



**UNIVERSITY OF CALGARY**  
HASKAYNE SCHOOL OF BUSINESS

# Investments & Portfolio Management

## Macro and Industry Analysis

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'Fundamental analysis' consists in analyzing the fundamentals of a firm in order to predict its future financial performance, notably for equity valuation or assessment of its credit risk. Doing so allows the analyst to develop, rationally and independently, an opinion about the future that might differ from the consensus of other analysts or what is aggregated by the market. It is most of the time the key building block or feedstock of an active investment management style.

By tradition, fundamental analysis focuses a lot on firm-specific information like financial statement analysis and building forecast models. However, this is somewhat short sighted as any detailed analysis of a given firm has to be anchored in an analysis of the industry (or industries) the firm participates in, which in turn has to account for a macro-economic analysis.

- Said otherwise, the prospects of a firm are heavily influenced by how well the industry (or industries) the firm participates in is (are) expected to perform, itself heavily influenced by how well the overall global economy is expected to grow.

The world-wide economy is known as the 'global economy'. As globalization took hold in the post WW2 era, the trade in commodities, products and services intensified to the point that many firms and supply-chains are now 'global'. So, the financial prospects of these firms with a world-wide brand name and footprint, as well as any firm involved in a global supply-chain, are dependent on the health and growth rate of the global economy as a whole.

In parallel to globalization, regionalization also did occur, as a result of the North America free-trade agreement or the European Union, and growth in Asia. As such regions became increasingly economically integrated, many domestic industries and firms then became regional.

The domestic (or local) economy still exists and many firms are active only within one country.

So, the analyst has to investigate the extent to which a an industry and a given firm are global, regional or local, and then evaluate the different dynamics and trends at each economic level and how these interact to influence the prospects of the said industry and firm.

**Gross domestic product** (GDP - A measure of total production of goods and services)

- The health of an economy is often proxied by the expected growth rate of its GDP.

**Employment:** The participation rate or the unemployment rate indicates the extent to which the economy is operating at full capacity.

**Inflation:** Increasing inflation can indicate an 'overheated' economy (i.e. the growth rate is unsustainable) and vice-versa.

**Interest rates:** an increase in real interest rates decrease investment level in productive assets as well as houses and durables like cars.

**Budget surplus or (more likely) deficit:** If the expenditures of the public sector are higher than its revenues, it stimulates the economy but such borrowings might increase interest rates.

**Sentiment:** The balance between optimism and pessimism toward the future by firms, investors and households, aka 'sentiment', influence how much consumption and investment will be pursued and therefore economic growth (see market sentiment).

## Demand shocks

- Events that affects demand for goods and services in the economy.
- Positive: reduction in tax rates, increase of the money supply, increase of public sector spending, increase in exports.
- Negative: vice-versa of a positive shock, pandemic, financial crisis.

## Supply shocks

- Events that influences production capacity or production costs.
- Negative: increased price of oil, 'acts of god' like floods, pandemic.
- Positive: new supply of raw materials, new technology that lowers cost of production.

## Investment guidance

- Shocks to the economy are by nature obviously difficult to predict.
- This said, the analyst shall review the extent to which an industry or a firm is exposed to such shocks and its ability to weather them (e.g. the financial crisis of 2008-2009 revealed that banks are riskier than previously thought, leading to lower ROE and lower valuations).

## Fiscal policy

- The combined spending and tax actions of the public sector, the most immediate and direct impact on the economy (but slow policy formulation through the political process).

## Monetary policy

- Management of the money supply, and therefore short term interest rates, by the central bank (but too much money supply expansion can lead to higher inflation).
- Assumed to influence the economy, but in slow and uncertain ways.

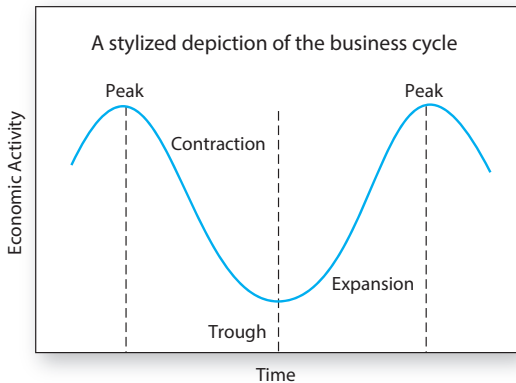
## Supply-side policies

- Do not deter but encourage work and investment to increase the productive capacity of the economy (e.g. reduce the distortion effects of taxes).

