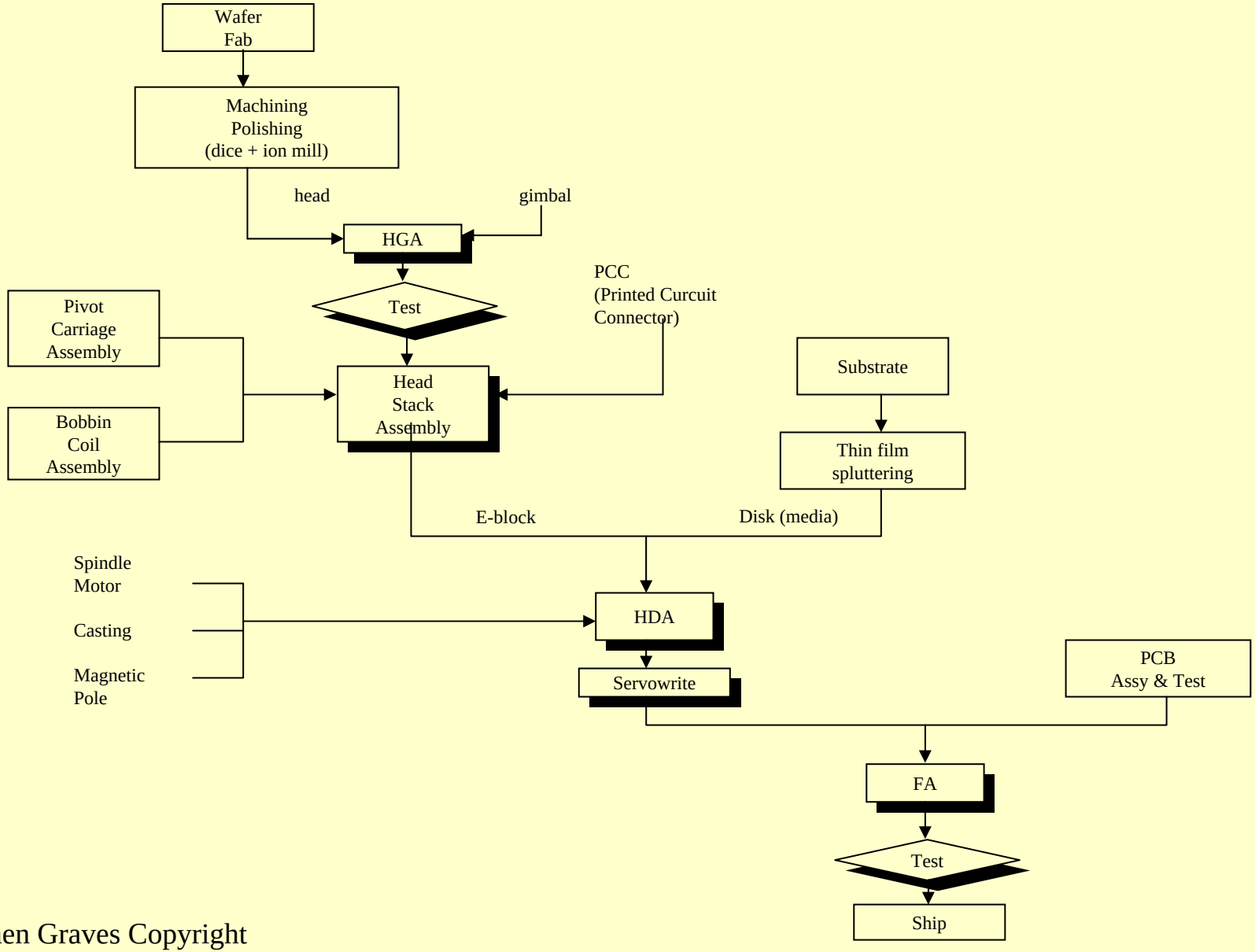
Seagate Technologies

- **Seagate's strategy and operations**
- **Seagate's risks**
- **Capacity planning**
- **Capital investment decision and hedging**
- **Wrap up**

Background: DD market

- **Technology driven**
- **Short product life cycles**
- **Dramatic cost reductions**
- **PC markets – cost and size**
- **Servers and work stations – speed and reliability**
- **Competitors – Quantum, Western Digital and OEM's**

