Equity Analysis FN 451

Fundamental analysis:

-Role of an equity analyst

-Fundamental of assets valuation (defining cash flows, estimating a discount rate)

-Economic, industry and company analysis

-Financial forecasting

Valuation Technique:

- Dividend discount model

- Discounted cash flow model (DCF) & Residual Income Valuation (RIV)

- Market multiples

- Workshop: Equity research report writing and analyst presentation technique

- Banking sector analysis

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Economic, industry and company analysis

Course lecturer: Sirinattha Techasiriwan

Drivers for Equity Value

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A Firm's Goal: To Maximize Shareholders' Wealth

Value of the Firm

The shareholders' wealth is measured by share price

Market Factors/Considerations
- Economic Conditions
- Government Regulations and Rules
- Competitive Environment

Firm Factors/Considerations
Normal Operations, Financing Policy, Investing Policy, Dividend Policy

Investor Factors/Considerations
Income/Savings, Age/Lifestyle, Interest Rates, Risk Attitude

Net Cash Flows, CF

Required Rate of Return, k

To maximize value or shareholders:
-Value creating (ROIC, ROE)
-Growth

Value of the Firm

$$= \frac{\hat{CF}_1}{(1+k)^1} + \frac{\hat{CF}_2}{(1+k)^2} + \ldots + \frac{\hat{CF}_N}{(1+k)^N} = \sum_{t=1}^{N} \frac{\hat{CF}_t}{(1+k)^t}$$

Value Added to Shareholders:

Economic Value Added (EVA)

- **Economic Value Added (EVA)**, is an estimate of a firm's **economic profit** – being the value created in excess of the **required return of the company's investors** (being shareholders and debt holders).
- Economic value added (EVA) is an internal management performance measure that compares net operating profit to total cost of capital.

EVA = Net Operating Profit After Tax - Cost of Financing

EVA = NOPAT – Cost of Financing

EVA = [EBIT*(1 - tax rate)] - [Operating Capital * WACC]

Operating Capital = [Interest-Bearing Debt - Short-Term Investment]
+ Shareholders' equity

Value Added to Shareholders:

Market Value Added (MVA)

- **Market Value Added (MVA)** is the difference between the **current market value of a firm** and the **capital contributed by investors** (both bondholders and shareholders).

MVA = Market Value of the Firm – Book Value of Total Capital

MVA = MV – BV

Assuming that the market value of interest bearing debts equal to the book value:

MVA = Share Price – BV per Share

- If MVA is positive, the firm has added value. If it is negative, the firm has destroyed value.

Approach of Fundamental Analysis

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Two general approach of fundamental analysis

Top down approach: An analysis of the impacts of the economic environment on industries and securities of companies in the industries.

Bottom up approach: An analysis of industries and forecasts fundamentals for the companies in those industries in order to determine valuation.

The difference between the two approaches **is the perceived <u>importance of economic and industry influence</u> on individual firms and stocks.**

John Burr Williams (1900 – September 15, 1989), one of the first economists to view stock prices as determined by “intrinsic value”. He is recognized as a founder and developer of fundamental analysis. He is best known for his 1938 text "The Theory of Investment Value", based on his Ph.D. thesis at Harvard University.

Three-Step Top-Down Process

- Economic Analysis Process
- Industry Analysis Process
- Company Analysis

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Why Three Step Process?

- Studies found a relationship between **aggregate stock prices** and various economic series such as **GDP growth, money supply, interest rates, inflation, employment, and income (or production)**
- Studies have also found that **most changes in an individual firm's earnings can be attributed to changes in aggregate corporate earnings and changes in the firm's industry**
- An analysis of rates of return for showed that **most of the changes in rates of return for individual stock could be explained by changes in the rates of return for the aggregate stock market and the stock's industry**

Economic Analysis

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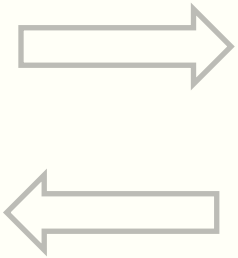
Economic Analysis: Business Cycle Fiscal policy and Monetary policy?