## Investment guidance

- The above policies altogether can influence returns through three channels: i) by affecting the cash flows of firms (an indirect effect on securities prices), ii) by affecting the valuation multiples (a direct effect), iii) lower or higher taxes directly change the after-tax returns.

The business cycle refers the recurring pattern between periods of expansion and contraction of variation in GDP growth around a secular trend.



A peak is the transition from the end of an expansion to the start of a contraction.

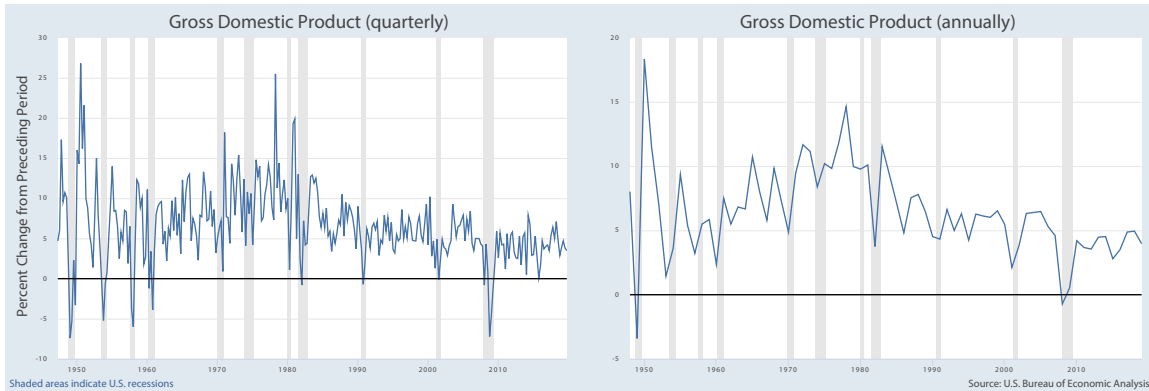
A trough is the transition from the end of a contraction to the start of an expansion.

Recessions are generally defined as two consecutive quarters of negative economic growth.

Cyclical industries are those with above-average sensitivity to the state of the economy (e.g. capital goods, consumers durables, likely to have high betas).

Defensive industries have little sensitivity to the business cycle (e.g. food processors, utilities, likely to have low betas).

In practice, when only using GDP data, peaks and troughs are not easy to detect in real time and even more difficult to anticipate.





Leading indicators (tend to rise and fall in advance of the economy)

- Stock market price index, average weekly hours of production workers, etc.
- By the time the leading indicators predict an upturn, the stock market has likely already moved up.

Coincident indicators (tend to rise and fall in tandem with economy)

- Industrial production, personal income less transfer payments, etc.
- Somewhat useful to confirm where is the state of the economy.

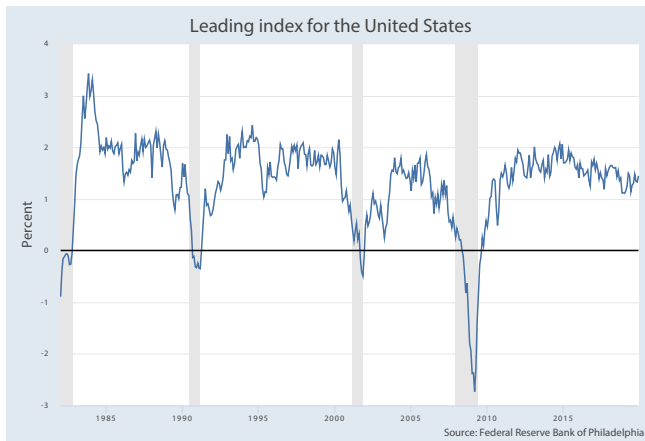
Lagging indicators (tend to rise and fall subsequently to the economy)

- Average duration of unemployment, change in index of labour cost per unit of output, etc.
- Somewhat useful to confirm where was the state of the economy.