Process Flow Diagram



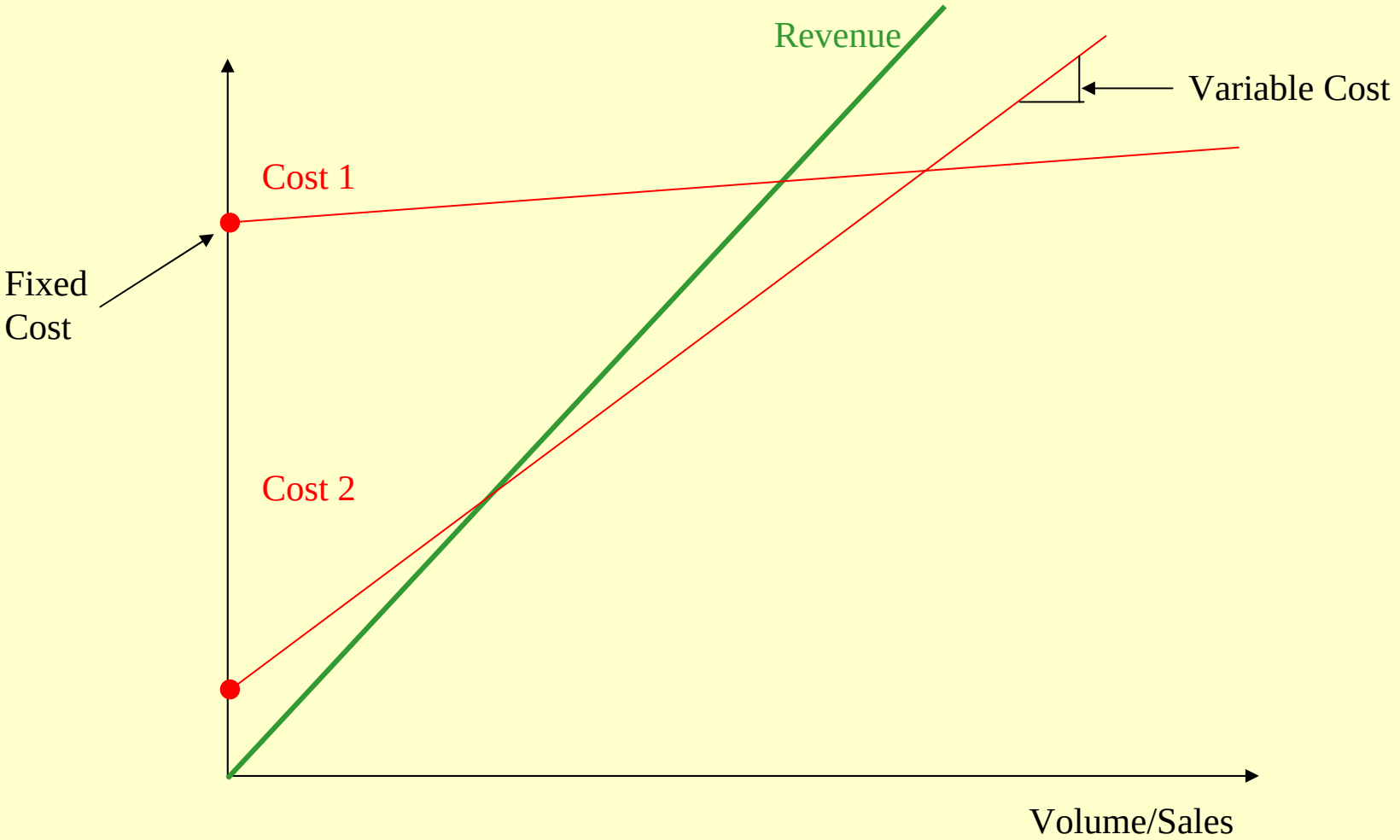
What is Seagate's competitive strategy?

- **Largest independent DD manufacturer**
- **Compete in all market segments, vertically integrated**
- **Innovation and performance – first to market**
- **Low cost – through high-volume production**

What is Seagate's competition?

- **Independents – Quantum, Western Digital**
  - Smaller, less integrated
- **OEM's**
  - Deep pockets, captive customers