GDP = C+I+G+X-M

- **Government Fiscal Policy**
  - Taxes
  - Government spending
  - Debt management
- **Monetary Policy**
  - Money supply
  - Interest rates
  - Reserve requirements



Growth & Stability

- Economic Growth
- Full Employment
- Price Stability (control inflation)

- Inflation
- Currency exchange rates
- Consumer spending
- Business investments
- Foreign trade

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Economic Analysis: Business Cycle

- **A business cycle** is the fluctuations in economic activity that an economy experiences over a period of time.
- The economic cycle basically involves four periods: Expansion, Peak, Contraction, Trough
  - Continuation of current trend: Expansion, Contraction
  - Turning points in the business cycle: Peak, Trough

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Economic analysis process

-Identifying **business cycle**

-Expansion, Peak, Contraction, Trough

-**continuation of current trend** (expansion, contraction)

-**turning points in the business cycle** (peak, trough)

-Identifying **key drivers** for the economic growth (C+I+G+X-M)**.**

Industries can response differently to **business cycle**
Impacts on company: How do the **economic cycle**, **monetary policy** and **fiscal policy** affect the industry and the company?; Key economic indicators that impact business of the company. What are the impacts / outlook?

-How does the business cycle **relate to fiscal policy and monetary policy / money supply, interest rate, inflation and growth**?

Investment timing: Stock price normally leads economic cycles

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Cyclical Indicator approach to forecasting business cycles

- **Leading Indicators:**

  - Economic series that usually reach peaks or troughs before corresponding peaks or troughs in aggregate economy activity

    new orders, building permits, first time unemployment claims, **stock prices**

- **Coincident Indicators:**
  - Economic series that have peaks and troughs that roughly coincide with the peaks and troughs in the business cycle

    Non-farm payroll, industrial production

- **Lagging Indicators:**
  - Economic series that experience their peaks and troughs after those of the aggregate economy

    Inventory-to-sales, labor cost

Analytical measures of performance

- Diffusion Indexes
  - Trends
  - Rates of change
  - Direction of change
  - Comparison with previous cycles
- Rates of Change
  - **Normally, the rate of change values for a series reaches peaks or troughs prior to the peak or trough in the aggregate series**

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The environment in favor of equity securities price

The environment in favor of equity securities price:

Increased money supply

Low interest rates

Low inflation

Fast-growing economic growth (C + I + G + X – M)

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Money Supply

- Friedman and Schwartz (1963) showed:
  - **Declines** in the rate of growth of the money supply have preceded business **contraction**
  - **Increases** in the rate of growth of the money supply have preceded economic **expansions**

- Friedman (1969) suggested:
  - A transmission mechanism through which **changes in the growth rate of the money supply affect the aggregate economy**
  - A central bank plays the central role through the **open market operation**

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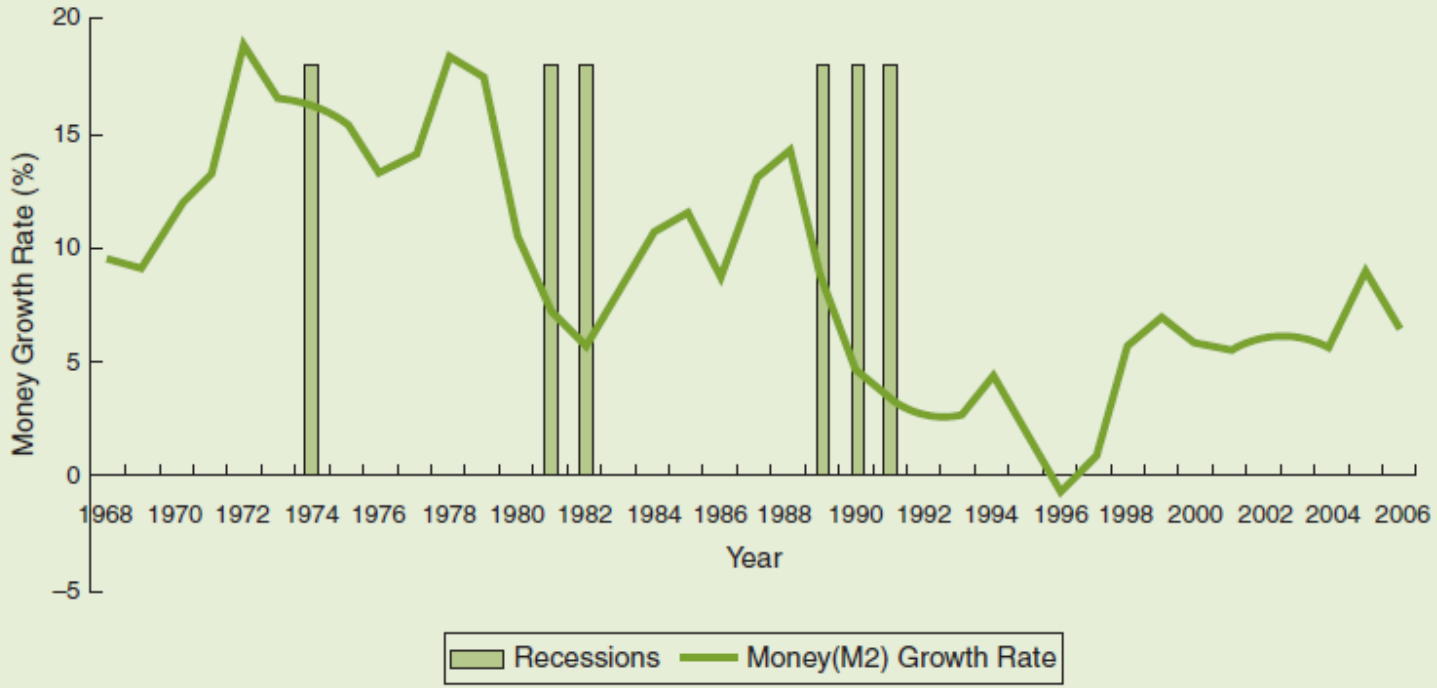
Empirical evidence: Money Supply