Investment guidance

- For all these economic indicators, financial markets have expectations and, again, only news, i.e. the difference between the expected level and the actual level when announced, will move market prices.

A leading index can be useful rather than relying only on the GDP level, but might nevertheless lead to some false positives (i.e. erroneously predicting an economic slowdown or predicting 'too early').



## Sensitivity of revenues

- Necessities versus discretionary goods.
- Items that are not sensitive to income (e.g. tobacco and food) versus items that are (e.g. jewellery and cars)

## Operating leverage

- Firms with low operating leverage (the split between fixed and variable costs, i.e. having less fixed assets often leads to less fixed costs but more variable costs) are less sensitive to business conditions than firms with high operating leverage (more fixed assets).

$$\text{Degree of operating leverage} = \frac{\% \text{ change in profits}}{\% \text{ change in sales}} = 1 + \frac{\text{Fixed costs}}{\text{Profits}}$$

## Financial leverage

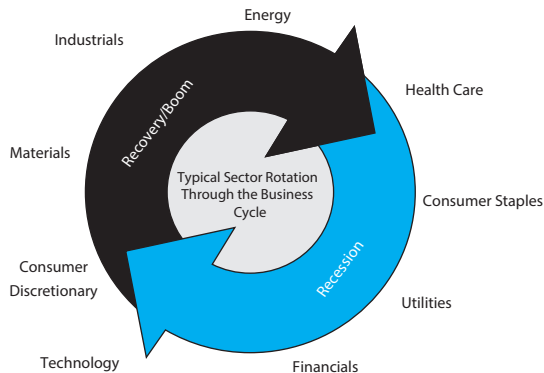
- Interest payments is a fixed cost increasing the sensitivity of profits to the business cycle.

Obviously, a chain of jewelry retail shops is likely to be much more sensitive to the business cycle than a grocer (as people need to eat, but can choose to wear 'old jewels').

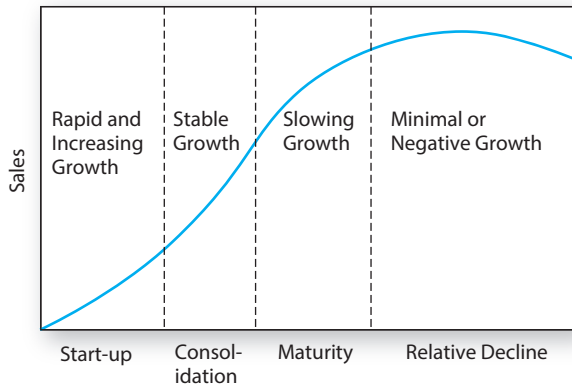


Industry cyclicality: Growth of sales, year over year, in two industries  
(sales of jewelry show much greater variation than sales of groceries)

Over or under weight industries in the portfolio according to a forecast of the macro economy and which industries are expected to over or under perform accordingly.



Industries (like firms) are deemed to go through a 'life-cycle' as pictured below. The risk-return tradeoff is likely to be influenced accordingly. However, on a risk-adjusted basis returns might be similar at different life-cycle stages, unless a bias intervenes (value versus growth?).



## Threat of entry

- New entrants to an industry put pressure on price and profits.

## Rivalry between existing competitors

- The closer to perfect competition, the less profitable the industry.

## Pressure from substitute products

- The availability of substitutes limits the prices than can be charged to consumers.

## Bargaining power of buyers

- If one or a few buyers purchases a large fraction of an industry's output it limits the prices than can be charged.

## Bargaining power of suppliers

- If one or a few suppliers have monopolistic control over the product or a key input, it will result in higher prices and might even squeeze profits out of the industry.

