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*A Toolkit for
Analyzing Current
Economic Events*

NJC Version

Lausanne

Switzerland

Prof. Dr. Panayotis Zamaros

A Toolkit for Analyzing Current Economic Events

NJC Version

*Economics Lectures, Tools and Activities for the Ontario Curriculum Course CIA4U,
Grade 12 University Preparation*

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NEUCHÂTEL
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Minds on the Move

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Preface

Considering that the study of economics has been typified in a way that has often little bearing with reality because in modeling the social it has idealized it, this book is an effort to consider that such ideals are tools that can be used for analyzing and describing economic events.

But as it will become easily apparent, some of these tools will be found to be more useful than others and also that some can describe economic events more effectively than others. This book, therefore, seeks to map out the limits of economics as a science.

Audience-wise, this book has been designed and written for business school students, especially those studying at University IFM, Geneva-Switzerland, who need precisely such a toolkit for understanding a business world of global dimensions and which they will be professionally engaged in.

To suit the needs of students at Neuchatel Junior College, Neuchatel-Switzerland for extended university preparation in accordance with the content and requirements of the Grade 12 Ontario Curriculum Course *Analyzing Current Economic Issues* CIA4U, a version of this book was prepared as *NJC Version*.

This was made possible with the invaluable input of Andrew Dawson who reviewed the microeconomics sessions and especially that of Jackie Rind's who courageously reviewed all the parts of the book. I here want to thank them both for their precious contribution.

About the author

Professor Panayotis Zamaros is an experienced educational administrator and business consultant, professionally involved with various aspects of business organization that include strategy, people management, production, marketing, quality, accreditation, venture creation and diverse legal issues. He is also an experienced educator, having taught business and social science courses to both undergraduate and postgraduate students at business schools and hospitality management schools of the Lake Geneva region in Switzerland. Additionally, he has supervised business and economics doctoral work.

Professor Zamaros holds B.Sc. Honors in Social Sciences (economics, politics-international relations, and sociology) and an M.A. in Education (management and leadership) from The Open University, UK. He has earned a Ph.D. from Fairfax University (organizational behavior and management and multidisciplinary philosophy) and received Professorship from the European Carolus Magnus University, Belgium, when appointed Doctoral Studies Supervisor. Having published two books, he has written numerous reviews, course notes, workbooks, and online lectures – the latter can be found at his web site www.zamaros.net.

Currently, Professor Zamaros is Executive Co-director of the Society for the Study of Difference which is hosted with The Difference Site – www.difference.org. He lectures in business administration at the University IFM in Geneva, with a specialization in consumer and organizational behavior, in addition to economics, business and international law. At Neuchatel Junior College in Neuchatel he teaches philosophy and economics, and on occasions international business and law, and has acted as Internal Evaluation Coordinator for an accreditation with the Canadian Educational Standards Institute (CESI).

UNIT 1

THE SCIENCE OF ECONOMICS

Sessions:

1. Economics
 2. Modeling
- Sub-task 0: Tables and diagrams

Tools:

- TOOL 1: Understanding Consumers and Producers
TOOL 2: Describing Relationships between Economic Actors

SESSION 1: Economics

Aims

The aim of this session is to

- Explore the economic problem.
- Approach consumption and production
- Look at economics as a science

Expectations

At the end of this session the student will

AA1	K	identify specific examples of economic choices – both individual (e.g., for whom to work) and collective (e.g., what level of government spending is needed or appropriate) that Canadians must make because economic resources are scarce;
BA1	K	identify the major stakeholder groups in the Canadian economy (e.g., consumers, contributors, socio-economic groups, citizens);
AA1	K	identify specific examples of economic choices – both individual (e.g., for whom to work) and collective (e.g., what level of government spending is needed or appropriate) that Canadians must make because economic resources are scarce;
EA3	K	identify various career opportunities in the field of economics (e.g., market analysis; policy analysis; careers in financial, academic, and government institutions) and relate them to their own interests, abilities, and expectations.

Economic problem

An *economic problem* arises when a person or a *cultural community* (the grouping of persons with a particular way of thinking and doing that includes the family, business organization, state, and even the nation-state) comes to realize that it lacks completely or partially the commodities or resources¹ it finds necessary to satisfy its desires².

In other words, an economic problem arises because of *scarcity*³.

¹ It is typical of economics to associate commodities with consumption and resources with production, but they are in fact the same: both consumers and producers purchase goods in a process of transformation that uses commodities as resources for something else. I therefore use them synonymously.

² I do not make the distinction between needs and wants, the former being necessary for life the latter accessory. This is because the distinction is not always as explicit as one wants it to be: if a commodity is accessory in one locale or instance, it might be a necessity in another. We can think of petrol: it is not important for the survival of a person, but with oil-dependent economies it is a necessity. Thus “desires” refer to needs and wants indistinctly.

³ But Mandel thinks that scarcity is not always the cause (online 1).

TOOL 1: Understanding Consumers and Producers

Consumers

To solve this problem persons or communities known as the *consumers* (☉) of resources⁴ will have to ask a number of questions.

To begin, *what resources do we need?* The answer indicates a decision on the type of resources desired. What is often highlighted here is the type of resource (what), but from a consumer behavior viewpoint, it is the fact of the decision that is important. That is, the process of decision-making about a resource.

Next the person or community may ask: *how many resources do we need?* The answer indicates a decision on the *quantity* (Q) of desired commodities. This quantity depends on what the resource is, its importance and its value.

For the latter reason, one may ask: *can we afford the desired resources?* The answer indicates a budget, that is, that a sum of money is made available for purchasing a decided quantity of resources, both desired and undesirable⁵. This in turn indicates monetary receipts often in the form of *income* (Y) as wage or salary. Associated with the previous is: *how much do the resources cost?* The answer indicates knowledge⁶ of the *price* (P) or value of resource desired. Such knowledge implies learning to acquire experience.

But knowledge of what and how much the person or community want is not enough. They may often ask: *where can we find such or such resource?* The answer indicates knowledge of the various locations where the desired commodities may be found. Yet this is a challenge in itself even though the internet has enhanced the spread and accessibility to such knowledge, because there is usually more than one location where we can and do purchase resources. Associated with the previous: *how can we obtain the resources?* The answer indicates a decision over the means for bringing the commodities home⁷. Its implementation may involve going to the location where the commodities are or having them brought to a location.

⁴ It should be emphasized that consumers of resources are *not* only customers, but also business organizations and state administrations. If business organizations produce commodities, they do so through the consumption of resources. Sates, with reference to some office goods and services, tend to be the biggest consumers of all.

⁵ It is often assumed that we only purchase commodities that are desired but this might not always be the case. Thinking of taxes for instance, one does not desire to pay them but one simply must, which means that one must have the required sums of money to do so!

⁶ And here as we will see in later chapters such knowledge might be a problem in itself.

⁷ Supply chain management and distribution are extremely important industries.

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Producers

Answering these questions leads the person or community to find ways to either generate resources, that is produce them, or seek the commodities elsewhere. In the latter case, trade is a solution.

But both involve persons or communities acting as *producers* (☒) of resources who will have to ask a number of questions to solve their economic problem.

To start with, *what resources shall we make available?* The answer indicates a decision on the type of commodity to produce. At the same time it may ask *how many resources can we generate?* The answer indicates a decision on the *quantity* (Q) of commodities to produce.

A decision on *what* and *how many* resources to produce determines the mode of production. Such a mode varies according to whether it is goods or services that are produced: producing furniture and offering insurance involves different modes of organization. Equally, the mode of production differs according to the type of good itself: producing cars or wine involves different machines and requires different labor skills and knowledge. Hence the question: *how should we generate resources?* But organizing production asks *what resources do we need?* The answer indicates decisions on the resources necessary for producing other resources, usually referred to as *factors of production*. Typically these involve *labor* (L) and *capital* (K).

But since both of them have a value, in that an income is paid/received for work and a price is paid/received for machines, the person or community may ask *how much do the resources cost?* Knowledge of such value or establishing such a value through industrial action becomes of prime importance as it raises another question: *can we afford the needed resources?* The answer indicates the constitution of a budget, that is, the sum of money that is made available for the utilization of factors of production. This is often a crucial question since it indicates the financial health of persons or communities. But this in turn indicates monetary receipts as *revenue* (R).

Knowledge of the price and quantity of resources will determine the *price* (P) at which the produced resources will be made available to consumers. Thus, *for whom should the resources be generated?* The answer indicates knowledge of markets and consumers, which is the task of marketing. But consumers may not actually know what is available to them: so, *how should we make resources available?* The answer indicates decisions on the locations where consumers can acquire commodities. It is an issue of advertizing.

Finally, *how should we bring resources to consumers?* The answer indicates a decision over the means for distributing commodities.

Activity 1: Individually, draw the above questions as relationships between consumers and producers.

Relationships:



Economics

Economics is 'the study of how societies use scarce resources to produce valuable commodities and distribute them among different people'⁸. It can also be seen as a methodical means to helping managers take decisions in and over situations that involve transactions between two or more socioeconomic actors⁹.

Economics focuses on phenomena which, even if they are a priori qualitative, are rendered quantitatively measurable. This attests to the scientific consideration that characterizes economics.

In particular, what is scientific with economics is that it describes possible relationships among socioeconomic actors and phenomena via the formulation of theory and the testing of a number of associated hypotheses.

Hypotheses

Hypotheses are either verified or falsified by means of empirical evidence, that is, evidence collected through observational and statistical techniques.

Models

When the hypotheses are validated and the theory is confirmed, economics uses ideal descriptions or models to make accurate predictions that are valid and reliable. That is, when they have the following features¹⁰:

- Describe observations well
- Enable accurate forecasts
- Allow the measurement of variables

⁸ Samuelson & Nordhaus, 2001: 4.

⁹ Wilkinson, 2005. If economics is descriptive and emphasizes that which is (positive), *managerial economics* is prescriptive in that it emphasizes that which ought to be (normative).

¹⁰ Wilkinson, 2005.

