



**MEASURING AND  
MANAGING  
ECONOMIC  
EXPOSURE**

# FOREIGN EXCHANGE RISK AND ECONOMIC EXPOSURE



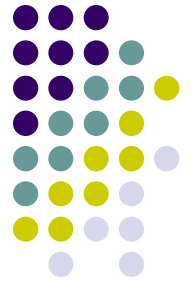
## I. FOREIGN EXCHANGE RISK

### A. Economic exposure

focuses on the impact of currency fluctuations on firm's value.

- 1 . Expectations about the fluctuation must be incorporated in all basic decisions of the firm.

# FOREIGN EXCHANGE RISK AND ECONOMIC EXPOSURE



## 2. Definitions:

### a. Accounting exposure

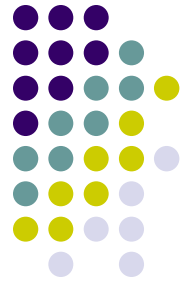
impact on firm's balance sheet

### b. Economic exposure

1.) Transaction

2.) Operating

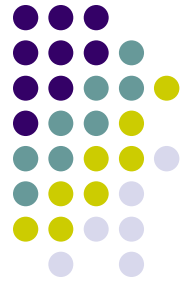
# FOREIGN EXCHANGE RISK AND ECONOMIC EXPOSURE



## B. Real Exchange Rates and Risk

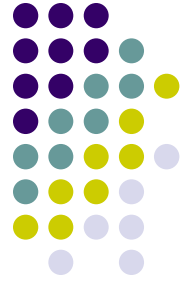
1. Nominative v. real exchange rates  
real rate has been adjusted for price changes.
2. Hobson's Choice:  
when faced with a change in real value, do you keep price constant (changing sales) or change prices (change profits)

# FOREIGN EXCHANGE RISK AND ECONOMIC EXPOSURE



## 3. SUMMARY

- a. the economic impact of a currency change depends on the offset by the difference in inflation rates or the real exchange rate.
- b. It is the relative price changes that ultimately determine a firm's long-run exposure.



## **PART II.**

# **THE ECONOMIC CONSEQUENCES OF EXCHANGE RATE CHANGES**

## **I. ECONOMIC CONSEQUENCES**

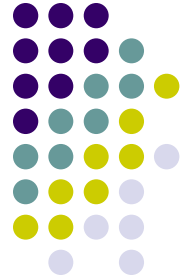
### **A. Transaction exposure**

- 1. On-balance sheet**
- 2. Off-balance sheet**

### **B. Operating Exposure : real rate change**

- 1. Pricing flexibility is key.**
- 2. Product differentiation**
- 3. Substitution of inputs**

# THE ECONOMIC CONSEQUENCES OF EXCHANGE RATE CHANGES

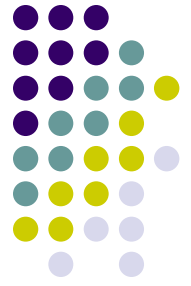


## II. SUMMARY

The sector of the economy in which the firm operates;  
the sources of the firm's inputs;  
and  
fluctuations in the real exchange rate delineate the firm's true economic exposure.

# PART III.

## IDENTIFYING ECONOMIC EXPOSURE



### I. CASE STUDIES OF ECONOMIC EXPOSURE

#### A. APEN SKIING COMPANY

1. Firm's exchange rate risk affected its sales revenues.
2. Although there was no translation risk, the global market with its exchange rate risk and competitors impacted market demand.