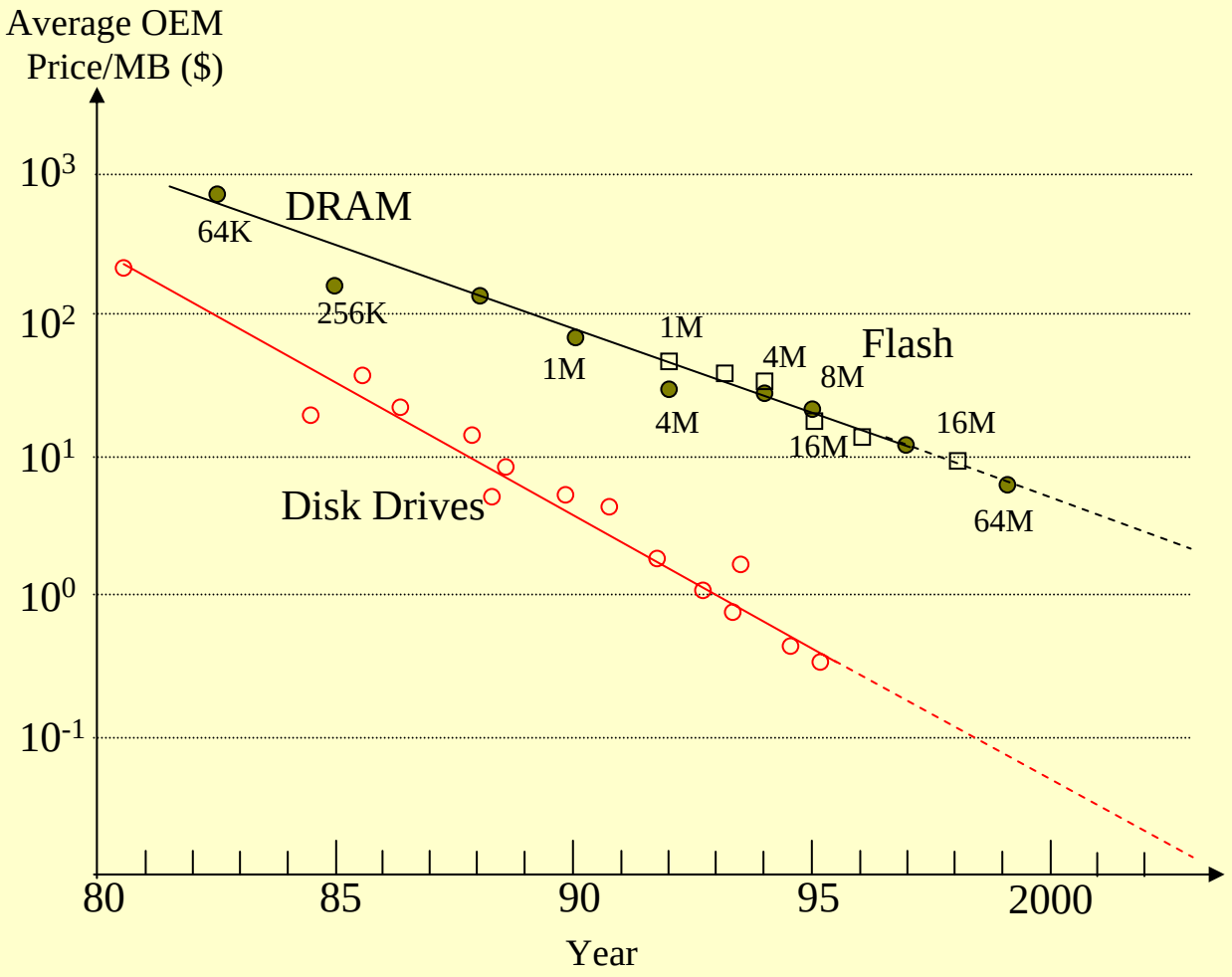
Vertical Integration vs. Leverage



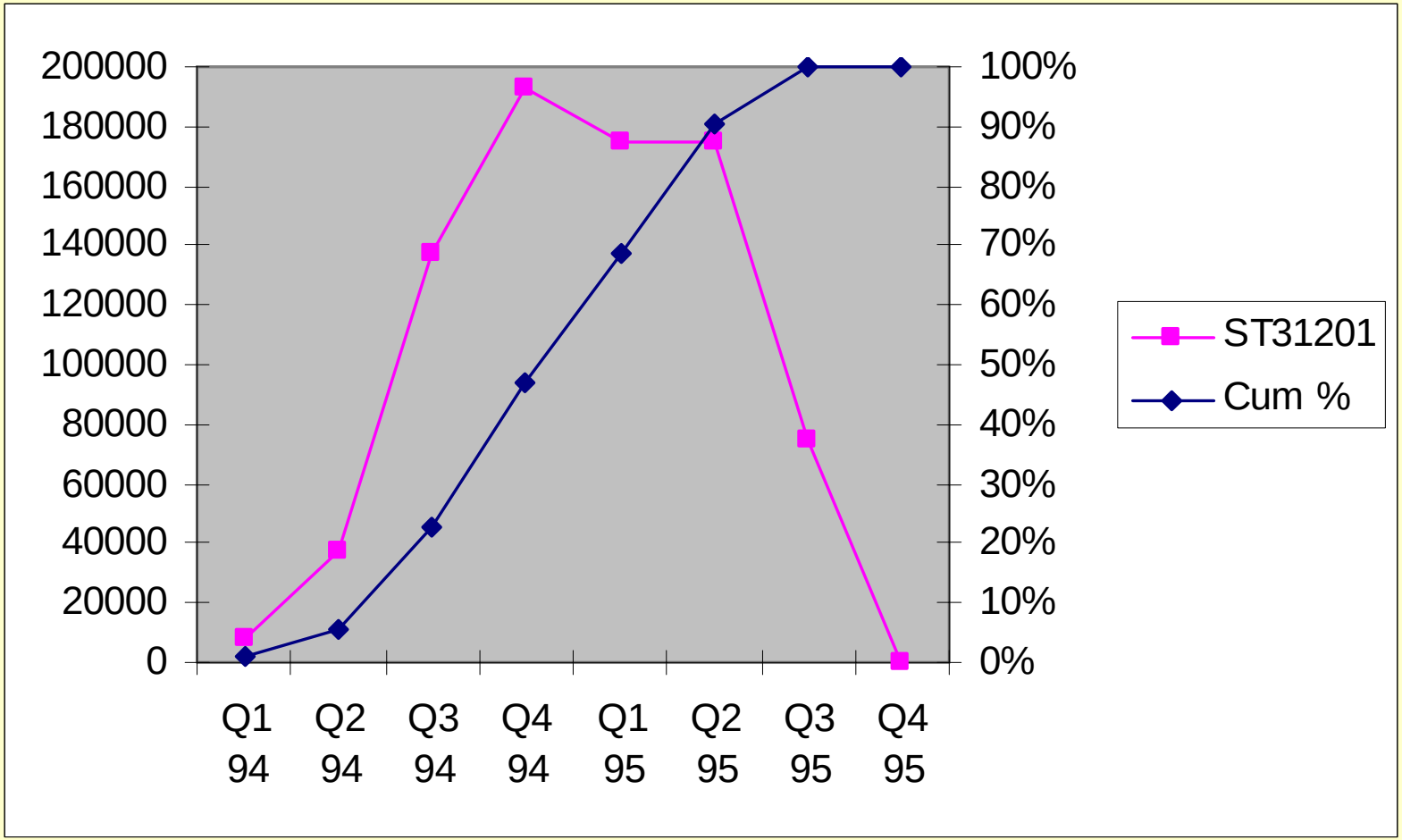
What are the major risks?