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- Have general application
- Rest on a minimum of assumptions

Tools

However, modeling may not account for the complexity observed. It may also be argued that economics may not always be effective in rendering quantitative the qualitative nature of what it purports to measure.

More importantly, even though the prime purpose of economics as a science is social prediction, and to achieve this it uses models and statistical tools, this is what eventually economics cannot do because of the host of variables at play.

For this reason, instead of using models to make accurate predictions, I suggest to use them as *tools* to describe and understand economic phenomena as they are unfolding.

References:

SAMUELSON, PAUL & NORDHAUS, WILLIAM (2001), *Microeconomics*, New York: McGraw-Hill

WILKINSON, NICK (2005), *Managerial Economics*, Cambridge: Cambridge University Press

Online 1: MANDEL, MICHAEL, *EconLog*, http://econlog.econlib.org/archives/2007/01/is_economics_al.html, accessed on 2.10.8

Further Research

Economic problem, scarcity

SESSION 2: Circuits

Aims

The aim of this session is to

- Explore circuits and actors.
- Explore circular flows.
- Expand circular flows.

Expectations

At the end of this session the student will

EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
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Circuits and actors

Circuits can be used as a tool to show the economic relationships, that is, the flows between economic actors. These flows involve *transactions*, the exchange of goods and services between socioeconomic actors which are performed in markets, organizations and economic environments.

Each socioeconomic actor displays a behavior of *self-interest* which involves a benefit to oneself and hence a cost that the originator of the behavior is willing to pay for material benefit. It can also display *altruism* as the behavior that involves the conferring of a benefit to others at a cost which the originator of the behavior is willing to pay *without* material benefit.¹¹

Each actor in the circuit is characterized by a number of activities. These actors include the *household*¹², the *firm*¹³ and the *state*.

A circuit is underpinned by a principle and an assumption. In principle what is earned in the economy is equivalent to what is spent in the economy. The idea is that if a firm earns *revenue* (R), this amount of money will be spent for the utilization of factors of production

¹¹ Wilkinson, 2005.

¹² A distinction is necessary between consumers and the household: the latter is an economic actor in relation with others typically associated with the consumption of goods, the so-called *demand*; the former, however, comprises the household, firm and the state since all three economic actors are consumers.

¹³ An additional clarification must be made between producers and firms: although the latter are typically associated with production, and the so-called *supply*, they are in fact both producers and consumers of resources; the former, however, may refer to consumers, business organizations and the state since all three are capable of supplying services.

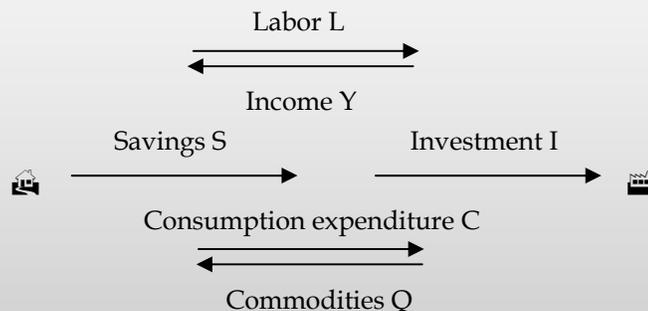
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The assumption that the circuit makes is the equivalence between the *goods flow approach*, and the *earnings flow approach*. The assumption is that measuring the way goods flow in the economy and measuring the value in an economy are the same. This enables a phenomenon that is qualitative to be expressed quantitatively.

TOOL 2: Describing Relationships between Economic Actors

Circuit 1 (state-free national or transnational economy; microeconomic)

In terms of the economic actors, the household (🏠) supplies labor to the firm, consumes and pays for commodities according to the satisfaction derived from their consumption. The firm (🏢) produces and makes available commodities at a price that is set according to the costs for utilizing resources (labor and capital), and the revenue it can earn from selling desired commodities desired. The circuit is as follows¹⁴:



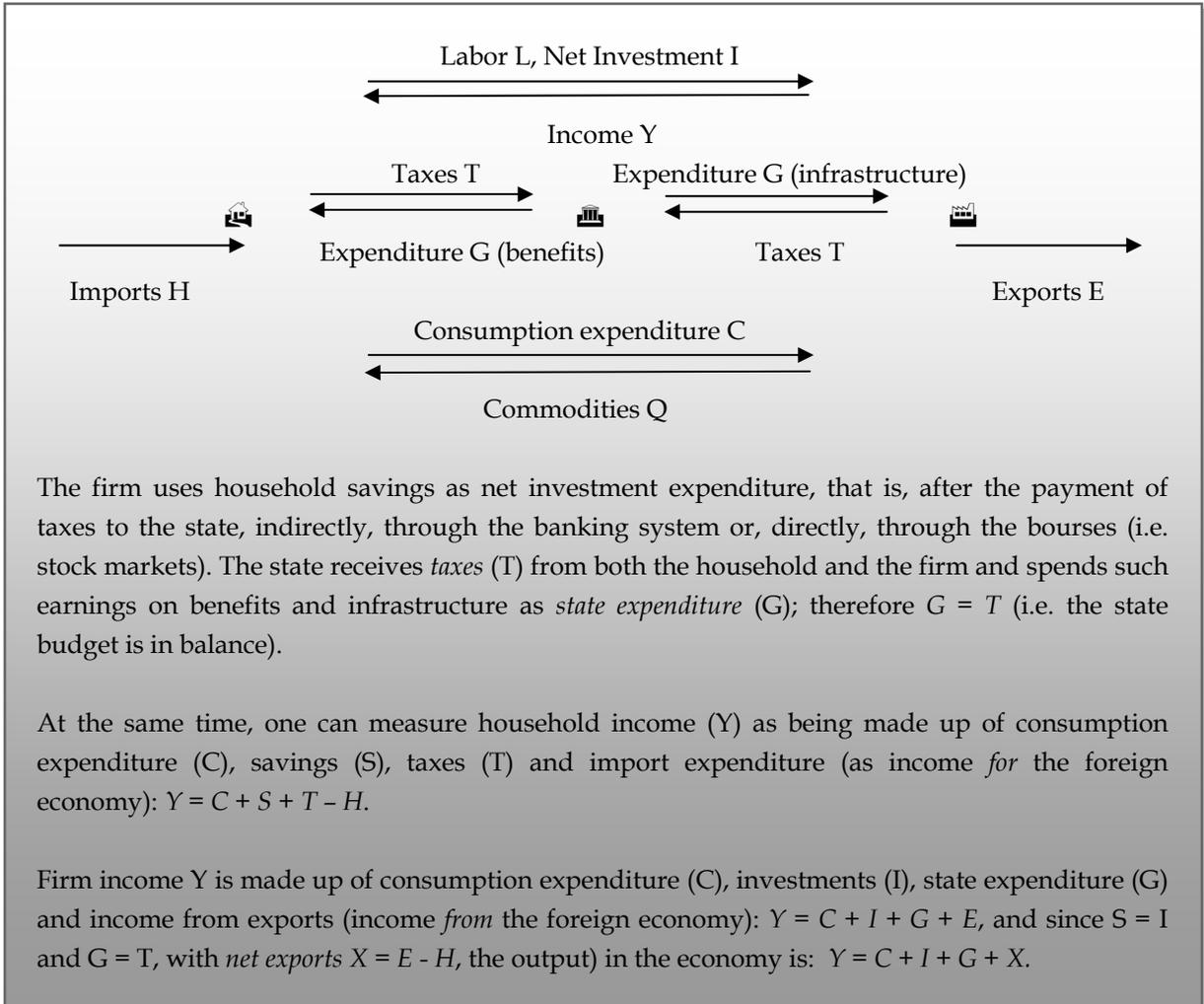
What is measurable in this circuit are household *savings* (S), which are the part of the *income* (Y) that is not (yet) *consumed* (C); that is $S = Y - C$. Savings usually stay in the banking system and this is where the firm might choose to go for its *investment needs* (I), referred to as *debt financing*. But the household savings may be left in the bourses - stock markets - that firm can also use as investment expenditure, referred to as *equity financing*. In one way or the other, therefore, without taxes: $S = I$.

Circuit 2 (open national or home economy; macroeconomic)

In terms of economic actors, the second circuit places great emphasis on the state. In detail, the household (🏠) supplies labor, demands and pays for domestic and imported goods, pays taxes to the state, and receives benefits from the state. The firm (🏢) supplies goods and services, demands and pays for labor wages (costs), and exports goods. The state (🏛️) receives taxes from the household and the firm, pays subsidies and spends for the provision of public goods. Finally, one should consider the household, firms and states of other economies. The circuit is as follows¹⁵:

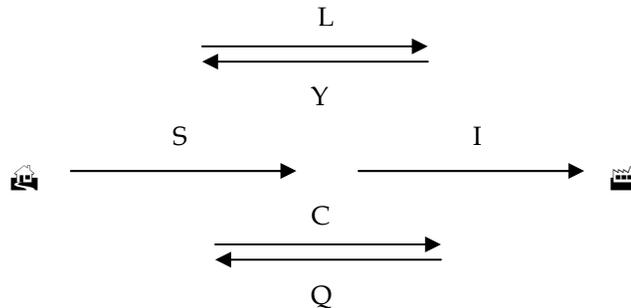
¹⁴ Zamaros, 1995.

¹⁵ Zamaros, 1995.