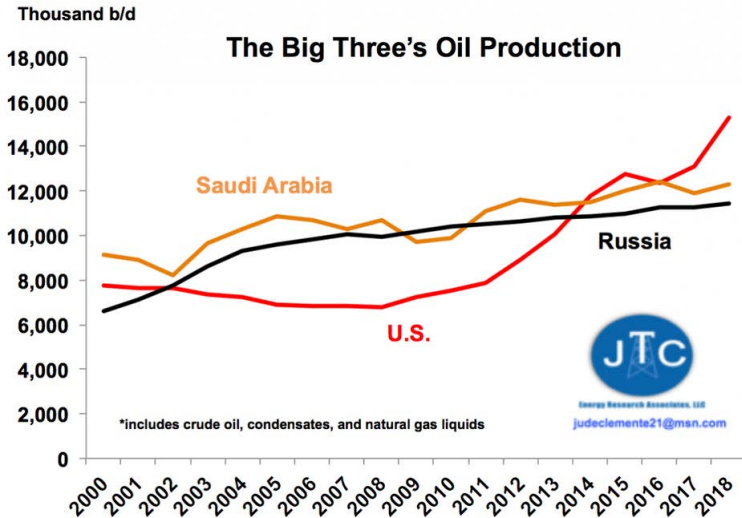
The key determinant of crude oil prices is how well OPEC is managing its production to ensure crude prices much higher than average cost of production.

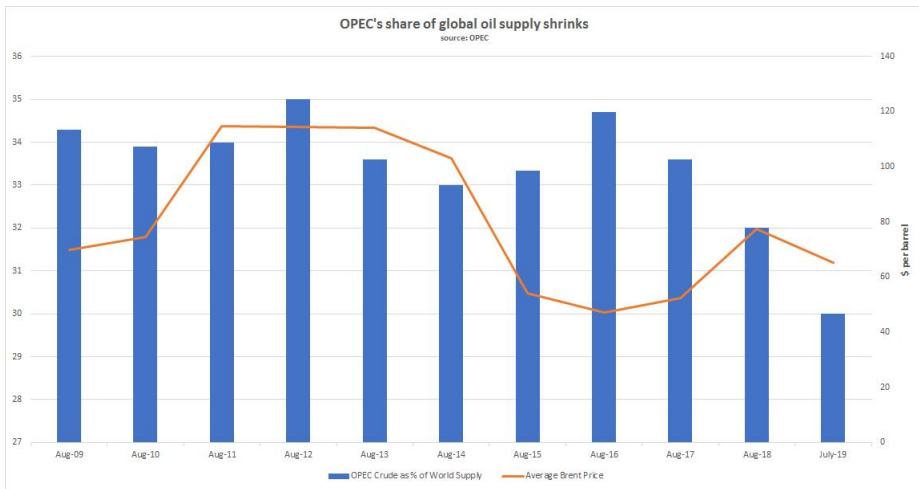
- But non-OPEC producers and substitutes (e.g. wind and solar) benefit from high price of energy, leading them to increase their production of energy;
- In turn, this dilutes the market share of OPEC and therefore its ability to influence prices via adjustment to its own production levels;
- It led OPEC to reach to Russia (i.e. OPEC+) to increase influence over production levels;
- But having to increase of the membership of a cartel is an indication of its lack of stability;
- A large demand shock (a pandemic) led the cartel to be less than fully operational.

Investment guidance

- In analyzing the oil industry, the assumption that OPEC can ensure crude prices much higher than average cost of production might no longer be warranted.



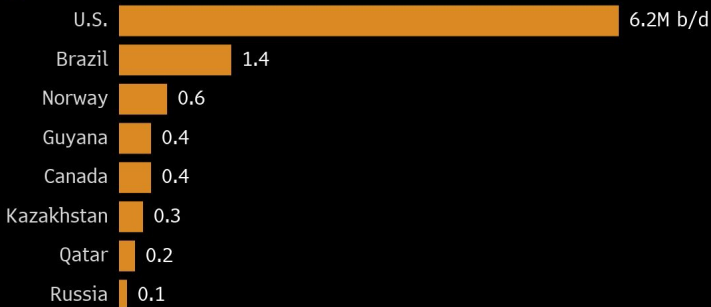




## Unrelenting Output

U.S. to add over 6 million barrels a day of oil in next five years

■ Non-OPEC Liquids Supply Growth 2018 - 2024



Source: OPEC

**Bloomberg**

Learning Objectives covered

- L01 to L06

Concept checks

- Concept checks 1 to 5 (solutions provided at the end of the chapter).

Exercises

- Suggest having a look at some of the questions at the end of the chapter.
- Normally you should have learned the answers to most of these questions in your economic courses.