- History shows that **each recession in Canada since 1915 was preceded by a decline in the growth of money supply**

Money Growth and Business Cycles in Canada (1968–2007)



Source: Authors' graph based on IMF International Financial Statistics, and Statistics Canada data.

Case Study 1

- **Thailand Economic Analysis**
  - Monetary Policy Report

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Industry Analysis

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I. Industry grouping

Industry grouping is normally based on **principle business activity.**

Peer group is a set of companies in similar **business activities, demand drivers, cost structure drivers and availability of capital.**

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Cyclical or non-cyclical

Firms are classified by their **sensitivity to business cycles.**

Cyclical industries are highly dependent on the stage of the business cycle (performance is highly related to economic activity).

- These firms have high earnings volatility and **operating leverage**.

Non-cyclical industries produce goods and services for which demands are relatively stable. Non-cyclical industries can be grouped into **defensive (stable) or growth**.

Cyclical industries: energy, petrochemical, soft commodities, materials, technology and consumer discretionary.

Defensive industries: utilities, healthcare, consumer staples

Growth industries: e-commerce, biotechnology, environmental consulting *(according to IBISWorld)*

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Capital intensive industry

Capital intensive industries have **high barrier of entry**, as it will be costly to enter or exit.

- Overcapacity can result in intense price competition.

- Capacity: Producers may overshoot the optimal industry capacity, especially in cyclical market.

- Producers may start to expand capacity during an economic expansion. By the time they bring the additional production on the market, the economy may enter a recession.