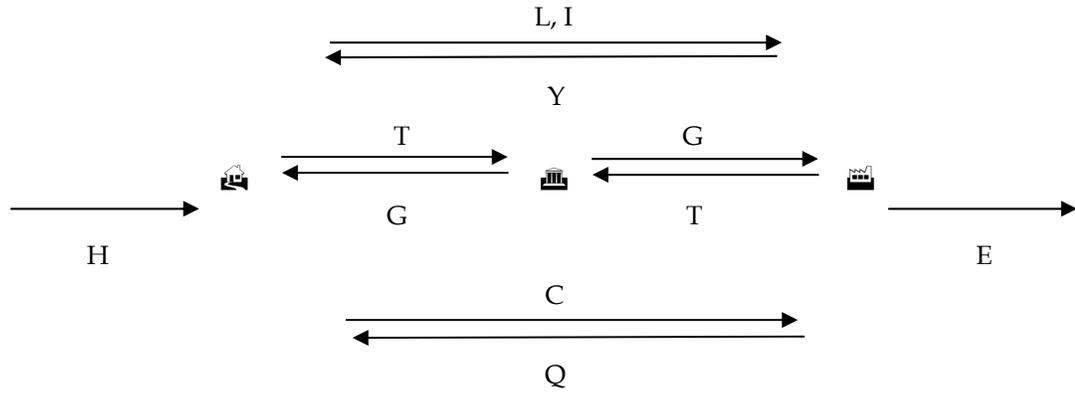
Activity 1: Individually identify any missing aspects and supplement the two circuits.

Circuit 1:



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Circuit 2:



Other circuits

Other circuits may include:

- *Closed national or home economy:* household, firm, state – rare cases where the economy does not import or export goods because of an embargo or social arrangement (e.g. North Korea)
- *Closed transnational economy:* household, firm, state, economic union governance, other economies – the relationship between member states and the economic union governance is that of taxes and benefits i.e. resource allocation (e.g. European Union).

Activity 2: Individually, draw the closed national economy and Open transnational economy circuits.

Closed national:



Closed transnational:



References:

WILKINSON, NICK (2005), *Managerial Economics*, Cambridge: Cambridge University Press
ZAMAROS, PANAYOTIS (1995), *Macroeconomic Theory and Practice*, Caux: SHMS

Further Research

Economic modeling; circular flows

Sub-task 0: Tables and diagrams

Aims

The aim of this session is to

- Revise main concepts.
- Use IT to draw diagrams.

Expectations

At the end of this session the student will

EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Task

Draw axes, lines and curves with the draw function of the word processor.

UNIT 2

UNDERSTANDING CONSUMERS

Sessions:

3. Utility

4. Research

Sub-task 1: Consumer research

Tools:

TOOL 3: Measuring Satisfaction from Consuming Commodities

TOOL 4: Establishing Consumer Choices

TOOL 5: Using Research Methods for Understanding Consumers

SESSION 3: Utility

Aims

The aim of this session is to

- Explore utility.
- Explore preference.
- Establish the conditions for optimized preference.

Expectations

At the end of this session the student will

AA5	K	identify economic choices that must be made at both the microeconomic and the macroeconomic level.
BA2	K	identify the criteria used by different groups of economic stakeholders to make economic decisions (e.g., consumers might use utility, while owners might use profit);

Utility

Considering satisfaction to be a reason for consuming commodities, a way to measure this satisfaction is *utility*.

TOOL 3: Measuring Satisfaction from Consuming Commodities

Utility is more about the overall satisfaction, or the *total utility* (TU) consumers derive from consuming a given quantity of commodities in order to satisfy their desires.

But since this quantity is not consumed at once, i.e. one consumes unit by unit, each time an additional unit is consumed, an *additional/marginal utility* (MU) is derived.

What is particular about marginal utility is the *Law of diminishing marginal utility* which states that as the quantity of a consumed product increases, the marginal utility derived from consuming additional units of the product falls to reach the optimum point of total utility, that is, *satiation*¹.

¹ Zamaros, 1995.

Activity 1: considering the following utility schedule, calculate the marginal utility

Q	TU	MU
0	0	
1	4	
2	7	
3	9	
4	10	
5	10	

Activity 2: draw the relationship between Q and TU and highlight MU



Limitations

Despite its simplicity, tool 3 suffers from applicability: it can only illustrate and measure the satisfaction of 1 commodity which is usually a type of food or a beverage. This is because the tool assumes the punctual, and not the continual consumption of a number of units.

More importantly, it does not capture a fact of consumption: that one consumes bundles of commodities (i.e. different types of commodities at the same time).

Preference

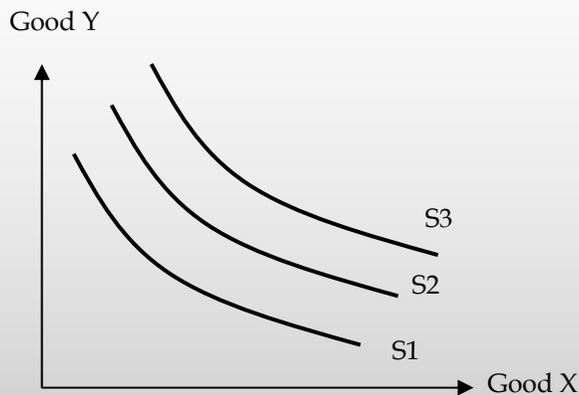
Since one consumes bundles of commodities rather than single commodities, consumers will indicate *preference* in terms of the quantity to be purchased of both commodities considering that satiation now limits the consumption of the bundle rather than the single commodity.

For instance, the choices of food and beverage items on a menu will be limited by the overall satisfaction. One such combination could be 1 hamburger, 2 portions of fries and 1 medium-sized beverage. But another combination is possible, such as 2 hamburgers, 1 portion of fries and 1 medium-sized beverage for the same overall satisfaction.

In other words, when consumers consume combinations of products that give them the same overall satisfaction, they are *indifferent* as to which combination they might want to consume – but not indifferent to purchasing the goods!

TOOL 4: Establishing Consumer Choices

Graphically, indifference is represented by means of an *indifference map*² made of indifference curves showing increasing levels of satisfaction S1, S2, S3...:

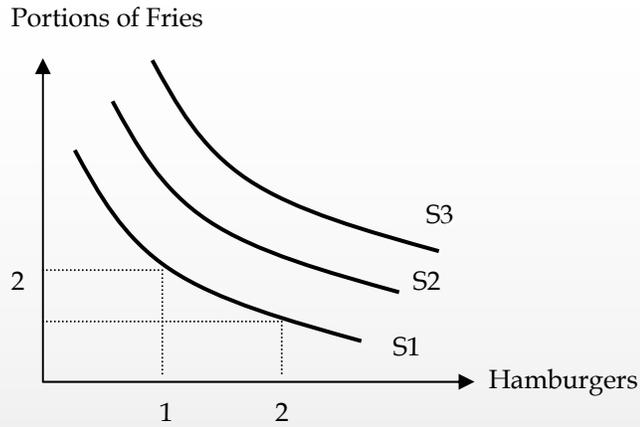


Technically, each indifference curve has the following features:

- It has a negative slope: increasing preference for one product is met by decreasing preference for another i.e. giving one product up for another i.e. substituting one product for another.
- It has a convex shape displaying falling *Marginal Rate of Substitution* (MRS): as consumers substitute one product for another, the increments in utility begin to fall (law of diminishing marginal utility).

To use the above example, the purchase an additional hamburger is only possible by reducing the portion of fries; that is, there is substitution of one for the other; but increasing the quantity of hamburgers decreases their marginal utility:

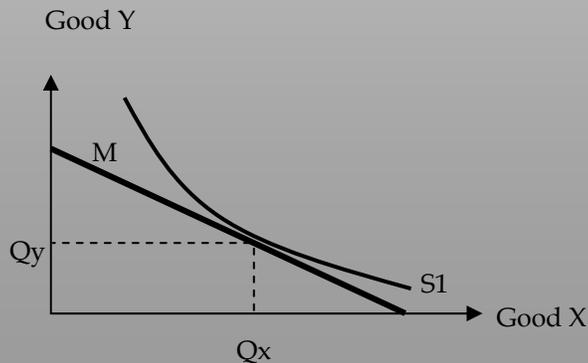
² Wilkinson, 2005.



Since consuming involves a first decision over acquiring commodities, and since commodities have a value, there is an additional limit to making such decisions than satiation: the *budget constraint* (M). This limitation represents the quantity that is purchased at a price P for each commodity.

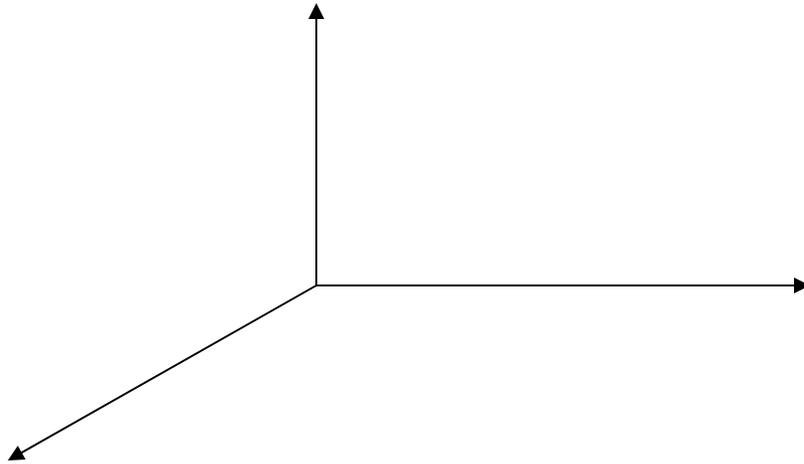
To use the above example again, the acquisition of 1 hamburger at $P_H = 2.-$ and 2 portions of fries each at $P_F = 2.-$, hence a total of 4.-, and 1 medium-sized beverage at $P_B = 3.-$, requires a budget of 9.-.

Consumer equilibrium occurs when, given a budget constraint, a consumer can maximize the purchase of combinations of products the budget allows: $M = P_x \cdot Q_x + P_y \cdot Q_y$. At the same time the consumer seeks to maximize utility relative to the price paid, hence the equilibrium $MU_x/P_x = MU_y/P_y$ i.e. technically, the slopes of the indifference curve and that of the budget line are equal³.



³ Ibid.

Activity 3: what would the consumer equilibrium look like with a bundle of 3 commodities?