- **Demand uncertainty**
  - Volume, mix and timing
  - Depends on competition and technology
- **Foreign exchange uncertainty**
- **Production and supply uncertainties**
- **Pricing uncertainty due to oversupply**

Exhibit 3: Price Trends of Hard Drives versus Semiconductor Memory



Product Life Cycle is short (essentially 1 year)



Coordinated Capacity Planning

- **Demand plan set six months ahead of need, comes from Corporate**
- **MPS allocates production to plants**
- **CRP process – assures capacity is available**
- **MRP process – assures material is available**

Exhibit 5: Production & Capacity Planning

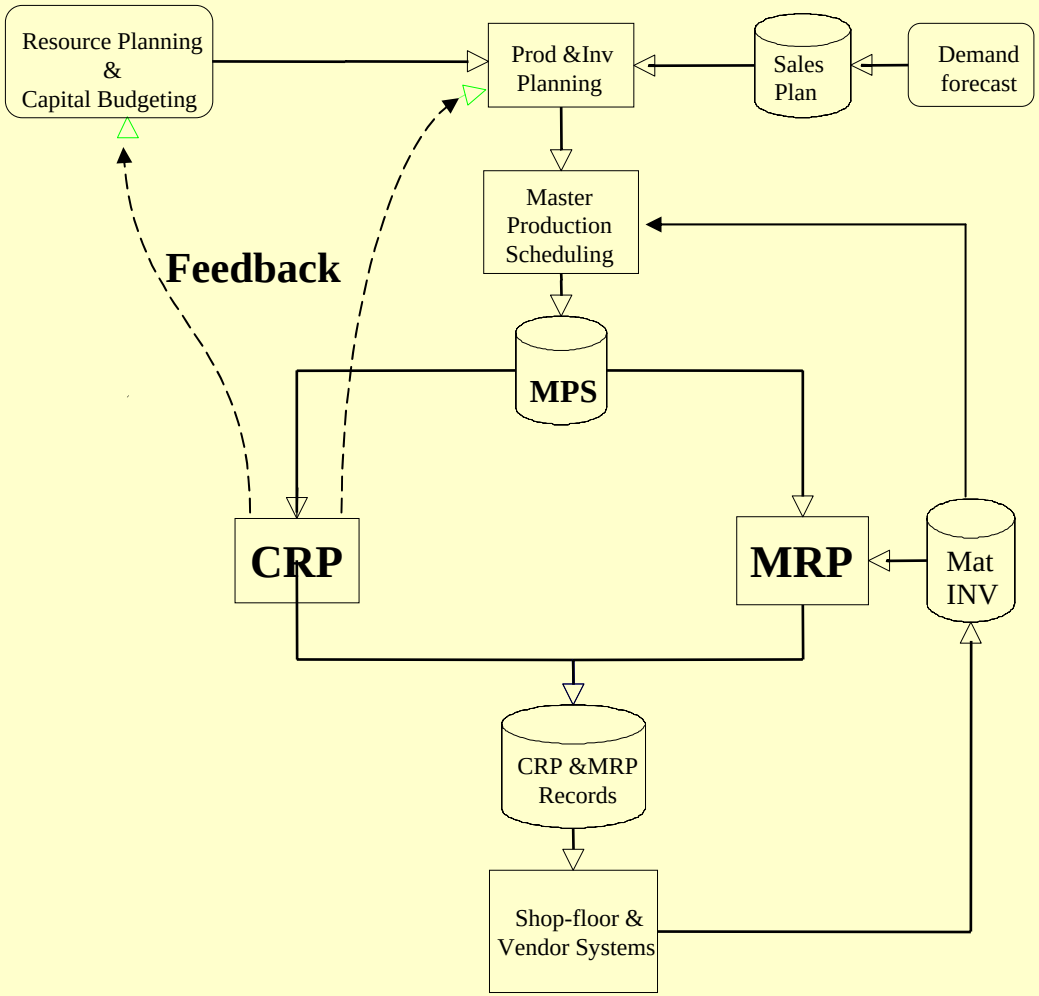
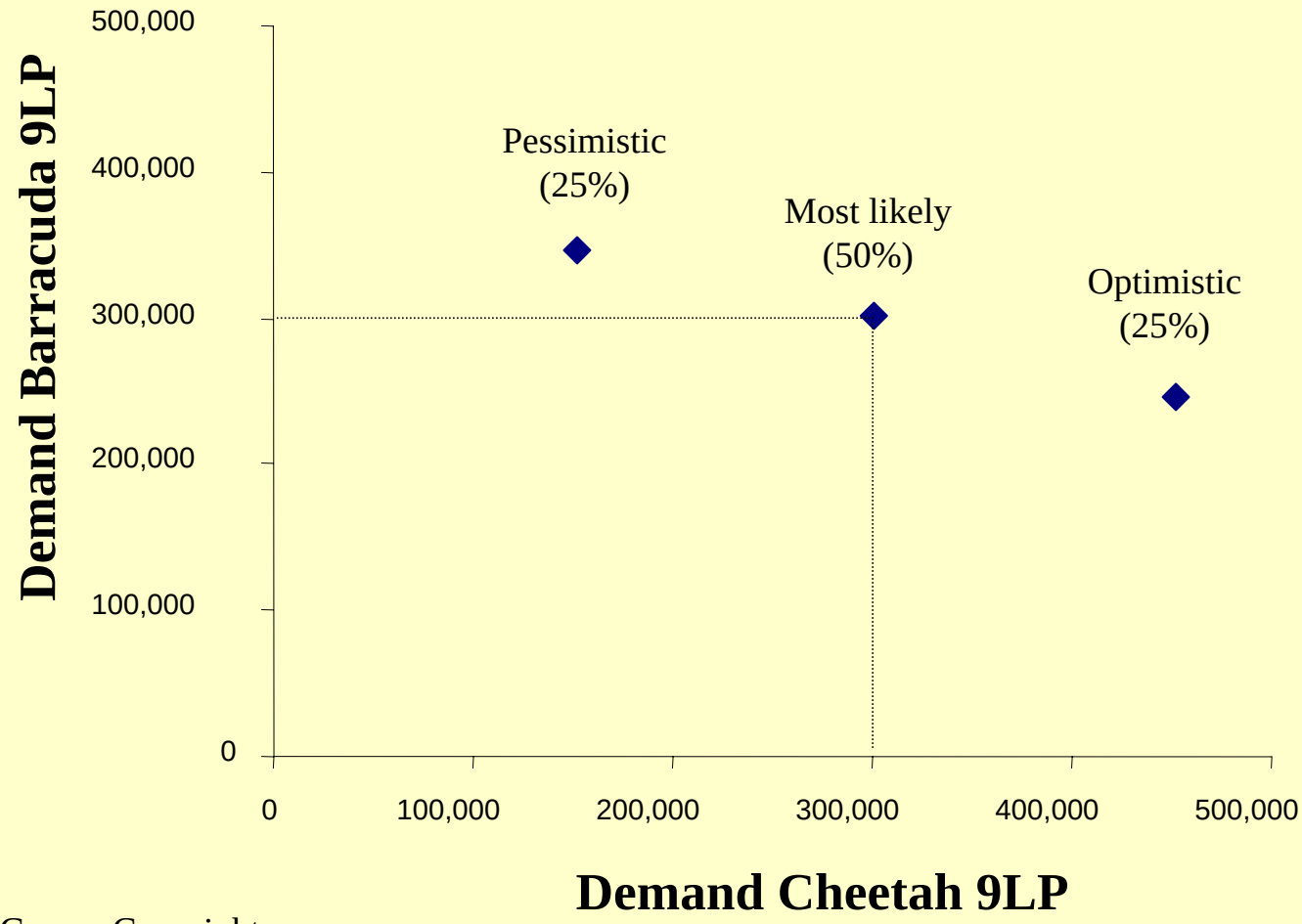
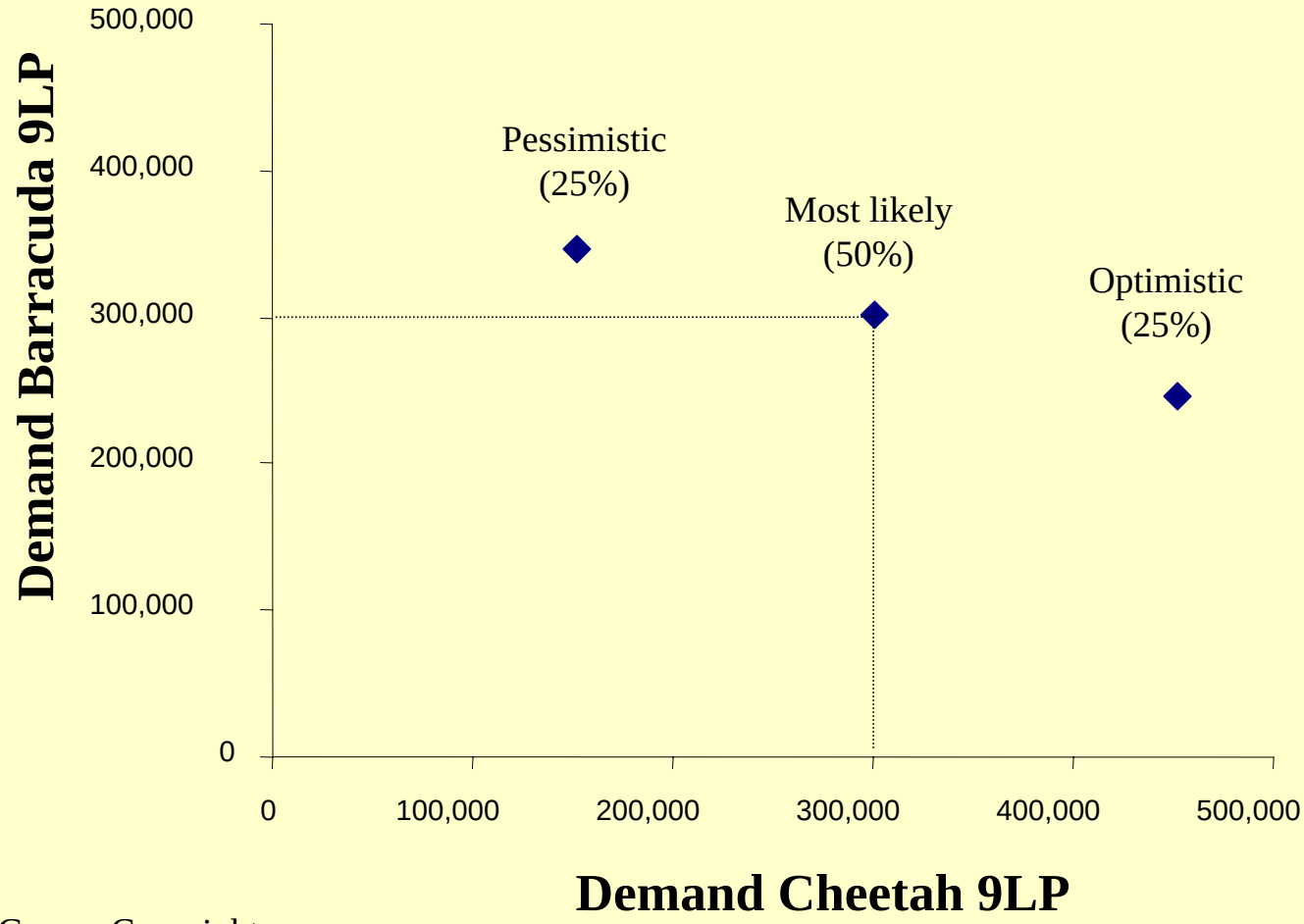