Differentiated or commodity-like

Industries with products are undifferentiated and commodity-like,

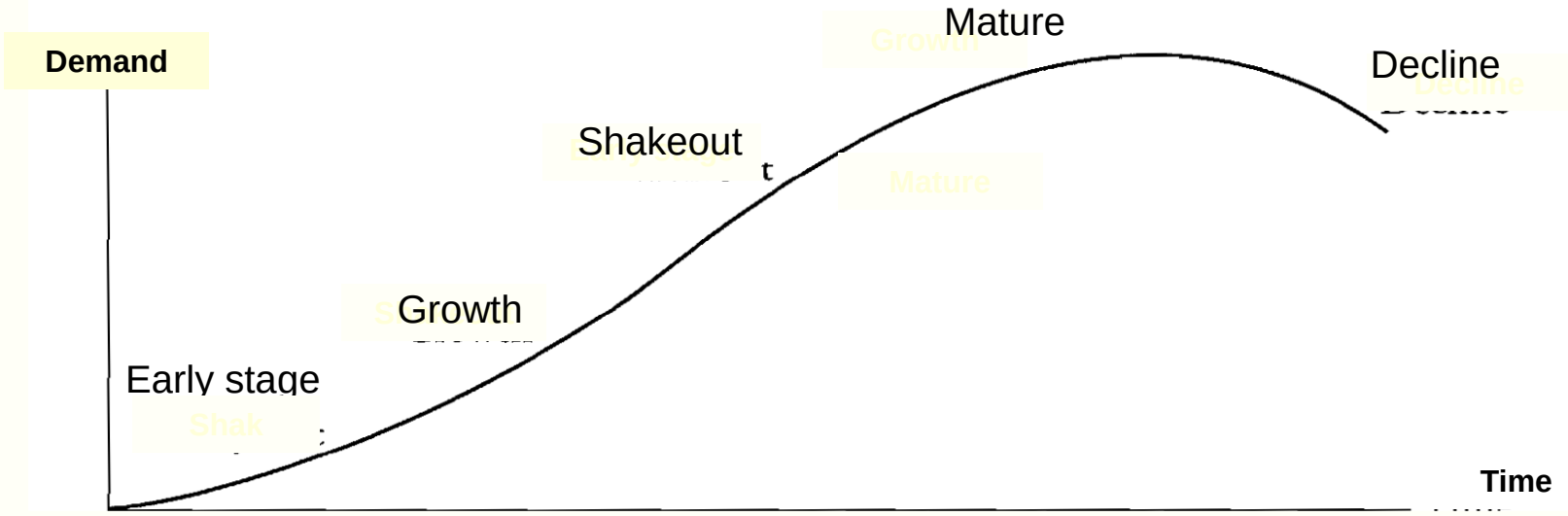
- consumers are price sensitive and will switch to the **lowest-priced producer**.
- The more consumer price sensitive, the greater the competition in the industry.

Industries with greater product differentiation,

- reliability and after-sale-services will have greater pricing ability.

Although **industry concentration** does not guarantee pricing power, a **fragmented market** usually results in strong price competition.

II. How does growth looks like?
The Five Phase of the Industry life cycle



Early stage: Slow growth, Customers are unfamiliar with the product, Large investment for R&D and to develop awareness, High price as the volume necessary for economies of scale has not been reached, High risk of failure.

Growth: Rapid growth, Lots of new firms coming into the market, but the rapid demand growth allows firms to grow without competing on price, Prices falling as economy of scales are reached and distribution channel increased, Increasing profitability due to economy of scale.

Shakeout: Demand reaches saturation level, Growth and profitability are slowing due to strong competition., Increasing overcapacity, Increased cost cutting, Increased failures

Mature: Market is saturated and demand is only for replacing, Market evolves to an oligopoly, Firms try to avoid price war, High barriers to entry as surviving firms have brand loyalty and low cost structures, Superior firms gain market share.

Decline: Industry growth turns negative due to development of substitute products, societal change, or global competition, Declining prices due to competition and overcapacity, Consolidation.

Industry life cycle: characteristics and business strategies

- An industry stage in the cycle has impacts on industry characteristics: **growth, competitive structure, cost and profit.**

- An industry stage in the cycle affects business strategies: **pricing, marketing, cost cutting and R&D**

- **An industry's stage will change over time.**

Analysis of business strategy and Dividend Policy

Growth firms should reinvest their profit for internal growth. Growth firms should focus on **increasing product offerings, increasing economy of scale and building brand loyalty**.

Mature firms should pay out cash to investors as dividends or stock repurchase because cash flows are strong but internal growth is limited. Mature firms should focus on **cost efficiency** because demand is largely from replacement.

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III. Analysis of Industry Competition: Porter's the five competitive forces

- The five forces analyze the **micro environments** that affect attractiveness of the industry.
- It provide a framework to analyze **competitive intensity** of the industry and **attractiveness of or overall industry profitability**
- Potential profitability of firm is heavily influenced by profitability of its industry
- **To create a profitable competitive strategy**, firm must first examine **basic competitive structure** of its industry

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Analysis of Industry Competition: Porter's the five competitive forces

Porter's Competitive Forces that shape strategy

- **Rivalry among existing competitors**
  - More rivalry means intense competition
- **Threat of new entrants**
  - Are there barriers to entry?
- **Threat of substitute products**
  - Substitute products limit the profit potential of an industry
- **Bargaining power of buyers**
  - Volume discounts, quality demands
- **Bargaining power of suppliers**
  - Can suppliers increase prices or reduce quality?