References:

WILKINSON, NICK (2005), *Managerial Economics*, Cambridge: Cambridge University Press

ZAMAROS, PANAYOTIS (1995), *Microeconomic Theory and Practice*, Caux: SHMS

Further Research

Utility, indifference

SESSION 4: Consumer research

Aims

The aim of this session is to

- Examine research strategies
- Explore research methods

Expectations

At the end of this session the student will

EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Strategies

Research, as the way to inquire about a social phenomenon and in particular consumers, is carried out in relation to the following strategies (what)⁴:

- Survey
- Evaluation/assessment
- Observation

Methods

Research methods are ways for collecting data/information about a phenomenon (how). Typically, they include⁵:

- Questionnaires
- Interviews
- Diaries
- Observations

Note that for a given strategy a number of methods may apply. For instance, one can carry out the appraisal of food store offerings and products by means of questionnaires handed out to customers, interviews with customers, and on-site observations.

⁴ Online 1.

⁵ Online 2.

TOOL 5: Using Research Methods for Understanding Consumers

Questionnaires

Questionnaire surveys are about carrying out an investigation by means of questions⁶. There are basically two types of questions, namely:

- Closed which consist of
 - *Recall questions* aiming at calling facts, experiences, and names (e.g. were you satisfied with your meal?).
 - *Convergent questions* aiming at demanding predictable answers (e.g. we sell the best hotdogs, don't we?).
- Open which consist of
 - *Divergent questions* aiming at generating unpredictable answers (e.g. how would you qualify your stay at our hotel?).
 - *Evaluative questions* aiming at the defence of justification of a choice or judgment (e.g. did you come here for study or for travel?).

Before distribution, questionnaires are usually *piloted* i.e. tested to ensure that they are well-understood by the respondents.

Interviews

Interviews are surveys that involve face-to-face interactions for the purpose of establishing the facts of the observed phenomena and collecting sufficient evidence to justify a hypothesis.

Interviews can be structured, where the interviewer asks a series of pre-established questionnaires following a tight schedule, semi-structured where the interviewer administers a questionnaire that is structurally loose, but which retains a logical or a thematic order, or open where the interviewer administers a questionnaire that is loose.

Interviewers need to be aware of the mode in which they tend to carry out interviews and the personal biases.

⁶ Questionnaires are easy to set up but are prone to a dilemma: to ensure that they are valid and reliable they need to incorporate a sufficient number of items with the risk of becoming time-consuming for the respondents thus undermining their very purpose; at the same time to ensure that they are practical and not time-consuming a few items may be incorporated again undermining their purpose; to solve this dilemma then researchers need to balance the issue of reliability with the practical aspects of questionnaire administration (Online 1).

Diaries

Diaries, or log-keeping, are about recording in a systematic and chronological order impressions and thoughts on a particular issue. Diaries, in particular, aim at making the researcher aware of the different aspects of research (i.e. are used as a feedback tool), and providing clues on learning through research.

Contrary to received ideas, and despite their self-oriented character, diaries, following Symon⁷, are a valid and reliable source of evidence because under the logic of action analysis the findings made on oneself may be communicated to others, and are moreover reliable as they cannot be contested.

Note that one cannot generalize from the issues analyzed in one single diary; one can simply establish possible patterns and hypotheses. These may be generalized when a sample of diaries is analyzed.

Observations

An *observation* is about interacting, in a detached manner, with the phenomenon under consideration. Whether one observes people, activities or events, the way one thinks of the interaction observer-observed determines the degree of involvement of the researcher in the phenomenon being observed. Observational approaches then can be distinguished according to the *degree of participation* in the context or setting concerned; that is:

- *Participant observation*: the researcher is part of the phenomenon observed and therefore the observed knows the researcher observes it.
- *Non-participant observation*: the researcher is not part of the phenomenon observed and therefore the observed does not know that the researcher observes it.

There is an issue with participant observation because observing another's actions has certain ethical implications as it may be perceived to be an intrusion to the other's private sphere⁸. But is non participant observation then the solution? As it is likely to yield data that are not valid and reliable because the researcher is indirectly observing, it reduces the scope of the phenomena observed.

One could then consider participant observation as it may have the advantage of allowing the researcher to discern on-going behavior and carry out in-depth analysis of one particular action or behavior. The danger is however, that of going native, that is, adopting behavior and roles as those observed and hence upsetting the very aims of the research⁹.

⁷ 1998.

⁸ Online 2.

⁹ Online 2.

UNIT 2

References:

NASON, J. & GOLDING, D. (1998), 'Approaching Observation', pp 234-249 in GILLIAN SYMON & CATHERINE CASSELL (eds.), *Qualitative Methods and Analysis in Organizational Research*, London: Sage

Online 1: ZAMAROS, PANAYOTIS (2006), 'Business Research Strategies', online course lecture extracted from PANAYOTIS ZAMAROS, *Transnational Business Analysis – Workbook*, 2nd ed., Lausanne: P. Zamaros, *The DrZ Network*, <http://www.zamaros.net>, 9.9.8.

Online 2: ZAMAROS, PANAYOTIS (2006), 'Business Research Methods', online course lecture extracted from PANAYOTIS ZAMAROS, *Transnational Business Analysis – Workbook*, 2nd ed., Lausanne: P. Zamaros, *The DrZ Network*, <http://www.zamaros.net>, 9.9.8.

Further research

Consumer behavior, consumerism

Sub-task 1: Consumer behavior research

Aims

The aim of this session is to

- Revise main concepts.
- Discuss main issues.
- Develop consumer research tools.
- Carry out consumer research.

Expectations

At the end of this session the student will

EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Task

In teams design, pilot and apply research tools for collecting data on the consumption of 1) food, 2) beverages, 3) travel, 4) entertainment, 5) electronics, 6) clothing. Present your findings formally (i.e. with a PowerPoint presentation).

UNIT 3

UNDERSTANDING PRODUCTION DECISIONS

Sessions:

- 5. Business organizations
 - 6. Production
 - 7. Profit
- Subtask 2: Comparative production

Tools:

TOOL 6: Using the Profit Maximization Table to Establish Production Resources

SESSION 5: Business organizations

Aims

The aim of this session is to

- Explore business organizations.
- Explore management functions.

Expectations

At the end of this session the student will

CA1	K	explain why an understanding of market activity is in the self-interest of stakeholders (e.g., because it permits them to forecast change);
DA1	K	identify ways in which different forms of privately owned, profit-making institutions differ from collective (e.g., cooperatives) and non-profit or charitable institutions in the private sector;

Business Organizations

If organizations are collections of persons created to serve a particular purpose common to the persons that compose the organization (i.e. its members), economic and business organizations are created for the purpose of serving the economic interests of their members along with two principles:

- *Task specialization*: organizations offer their members possibilities to carry out specialized activities that a single person would not be able to carry out all of them together.
- *Contract nexus*: organizations facilitate transactions by being part of a nexus of contractual bilateral relationships where a single person would need to enter into multilateral agreements.

Business organizations can be classified in terms of:

- *Ownership structure*: public, private.
- *Legal structure*: sole proprietorship, partnership, corporation, limited company, foundation, cooperative.
- *Organizational structure*: unitary (U-form), multidivisional (M-form).

Activity 1: in teams, research and briefly report findings on legal structures.

Legal structure:

Management functions

The management of business organizations involve carrying out tasks along with the following functions: strategy, people, finance, marketing, production/operations – the latter is detailed in the session after.

Strategic management then is a process through which management formulates and implements strategies geared towards optimizing strategic goal achievement, given available environmental and internal conditions. Strategic management is important for business organizations because it helps them identify and develop a *competitive advantage*. It also provides a sense of direction so that organization members know where to expend their efforts and highlights the need for innovation while providing an organized approach for encouraging new ideas related to strategies¹.

People management, also known as human resource management (HRM) is about the management of various activities designed to enhance the effectiveness of an organization's workforce in achieving organizational goals. One of the HRM challenges is *staffing* which refers to the set of activities aimed at *attracting and selecting individuals* for positions in a way that it facilitates the achievement of organizational goals².

Finance refers to the set of activities whose purpose is to ensure that the business organization has the necessary cash and assets to achieve its business objective. Such activities involve accounting costs and revenue, in addition to making investments for business growth.

Marketing, in general terms, is concerned with finding and retaining customers by solving customers' problems. It communicates to the customers that their problems can and will be solved by offering solutions to customer needs. Marketing is thus organized around the knowledge of the market and its needs. It seeks to understand its customers, their needs, that which can be sold to them, the ways of selling, and the price of sale.

References:

ZAMAROS, PANAYOTIS (1995), *Microeconomic Theory and Practice*, Caux: SHMS

Online 1: ZAMAROS, PANAYOTIS (2006), 'Strategic Management', online course lecture extracted from PANAYOTIS ZAMAROS, *Transnational Business Analysis – Workbook*, 2nd ed., Lausanne: P. Zamaros, *The DrZ Network*, <http://www.zamaros.net>, 11.9.8.

Online 2: ZAMAROS, PANAYOTIS (2006), 'Marketing and Consumers', online course lecture extracted from PANAYOTIS ZAMAROS, *Transnational Business Analysis – Workbook*, 2nd ed., Lausanne: P. Zamaros, *The DrZ Network*, <http://www.zamaros.net>, 11.9.8.

¹ Online 1.

² Online 3.

UNIT 3

Online 3: ZAMAROS, PANAYOTIS (2006), 'Managing People', online course lecture extracted from PANAYOTIS ZAMAROS, *Transnational Business Analysis - Workbook*, 2nd ed., Lausanne: P. Zamaros, *The DrZ Network*, <http://www.zamaros.net>, 11.9.8.