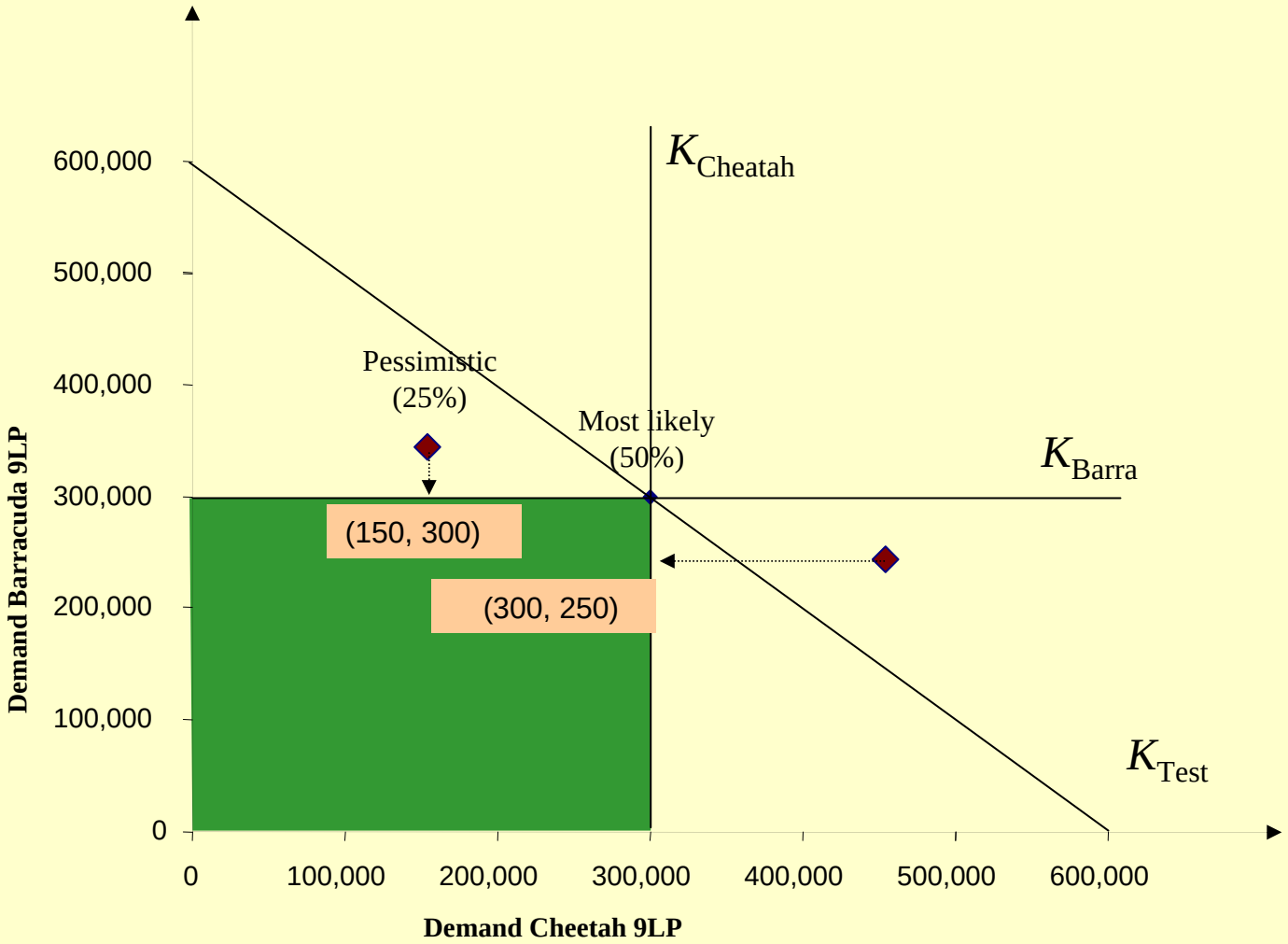
Exhibit 4: Demand Forecast



Realized demand for current capacity plan?



Current Capacity Plan



Evaluation

- **Criteria?**
  - Capital investment
  - Profit
  - Lost sales
  - ROI
- **Parameters**
  - Assume linear capital costs ($30, $20 and $80 per unit)
  - Assume profit margins of $400 and $300/unit
  - Assume cost of lost sales = ???