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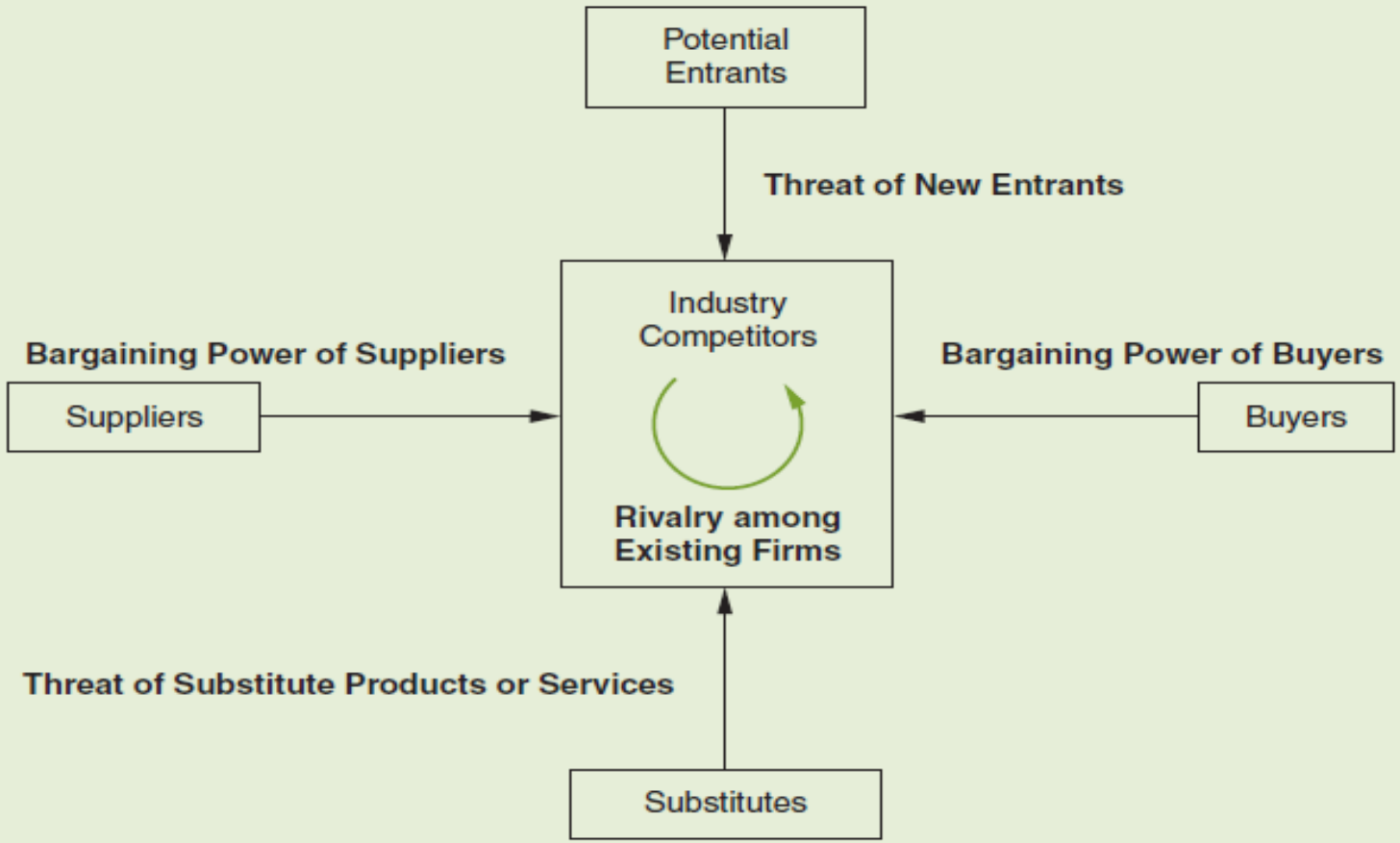
Analysis of Industry Competition

Forces Driving Industry Competition



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Summary of the Industry analysis process

Industry characteristic

- Whether the industry is differentiated or commodity-like, cyclical or non-cyclical, capital intensive or non-capital intensive
- What is the industry life cycle? How does growth looks like? Any seasonality?
- (if applicable) Regulatory, tax condition, labor condition, importance of R&D and technological developments

Competitive positioning

- Market positioning/ranking of competitors compared to the company
- Risks: Venerability to external shock, threats of new entrants / substitute products

Rotation Strategy: The Business Cycle & Industry Sectors

- Industries can response differently to business
- **Rotation strategy** is when one switches from one industry group to another over the course of a business cycle

