Income
  - Preferences toward risk
  - The mineral and geological characteristics of the economy

Conclusion: General Structure

1. Tax-Royalty Regime with passive equity participation is reasonable.

2. The devil is in the details.

Some Criteria

- System Needs to be Transparent
- Take Advantage of Potential Information Flows
  - Within government (Ministry of Finance, Ministry of Mines, and Central Bank)
  - Between the government and the private sector
- Base Policy on Observable Information (to the extent possible)
- Maintain Consistency with the Policy Intent of Each Fiscal Regime Element

In a Situation with Constrained Administrative Resources

- Concentrate on P and Q
- A one Kwacha increase in Revenue can increase:
  - Royalty
  - Profit tax
  - Dividends
- Combined Effect: 1% Kwacha increase in Total Revenue can lead to a minimum .46% increase in Total Government Revenue

Royalty Valuation

LME Price: Value Measure and Statutory Rate

Determine the Effective Rate

Value	Amount (US $)	Royalty Rate	Royalty Amount (US $)
LME	1,000.00	3.00% 6.00% (4/12)	30.00 60.00 (4/12)
Transport	100.00		
Processing	600.00		
Net Back	300.00	10.00% 20.00%	30.00 60.00 (4.12)

QUANTITY

- Zambia imposes royalty on some measure of output
  - Concentrate
  - Mill input
  - Smelter output
- Zambia is selling copper in ore (Conrad's perspective)
  - Inconsistent effective rates
  - Need to use a consistent measure of quantity
  - (Use of other data – Ministry of Mines)

Royalty Result

1. Royalty administration becomes similar to excise tax administration.

2. Mine is a bonded warehouse and administration is now an issue of measuring quantity (as long as value is exogenous and transparently determined).

Profit Tax:
Tax the Return to Equity Capital

- Horizontal ring fencing in Zambia: Revenue maybe be different across mining operations based on degree of domestic vertical integration and the extent of ring fencing. (Can discuss issues related to ring fencing during general discussion)
- No reason to have same price for output in profits tax and royalty
  - Need to begin monitoring valuation and develop a system of deemed prices
  - Keep hedging separate
  - Monitor contracts
- Thin capitalization
- Incentives
- Administration and monitoring of inputs
- Need to look at the entire tax system
  - Many incentives
  - Administratively complex
  - Mining reform might lead to a better overall tax system, including VAT

Variable Rate Profits

- Based on South African Royalty
  - Somewhat complex and based on the ratio of a measure of profit to revenue
  - Effectively reduces to: .92P – AC > 0
  - If 92% of the price is greater than AC, then the tax is imposed (or if Price > 1.087 * Average Cost).
- The ratio is essentially meaningless in an economic sense:
  - No measure of real return to equity capital
  - No measure of profit (book profit can in fact be negative and the tax imposed)
  - Uncertain incentives
- Recommendation: If Zambia wants a variable rate system, then copy what is done in the mining industry and use price participation agreements:
  - If the price is below a threshold, then the royalty is 6%.
  - If the price is above a threshold, then the royalty increases to say 8% on the incremental value. (Example: Base price = 2,000, observed price is 2,500. Royalty is .06*2,000 + .08*500 = 120 + 40 = 160. (Similar to Alberta).
  - Similar in structure to the previous windfall tax. Need to be careful with terms. This is neither a tax on profit nor on any windfall. In effect, it is a type of risk-sharing scheme.

Contract Stabilization

- Used in past as part of privatization process
- Questionable now for existing operations
- If stabilization is used:
  - Fixed term
  - Not one-sided
  - Restricted to fiscal terms

Become an Active Shareholder

- No dividends paid from ZCCM to Government
- Government needs to audit and monitor its passive investments
- Government needs to ensure that minority shareholder rights are protected. That is:
  - Transfer pricing
  - Debt

  are not simply tax issues.

Summary

- Begin with some incremental steps
- Get experience
- Build momentum for reform that can stabilize the fiscal environment and provide a reasonable framework for investment

Thank You