Further Research

Management functions

SESSION 6: Production

Aims

The aim of this session is to

- Explore production.
- Approach consumption and production
- Look at economics as a science

Expectations

At the end of this session the student will

AA3	K	classify economic resources (e.g., labour, capital, and land/natural resources) and outputs (e.g., goods, services) by type and by ownership (e.g., public, private);
CB1	K	explain how specialization benefits stakeholders (e.g., through increased productivity) and creates interdependence (e.g., between consumers and producers);
DA1	K	identify ways in which different forms of privately owned, profit-making institutions differ from collective (e.g., cooperatives) and non-profit or charitable institutions in the private sector;

Production

Production involves the transformation of *inputs* (I) (i.e. factors of production) into *outputs* (Q) in conjunction with feedback mechanisms.³ Factors of production typically include:

- *Land* (N): production site; natural resources (water, electricity, crops).
- *Capital* (K): liquid assets (investments, cash); illiquid assets (plant, machines, stocks).
- *Labor* (L): skilled workforce; unskilled work force.
- *Entrepreneurship* (E-ship): exploiting market opportunities; research and development; innovation and creativity.

Production is measured with the *production function* which shows the optimum relationship between combinations of inputs, in particular capital and labor, and *total product* (TP) or output: $TP = Q = f(L, K)$ ⁴.

Mathematically⁵, a production function can be linear of the form $Q = a*L + b*K$, but which is not very realistic as it only uses 2 variable contributions of (L) and (K). The function can be quadratic

³ In the *open systems theory* (cybernetics), inputs are brought from the *external environment* of the firm into its *internal environment* to be transformed into outputs which are made available in the external environment in the form of commodities to be purchased.

⁴ It assumes that a business organization is operating at *technical efficiency* (i.e. uses the input combination that yields the maximum output) and *economic efficiency* (i.e. uses the input combination at least cost) (Wilkinson, 2005).

⁵ Ibid.

of the form $Q = aL^2 + bK^2 + cLK$, or cubic of the form $Q = aLK + bL^2K + cLK^2 + dL^3K + eLK^3$, which is commonly used, or power (Cobb-Douglas function) of the form $Q = aL^bK^c$.

The way a business has organized its production relative to its mission and consumer demand determines:

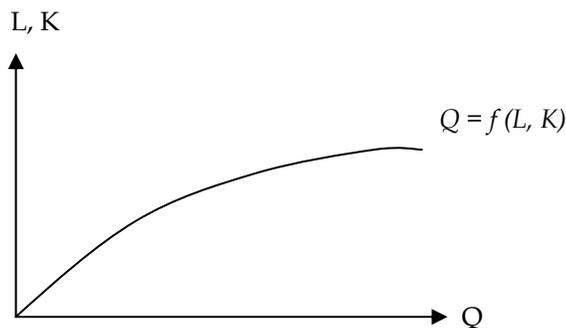
- The *scale of production*: the amount of inputs a business organization has (i.e. can use and acquire).
- The *capacity of production*: the maximum output a business organization can produce given its resources (i.e. the efficient use of resources).

Short run production

In the short run, the business organization is able to change *all but one* factor of production (i.e. one factor is variable whereas the other inputs are fixed). For instance if a business organization can change labor by hiring additional workers or by downsizing, it may not be able to change its assets and machines that rapidly.

Consequently, such a change occurs progressively and the *Marginal Product* (MP) which is the additional output obtained from using one more unit of a factor of production, *ceteris paribus* (i.e. the production responsiveness to changes in inputs – output elasticity)⁶, changes slowly. But what is noteworthy about the marginal product is the *Law of diminishing marginal product* (law of diminishing returns) which states that as the quantity of inputs increase, the additional output obtained marginally decreases (even though the total product increases). This is because of a mismatch between labor and capital in terms of their productive capacity to operate together. A simple example is using a photocopying machine and a worker to copy documents; a second worker can only add little more to the copying of documents.

Thus, because of a falling marginal product, production reaches its *maximum capacity*⁷. That is where no additional output can be obtained. In other words, (TP) is maximized when the (MP) is zero. Graphically, the responsiveness to additions of labor or capital used in production is a falling (MP):



⁶ Ibid.

⁷ However, maximum capacity does not mean *optimum capacity*, that is, when production operates under no-stress conditions.

Revenue

Revenue (R) or *Total Revenue Product (TRP)* refers to the income obtained per unit of output sold in the market at a particular price per unit of product, that is⁸: $TRP = R = Q \cdot P$. By looking at the terms of the equation, it becomes tempting to conclude that if either (P) or (Q) increase revenue will also increase.

In the first case an increase in the price might not bring about the desired effect because when commodities become more expensive, consumers tend to shy away from buying them.

In the second case, the additional revenue generated from producing additional products is referred to as *Marginal Revenue (MR)*: $MR = \Delta R / \Delta Q$. By extension, *Marginal Revenue Product (MRP)* refers to the additional revenue obtained from using an additional unit of input⁹.

But because of the *Law of diminishing marginal product*, there follows the *Law of diminishing marginal revenue product* which states that the increase of inputs for the purpose of increasing the output, and hence to increase the revenue, reaches a level where production capacity is maximized and hence revenue is maximal.

In other words, an increase in production is not synonymous with endlessly increased revenue, not to mention that business organizations are faced with the challenge of selling these extra commodities.

Long run production

In the long run, the business organization is able to change combinations of *all* the factors of production without exception. Thus business organizations can establish combinations of inputs to be used so as to optimize production.

Such combinations that give the same total revenue are *isoquants*¹⁰ each with the following properties¹¹:

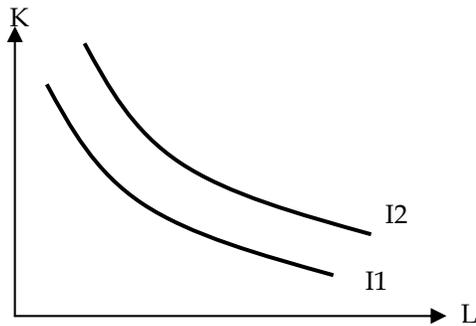
- Have a negative slope: the increasing use for one input is met by the decreasing use for another i.e. giving one input up for another i.e. substituting one input for another.
- Have a convex shape: falling *Marginal Rate of Technical Substitution (MRTS)*: as business organizations substitute one input for another, at the same time, the increments in input utilization begin to fall (law of diminishing marginal product).

⁸ Wilkinson, 2005.

⁹ Note that MR is the additional revenue obtained from increased *output* (i.e. producing more), whereas MRP is obtained from increased *input* (i.e. using more labor and capital).

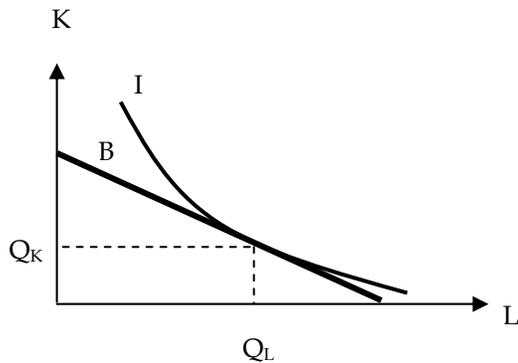
¹⁰ The set of isoquants forms an *isoquant map*.

¹¹ Wilkinson, 2005.



But as the business organization receives revenue, the utilization of inputs is delimited by this revenue, otherwise known as the *budget* (B) available.

Thus the *Producer equilibrium* occurs when, given a budget (B), a business organization can maximize the use of combinations of inputs that the budget allows: $B = P_L \cdot Q_L + P_K \cdot Q_K$. At the same time the organization seeks to maximize efficiency relative to input costs, hence the equilibrium $MP_L/P_L = MP_K/P_K$. Technically, the slopes of the isoquant curve and that of the budget line are equal:



References:

WILKINSON, NICK (2005), *Managerial Economics*, Cambridge: Cambridge University Press

Further Research

Production

SESSION 8: Profit

Aims

The aim of this session is to

- Explore profit maximization.
- Establish necessary input to maximize profit

Expectations

At the end of this session the student will

AA5	K	identify economic choices that must be made at both the microeconomic and the macroeconomic level.
BA2	K	identify the criteria used by different groups of economic stakeholders to make economic decisions (e.g., consumers might use utility, while owners might use profit);
CA2	K	explain, using concepts of marginal analysis (e.g., marginal cost, marginal revenue, economies of scale, law of diminishing returns), how different stakeholders determine which economic choice is in their own best interest;
EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Cost theory

Producing commodities involves implicit and explicit costs including¹²:

- Implicit costs
 - Transactions costs implicit in economic transactions.
 - Opportunity costs for having taken one decision rather than another.
 - Social or external costs which are passed on to third parties as a consequence of economic activity.

¹² Wilkinson, 2005.

- Explicit costs
 - Accounting costs as the expenditure over a fiscal year.
 - Decision-making costs as the cost of information used for making decisions.
 - Sunk costs that do not vary with different decisions.
 - Incremental costs varying as per the decisions taken.

Transactions costs

Transactions costs are costs with no monetary value, yet are often perceived to be important determinants in decision making. Such costs include¹³:

- *Search costs*: cost for identifying and obtaining relevant information before obtaining factors of production. For instance, looking into what job offers have been made to establish whether there are any suitable candidates.
- *Bargaining costs*: costs involved in negotiations such as those over wages and salaries.
- *Contracting costs*: costs involved with setting up contracts such as employment contracts.
- *Hidden information costs*: costs associated with information that is not known but which are inherent in contracts. For instance, spending more on commuting to a new job.
- *Hidden action costs*: costs associated with ensuring that contracts are performed such as spending time to control that the employee does the work assigned to

Accountant's costs

Company accounts show the total expenditure or *Total Costs* (TC) for producing commodities often distinguished between:

- *Fixed costs* (FC) that do not vary with the output.
- *Variable costs* (VC) that vary with the output.

However, knowledge of total costs does not help take decisions over increasing or decreasing production.

Decision-making costs

Decision-making costs are information that helps businesses take decisions over production. These include:

- *Marginal Costs* (MC) which show the change in total costs to the change in output: $MC = \Delta C / \Delta Q$; they are compared against the Marginal Revenue to establish profit maximization in the long run.