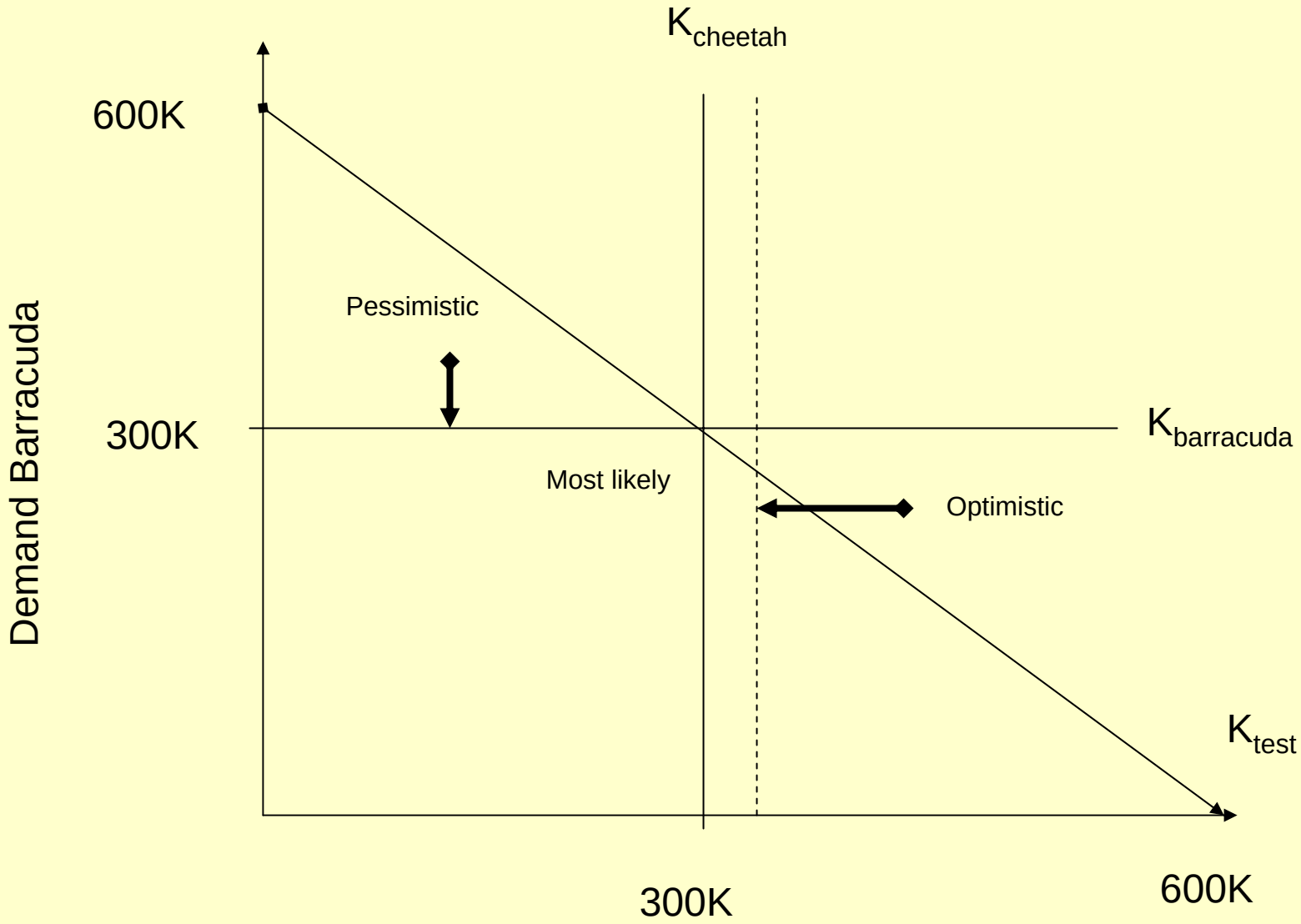
Base Case Analysis

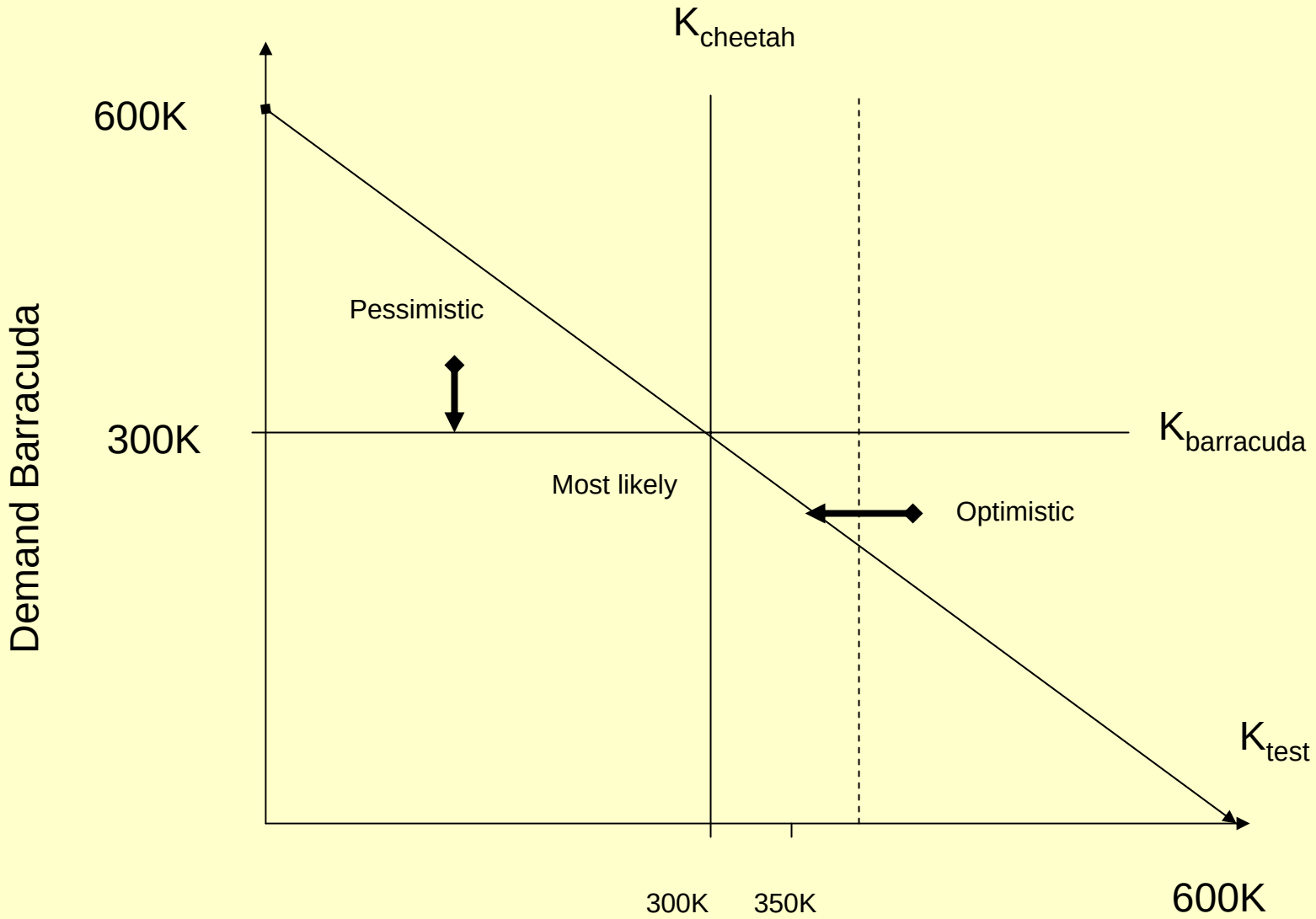
$$E[profit] = .25 \times (\$400 \times 150,000 + \$300 \times 300,000)$$
$$+.50 \times (\$400 \times 300,000 + \$300 \times 300,000)$$
$$+.25 \times (\$400 \times 300,000 + \$300 \times 250,000)$$
$$= \$191,250,000$$