# IDENTIFYING ECONOMIC EXPOSURE



- B. PETROLEOS MEXICANOS (PEMEX)
  - 1. The firm's exchange rate risk affected cost but not revenues.
  - 2. Economic impact
    - a. Revenues: none
    - b. Costs: decreased
    - c. Net effect: increased US\$ flows

# IDENTIFYING ECONOMIC EXPOSURE

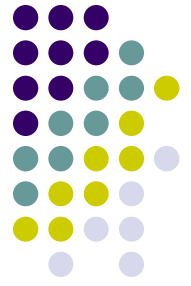


## C. TOYOTA MOTOR COMPANY

1. Exchange rate risk affected BOTH revenues and costs.
2. Flow back effect:  
previously exported goods return  
with increased domestic  
competition.
3. Lower profit margins domestically

# PART IV.

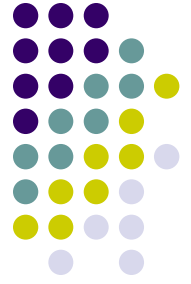
## CALCULATING ECONOMIC EXPOSURE



- I. A quantitative assessment of economic exposure depends on underlying assumptions concerning:
  - A. future cash flows;
  - B. sensitivity to exchange rate changes.

# PART V.

## AN OPERATING MEASURE OF EXCHANGE RISK



### I. NEED FOR A WORKABLE APPROACH

#### A. Regression Analysis

##### 1. Variables

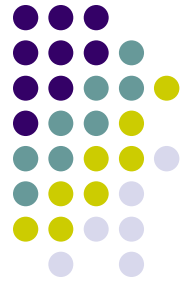
##### a. Independent

changes in parent's cash  
flows

##### b. Dependent

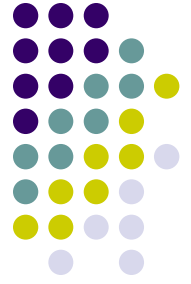
Average nominal exchange  
rate change

# AN OPERATING MEASURE OF EXCHANGE RISK



2. Output measures:
  - a. Beta coefficient  
measures the association of changes in cash flows to exchange rate changes.
  - b. the higher the percentage change of cash flow to changes in exchange rates, the greater the economic exposure (higher beta values).

# PART VI. MANAGING OPERATING EXPOSURE



## I. INTRODUCTION

Operating exposure management requires long-term operating adjustments.

## II. Marketing Management Adjustments

### A. Market Selection

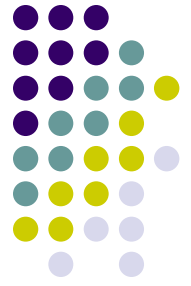
use advantage to carve out market share

# MANAGING OPERATING EXPOSURE



- B. Pricing strategy: Expectations critical
  1. If HC value falls, exporter gains competitive advantage by increasing unit profitability and market share.
  2. The higher price elasticity of demand, the more currency risk the firm faces by product substitution.

# MANAGING OPERATING EXPOSURE



3. Following HC depreciation, local firm may have much more freedom in its pricing.

## C. Product Strategy

exchange rate changes may alter

1. The timing of new product introductions,
2. Product deletion ,
3. Product innovation.



# MANAGING OPERATING EXPOSURE



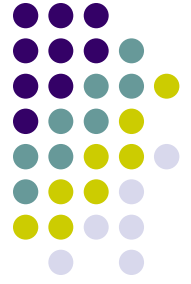
- III. Product Management Adjustments
  - A. Input mix
  - B. Shift production among plants
  - C. Plant location
  - D. Raising productivity

# MANAGING OPERATING EXPOSURE



- IV. Planning For Exchange-Rate Changes
  - A. With better planning and more competitive options, firms can change strategies substantially
  - B. before the impact of an currency change makes itself felt.
  - C. Implication: compaction of adjustment period following an exchange-rate change.

# MANAGING OPERATING EXPOSURE



- V. Financial Management of Exchange Rate Risk: Financial manager's Role in Marketing and Production
  - A. Provide local manager with forecasts of inflation and exchange-rate changes.
  - B. Identify and focus on competitive exposure.

# MANAGING OPERATING EXPOSURE



- C. Design the evaluation criteria so that operating managers neither rewarded or penalized for unexpected exchange-rate changes.
- D. Estimate and hedge the operating exposure after adjustments made.