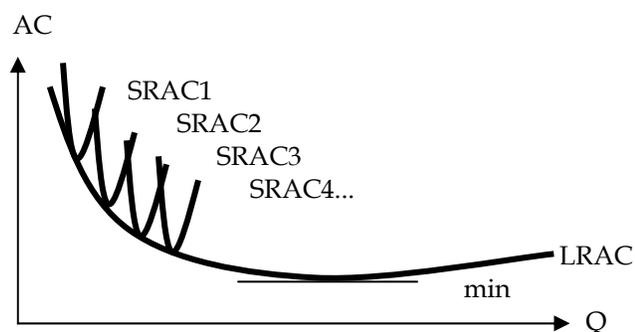
¹³ Ibid.

- *Marginal Factor Costs* (MFC) which show the additional cost for an additional factor of production; they are compared against the Marginal Revenue Product to establish profit maximization in the short run.
- *Average (total) Costs* (AC) show the total costs per output: $AC = TC/Q$; knowledge of average costs helps determine the minimum price to sell a unit of a commodity in the market which corresponds to the *minimum efficient scale*: $P_{min} = AC_{min}$; since $AC = AFC + AVC$ by extension *Average Fixed Costs* (AFC) show the total fixed costs per output, thus $AFC = FC/Q$, and the *Average Variable Costs* (AVC) show the total variable costs per output, thus $AVC = VC/Q$.

Cost behaviors

Since in the short run the business organization is able to change *all but one* factor of production, costs tend to change according to changes in that factor of production only. In the long run the business organization is able to change all its factors of production and is concerned with the sequential management of short-run cost elasticity (i.e. periodic management of short-run costs).

Thus, if the Short Run Average Costs (SRAS) curve is U-shaped, the Long Run Average Cost (LRAC) curve is L-shaped indicating at first economies of scale and scope and then diseconomies of scale and scope with a minimum value, the *minimum efficient scale*:



Whether short or long run, a business organization is making *economies of scale* when it is able to reduce the costs per unit while increase its scale of production (right-hand side of the SRAS or LRAS curve); the obverse are referred to as diseconomies of scale¹⁴ (left-hand side of the SRAS or LRAS curve). Economies of scale include¹⁵:

- Internal: economies arise from the growth of the business organization (technical, managerial, marketing, financial, transportation).
- External – economies of concentration: economies arise from the growth of the industry.
- Monetary: economies arise from changes in the price.
- Level: economies arise from changes in the nature of the product or production process.

¹⁴ Wilkinson, 2005.

¹⁵ Ibid.

If it is able to change the mix of its operations for cost benefits the organization is making *economies of scope*; the obverse are referred to as *diseconomies of scope*.

TOOL 6: Profit Maximization Analysis to Establish Production Resources

Profit Maximization

Profit (π) refers to the additional revenue as compared with the difference between the total revenue and total cost (i.e. break even point). Profit is maximized where $MFC = MRP$ and where $MC = MR$. It is at this point where the business organization optimizes the utilization of resources while earning sufficient revenue to cover for all the costs. It is therefore required to establish all decision-making information whether on the revenue or the cost side of the business.

Activity 1: individually, use a spread sheet and fill out the following table to establish how many workers the business organization will need to employ in the short run considering that labor costs Fr 400.- a week per worker and capital costs Fr 500.- for a machine¹⁶.

L	K	TP	MP	AP	TC	MFC	AFC	AVC	AC	MC	TRP	MRP	AR	MR	π
0	3	0													
1	3	13													
2	3	27													
3	3	39													
4	3	50													
5	3	59													
6	3	64													
7	3	66													
8	3	64													

¹⁶ The output is here given by the quadratic equation $Q = 4LK + 0.1L^2K + 0.2LK^2 - 0.04L^3K - 0.02LK^3$ (Wilkinson, 2005).

Activity 2: individually, draw curves TP, MP, AP and AC, MC, AR with the help of spreadsheet drawing tools.

Activity 3: what observations can you make?

Observations:

References:

WILKINSON, NICK (2005), *Managerial Economics*, Cambridge: Cambridge University Press

Further Research

Economies of scale; diseconomies of scale; profit maximization

Sub-task 2: Business research

Aims

The aim of this session is to

- Revise main concepts.
- Discuss main issues.
- Research into the organization and production of a business.
- Present findings.

Expectations

At the end of this session the student will

EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Task

In 6 teams research a business of your choice and report as per its structure, product, prices and modes of production.

UNIT 4

DESCRIBING PASSIVELY COMPETITIVE FIRMS AND MARKETS

Sessions:

- 8. Passively competitive firms
 - 9. Demand and supply
 - 10. Elasticity
 - 11. Markets and Pareto efficiency
- Sub-task 3: Market research

Tools:

- TOOL 7: Graphing Cost and Revenue Curves of Passively Competitive Firms
- TOOL 8: Criteria for Demarcating Passively from Perfectly Competitive Firms and Markets
- TOOL 9: Defining Demand and Supply
- TOOL 10: Using Econometrics to Graph Demand and Supply
- TOOL 11: Measuring the Responsiveness to Changes in Price
- TOOL 12: Using Demand and Supply diagrams

SESSION 8: Passively competitive firms

Aims

The aim of this session is to

- Establish criteria for identifying passively competitive markets.
- Explore perfectly competitive firms.
- Explore perfectly competitive market structures and conditions.

Expectations

At the end of this session the student will

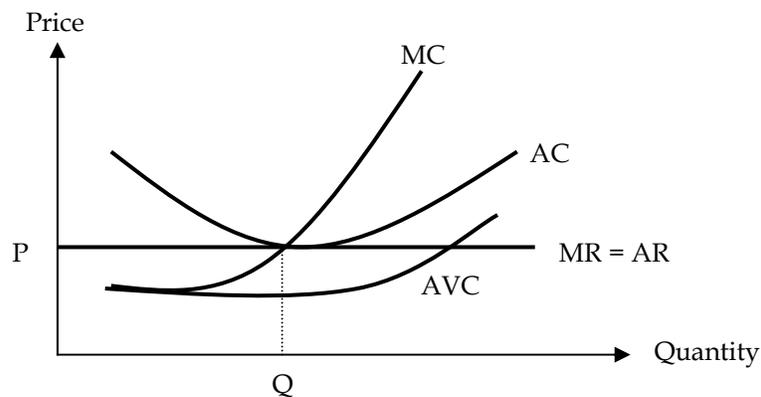
CD1	I	analyze the costs and benefits of different types of economic market structures (e.g., perfect/imperfect competition) from the point of view of different stakeholders and the achievement of economic goals;
CD2	I	evaluate the quality of the information that sellers in a market provide to help buyers make choices and the importance of this information to the achievement of economic goals;

Results from profit maximization analysis

The profit maximization analysis has highlighted the following results:

- The (MC) curve has an inverted L shape intersecting both the (AVC) and (AC) curves at their minimum points.
- The (AC) curve is U-shaped.
- The (AR) curve is flat; moreover: $P = MR = AR$.

Graphically, these findings can be illustrated as follows:

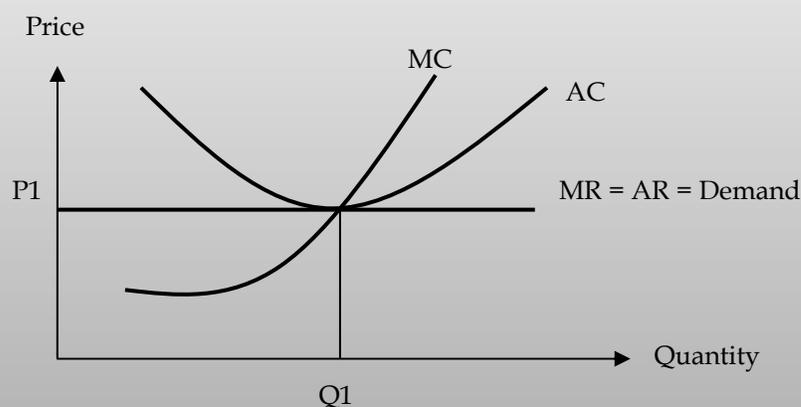


TOOL 7: Graphing Cost and Revenue Curves of Passively Competitive Firms

Production organization

Since the revenue side of the business is influenced by consumer behavior, the fact that (AR) and (MR) curves are flat can be interpreted that *consumers are willing to take any quantity that is offered to them at a given price*. Thus the issue here is to understand how this price is determined.

The price is set by producers at a level above the minimum efficient scale of production which is unlikely to change over time because with this type of production it is very difficult to make economies of scale and scope of to improve productivity. And as the minimum efficient scale of production is the *minimum Average Costs*, the price is set at least at this level: $P1 = AC \text{ min}$. At this level the producer earns revenue $R = P1 * Q1$, and makes a *normal profit* that is usually accounted under the costs.



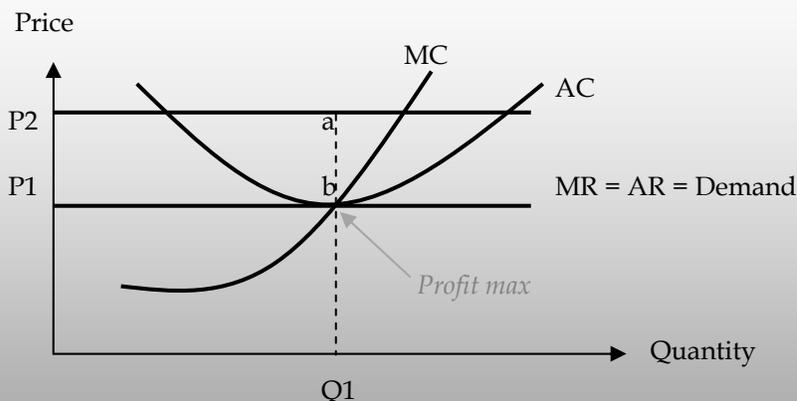
And since the producer is able to supply at any price that is above (P1), it shows that the supply curve of the firm is that part of the (MC) curve above the (AC) curve¹.

But supplying at a price level that is higher than (P1) for the purpose of earning *above-normal profits* shown by the area P2-P1-B-A is risky for two reasons.