$$Investment = \$9mm + \$6mm + \$48mm = \$63,000,000$$

$$FixedCost = \$40mm$$

$$E[Lostsales] = .25 \times (\$300 \times 50,000)$$
$$+.25 \times (\$400 \times 150,000) = \$18,750,000$$

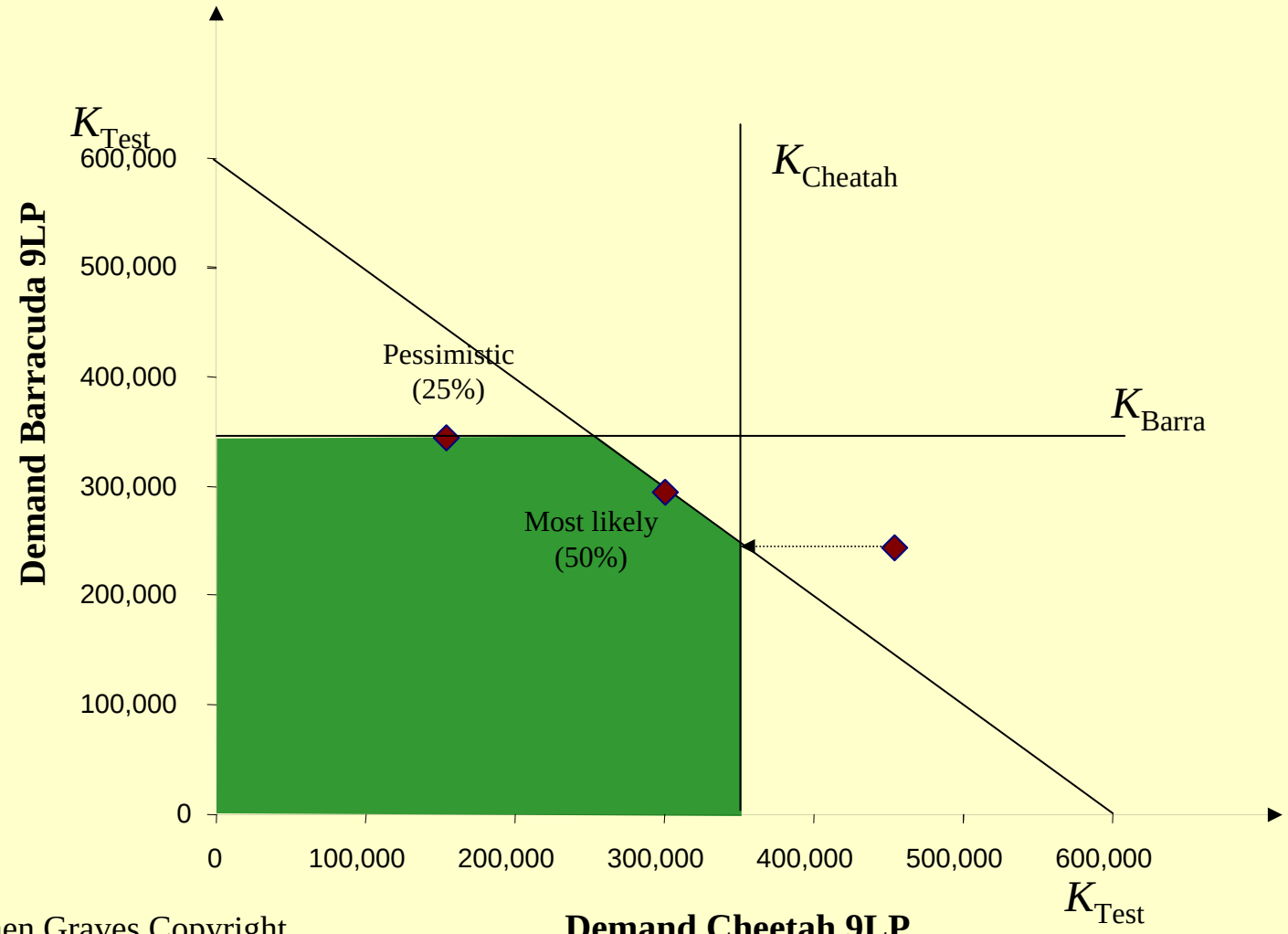




Evaluation of Alternatives

Cheetah Assembly	Barracuda Assembly	Test Capacity	Investment	E[Profit]	ROI
300	300	600	$63mm	$191mm	204%
450	350	700	$76.5mm	$210mm	175%
450	350	600	$68.5mm	$202.5mm	196%
350	350	600	$65.5mm	$200mm	205%

Hedging Capacity Plan



Learning points

- **Risk differences between leveraged versus vertically integrated business models**
- **Production and capacity planning in dynamic and uncertain environment**
- **Value of accounting for uncertainty in capacity planning**

Hedging: Increasing Cheetah Capacity