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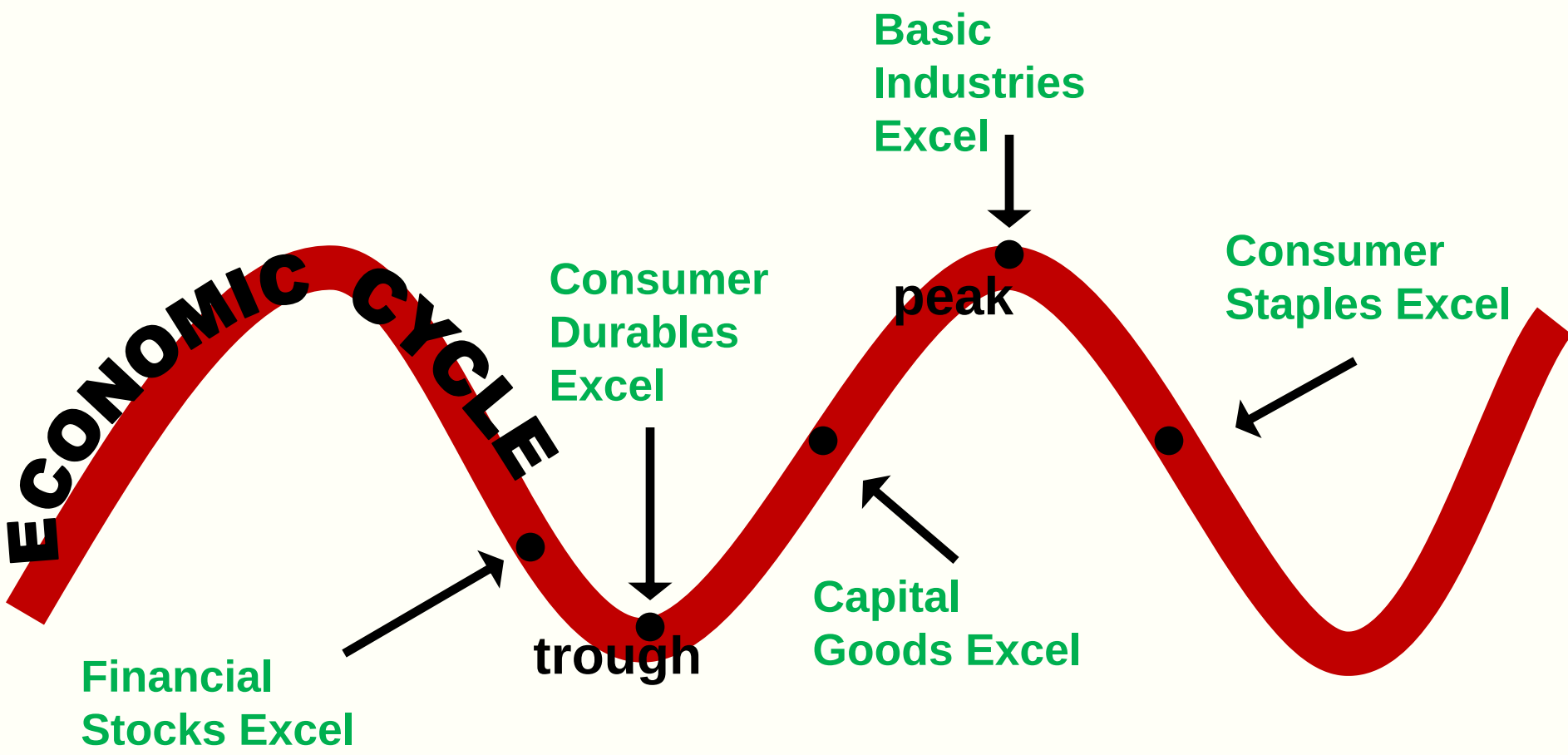
Empirical evidence: Rotation strategy and the Business Cycle



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Rotation strategy and the Business Cycle

	Definitions	Examples
Capital goods	Any tangible assets that an enterprise uses to produce goods	factory, machinary, equipment
Basic industries	An industry that produces materials that are supplied to other industries	arqriculture, fishing, mining, petroleum
Consumer goods	Products directly purchased by consumers for personal or household use	
Consumer staples	Products that are essential for personal or household use	food, beverages, household items, clothing
Consumer durables	Consumer goods, which have long life span (usually more than 3 years)	cars, home appliances (household goods), consumer electronics, sport equipments