First, consumers are price-sensitive, and this is because they can easily switch from one producer to another, which shows that in this type of market there are a lot of similar not to say identical products.

¹ Technically, the producer is able to supply for a price that is at least higher than the minimum level of the Average Variable Costs but not lower than this level since by not being able to pay for the fixed costs, the business is bankrupt – this is the shut-down point. However, supplying when the variable costs are not met may lead to unpleasant legal issues. For this reason, the producer should be supplying at a price where $P1 = AC \text{ min}$.

Second, above-normal profits would be reduced in the long run since they would attract more firms into the market pushing the price down from (P2) to (P1)²:



Thus, since producers cannot change the price even though they would like to, they are *price-takers*. For this reason such firms are passively competitive³ and are left with determining the quantity of production at a level that maximizes profit, which is where $MC = MR = P1$.

Algebraic analysis of equilibrium

In general, given a demand function and a supply function, the equilibrium is given by establishing (P) and (Q).

Wilkinson provides an example⁴: given the demand function $Q = 16 - 20P \Leftrightarrow P = 0.8 - 0.05Q$ (equation 1).

If the MC function is $P = 0.44 + 4q \Leftrightarrow q = -0.11 + 0.25P$: this is the firm's supply curve. Assuming there are 100 firms, the industry supply is $Q = 100q \Leftrightarrow Q = -11 + 25P$ (equation 2).

Solving equations 1 and 2 gives the short run equilibrium at $Q = 4$ and $P = 0.6$.

² Zamaros, 1995.

³ The reason I have chosen to label them "passively" competitive rather than "perfectly" competitive is that first of all there is nothing perfect about firms and so the tool in its traditional guise fails miserably to account for what is happening in the business world. Second, the idea of passivity translates the frustration of such firms experience when they spend vast sums of money to differentiate themselves from their competitors for very little results: they are rendered passive and submissive by the market conditions and are not actively and dynamically competitive as they would have liked to – which is the case with monopolistic competitors.

⁴ 2005:296-297.

Market conditions

From the above one can say that *passive competition* occurs where there are many passively competitive sellers producing standardized and similar products who *cannot individually affect the price in the market*.

TOOL 8: Criteria for Demarcating Passively from Perfectly Competitive Firms and Markets

In detail, a *passively competitive* market occurs under the following conditions:

- There are many producers and consumers.
- Producers and consumers are small relative to the size of the market.
- Labor can freely move from one firm to another but not necessarily from one industry to another.
- Producers find it easy to set up a small or medium-size private company, whether financially or administratively.
- Producers can easily exit the market by liquidating their company at a small cost – so long it is not legally registered as a single proprietorship.
- Producers can differentiate their products but only in limited ways and with little effect on the revenue.

In contrast, a *perfectly competitive* market occurs under the following conditions:

- There are many producers and consumers.
- Producers and consumers are small relative to the size of the market.
- All factors of production can freely move from one industry to another.
- Producers can easily set up a small-size private company as there are no barriers to entry.
- Producers can easily exit the market virtually at no cost.
- Producers cannot differentiate their products.

References:

WILKINSON, NICK (2005), *Managerial Economics*, Cambridge: Cambridge University Press
ZAMAROS, PANAYOTIS (1995), *Microeconomic Theory and Practice*, Caux: SHMS

Further Research

Perfectly competitive firms and industries

SESSION 9: Demand and Supply

Aims

The aim of this session is to

- Explore markets.
- Apply econometrics.
- Investigate demand and supply equilibria.
- Map market changes.

Expectations

At the end of this session the student will

AC1	K	describe the effects of changes in the economic influence of markets and the public sector (e.g., a reduced level of public services, deregulation, privatization);
CA1	K	explain why an understanding of market activity is in the self-interest of stakeholders (e.g., because it permits them to forecast change);
CB2	K	illustrate how the principles of supply and demand (e.g., market equilibrium, elasticity) affect the self-interest and interdependence of buyers and sellers in the marketplace;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

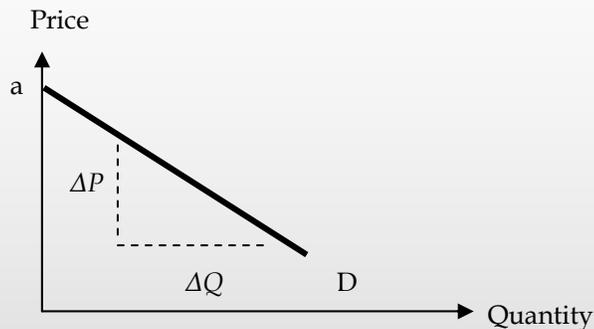
TOOL 9: Defining Demand and Supply

Demand

The establishment of consumer equilibria allows for the derivation of the quantities demanded for a product given the price in the market and the utility derived from consuming the product.

Demand refers to the quantities consumers are or would be willing to purchase at different prices at a given time, ceteris paribus.

In this case the relation between quantity demanded and price is $Q_d = f(P)$. (P) here is the independent variable whereas (Q) is the dependent variable, meaning that the quantity demanded (Q) varies with prices (P) set by business organizations while they are being price-takers⁵. Graphically, the demand function is represented by a linear curve of the type $Q_d = a + b*P$, where a is the intercept with the P axis and b the slope where $b = \Delta P/\Delta Q$ (i.e. rise/run):



The negative slope of the demand curve translates the *Law of downward sloping demand*⁶ which states that *as price increases the quantity demanded for a given commodity falls and vice versa*. Although this is in general true for *normal commodities*, there are exceptions that include staple food and artwork whose quantity demanded increases with a higher value⁷.

But as the price for a commodity increases, consumers may seek to find alternatives (*substitution effect*). The same may happen when their income increases (*Engel's effect*) since a higher income gives consumer increased purchasing possibilities (*income effect*). What is more, with a higher economic status they may become more sensitive to particular attributes that commodities may or may not have (*features effect*).

Producers on the other hand seek to influence consumer decisions by manipulating the price, product offerings, promotional activities and the points of sale⁸. However, not all the factors are controllable. Thus income, tastes, competitors, political forces, cultural forces, economic forces, demographic factors, climatic factors, seasonal factors, technology, process for substitutes, and future expectations cannot be influenced by businesses.

Overall then, demand is affected by a host of variables that includes *price (P)*, *quality (L)*, *advertising costs (A)*, *distribution spending (D)*, and *income (Y)* represented by the *demand function* $Q_d = f(P, L, A, D, Y \dots)$ ⁹.

⁵ As the obverse can also be true thus $P = f(Q)$, the price in the market P set by business organizations may also be affected by the quantity demanded Q by consumers.

⁶ Samuelson, 2001.

⁷ These are referred to as Giffen commodities and Veblen commodities respectively.

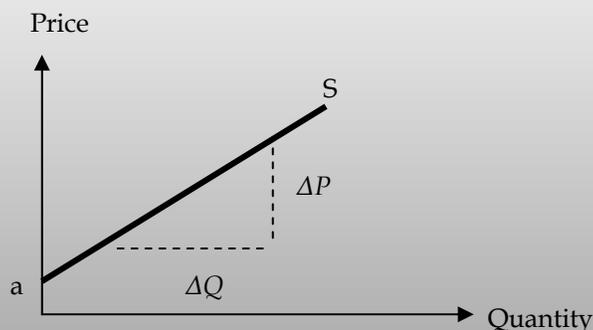
⁸ These are elements of the marketing mix.

⁹ Zamaros, 1995.

Supply

Considering that producers supply at any price above AC min one can say that supply refers to *the quantities producers are able and willing to offer at different prices at a given time, ceteris paribus.*

In this case the relation between quantity supplied and price is $Q_s = f(P)$. Graphically, the supply function is represented by a linear curve of the type $Q_s = a + b*P$, where a is the intercept with the P axis and b is the slope where $b = \Delta P/\Delta Q$ (i.e. rise/run):



The positive slope of the supply curve translates the *Law of upward sloping supply*¹⁰ which states that *as price increases the quantity supplied for a given commodity increases and vice versa.* This is because producers, even though they are price-takers, they will always be attracted by greater revenue generated by either increases in prices or increases in output. But if such an attraction is risky, a change in price or output is a function of demand.

TOOL 10: Using Econometrics to Graph Demand and Supply

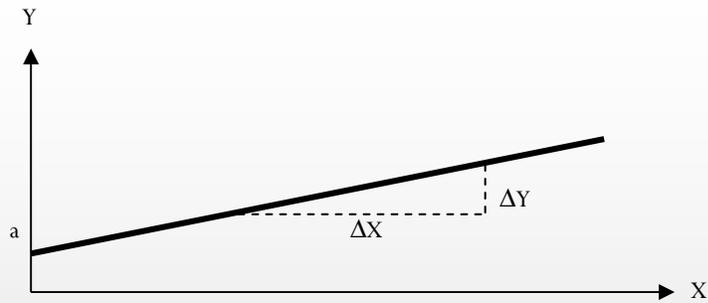
Correlation

What is characteristic of both a demand function (Q_d) and a supply function (Q_s) is the correlation between quantity and price which is the most important variable.

If the general equation of their linear curve is of the type $Y = f(X) = a + b*X$ with an intercept (a) and slope (b), if $b < 1$ the curve is downward sloping as it is for a demand or an indifference curve, and if $b > 1$ the curve is upward sloping as it is for a supply curve¹¹:

¹⁰ Samuelson, 2001.

¹¹ The labels for the two axes are arbitrary here.



Data collected on demand and supply rarely fit a linear curve. For this reason one can resort to using the *ordinary least squares method* (OLS method) to identify the *line of best fit* for the scatter of data points in such a way as to provide for any value of (X) the best estimate of the corresponding value of (Y). This involves knowing the following:

- The equation of the line of best fit, hence the values of the intercept a and the slope b where $(m1)$ and $(m2)$ are the *means* of variables (X) and (Y) respectively:

$$a = m_2 - bm_1$$

$$b = \frac{\sum (X - m1)(Y - m2)}{\sum (X - m1)^2}$$

- To establish the degree to which the line is representative of the scattered data – the goodness of fit – it is necessary to calculate the square of the *correlation coefficient* R^2 , where $0 < R^2 < 1$, and expressed in percentage. Therefore:

$$R^2 = \frac{(\sum (X - m1)(Y - m2))^2}{\sum (X - m1)^2 \sum (Y - m2)^2}$$

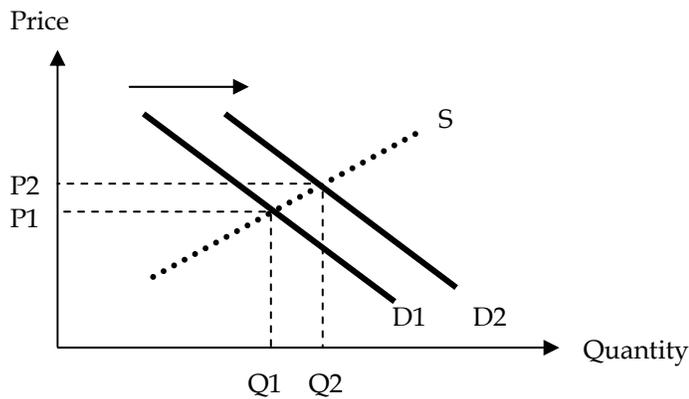
Activity 1: individually, with the help of a spreadsheet, establish and draw the line of best fit and its goodness of fit based on the following data:

X	Y	X-m1	Y-m2	(X-m1)(Y-m2)	(X-m1) ²	(Y-m2) ²
1	2					
4	2					
4	3					
5	3					
6	5					
m1 =	m2 =			Σ =	Σ =	Σ =

Changes in demand

A change in the quantity demanded is different from a change in demand. When all (LADY) variables remain unchanged except for (P), the result of a change in price is a *movement along* the demand curve bringing about a change in the quantity demanded.

But if (P) remains unchanged the result of a change in all other (LADY) variables except for (P), is a *movement of* the demand curve, that is, a (rightward) shift in demand from (D1) to (D2) with an increase in the price from (P1) to (P2) and the equilibrium quantity from (Q1) to (Q2):

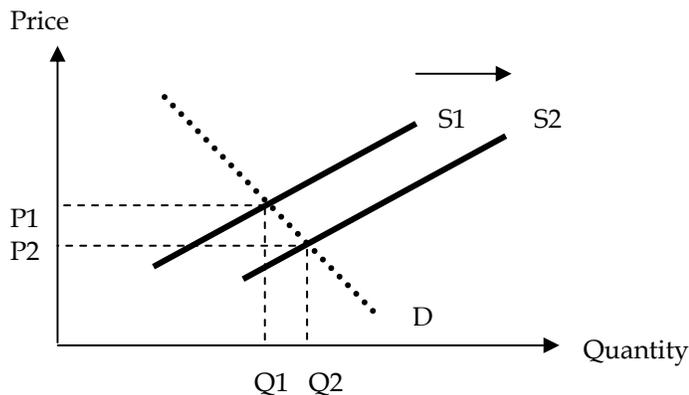


A (leftward) shift in demand depresses prices and quantities.

Changes in supply

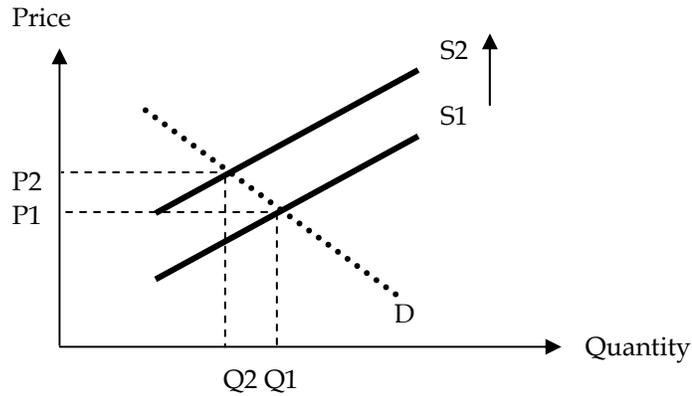
A Change in the quantity supplied is different from a change in supply. When all supply variables remain unchanged except for P, the result of a change in P only is a *movement along* the supply curve, hence a change in the quantity supplied.

When the price remains unchanged, the result of a change in all other variables except for (P) owing to efficient production, economies of scope and scale, is a rightward *movement of* the supply curve, hence a shift in supply from (S1) to (S2):



A rightward shift in supply increases prices and quantities.

The result of a change in *exogenous variables* affecting (P) (e.g. taxes) result in an upward movement of the supply curve because the tax affects the price directly, hence a shift in supply from (S1) to (S2):



A decrease in such variables depresses prices.

References:

- SAMUELSON, PAUL & NORDHAUS, WILLIAM (2001), *Microeconomics*, New York: McGraw-Hill
ZAMAROS, PANAYOTIS (1995), *Microeconomic Theory and Practice*, Caux: SHMS

Further Research

Market mechanisms

SESSION 10: Elasticity

Aims

The aim of this session is to

- Explore elasticity.
- Calculate elasticities.

Expectations

At the end of this session the student will

CB2	K	illustrate how the principles of supply and demand (e.g., market equilibrium, elasticity) affect the self-interest and interdependence of buyers and sellers in the marketplace;
EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

TOOL 11: Measuring the Responsiveness to Changes in Price

Elasticity

Elasticity (ϵ) is a measure that shows the way quantity consumed (or produced) changes following changes in those factors that determine demand (and by extension supply). In general, it shows the responsiveness or sensitivity of the dependent variable to changes in the independent variable. That is $\epsilon = \Delta \text{ dependent variable} / \Delta \text{ independent variable}$.

The following types of elasticity are common:

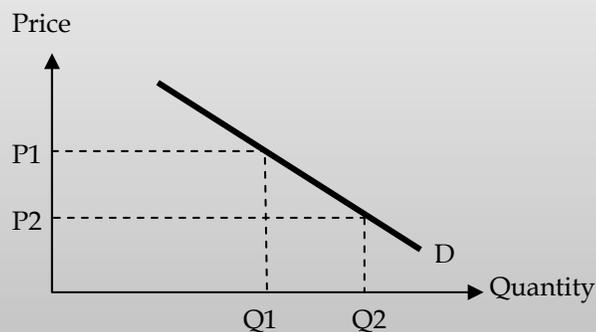
- *Price elasticity of demand* (PED) shows the responsiveness of quantity demanded to changes in prices.

- *Income elasticity of demand* (YED) shows the responsiveness of quantity demanded to changes in consumer income.
- *Advertising elasticity of demand* (AED) shows the responsiveness of quantity demanded to changes in advertising expenditure.
- *Cross elasticity of demand* (CED) shows the responsiveness of quantity demanded for one commodity to changes in the demand for another commodity.
- *Price elasticity of supply* (PES) show the responsiveness of quantity supplied to changes in prices.

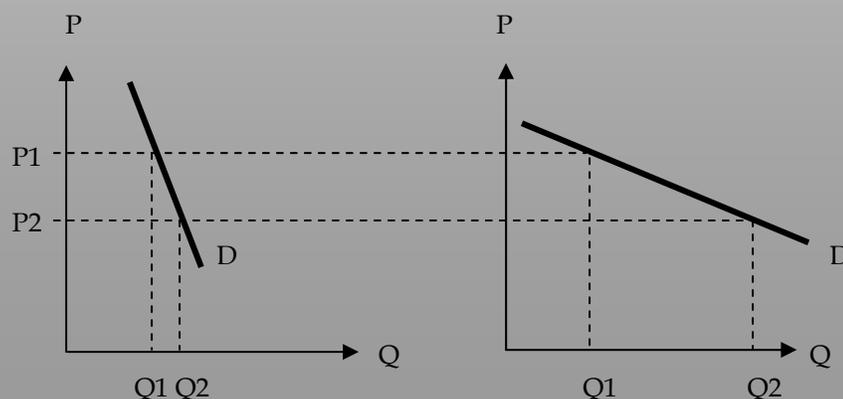
Additionally, there are *import and export elasticities* that show the responsiveness of the quantities exported/imported to changes in prices.

Price-elasticity of demand

Price elasticity of demand shows the responsiveness of quantity demanded to changes in prices when price falls/increases from (P1) to (P2) and the quantity increases/falls from (Q1) to (Q2):



The change in quantity varies relatively to the slope of the demand curve. If the slope is steep, the change in the quantity demanded is very small. This case translates the situation where demand for certain commodities (e.g. tobacco products, alcoholic beverages) is not likely to change much to changes in prices: *demand is inelastic*: $\epsilon < 1$. But if the slope is flat, the change in the quantity demanded may be quite significant: *demand is elastic*: $\epsilon > 1$. Consider:



Measuring PED

Given the incongruity of measuring changes in monetary values as opposed to changes in non-monetary values such as units, kilos etc. for the quantities demanded, the *Price-Elasticity of Demand* is measured in percentages:

$$PED = \% \Delta Q / \% \Delta P.$$

Measures of arc elasticity

Considering that elasticity is different as per an increase or decrease in process, *arc elasticity* or *mid-point elasticity* is a solution to this paradox. It thus measures the PED between two values of (P) and the corresponding values of (Q): $\% \Delta Q = \Delta Q / (Q1 + Q2) / 2$ and $\% \Delta P = \Delta P / (P1 + P2) / 2$; hence:

$$PED = \frac{\Delta Q}{\Delta P} \frac{P1 + P2}{Q1 + Q2}$$

Measures of point elasticity

If arc elasticity requires knowledge of the new price and quantity, and therefore is based on historic data, *point elasticity* seeks to establish the elasticity of a commodity without recourse to historic data. It measures the PED for one value of (P) and its corresponding value of (Q) taking into account that the slope of the demand curve $\Delta Q / \Delta P$ does not change. Hence:

$$PED = \frac{P}{Q} \frac{\Delta Q}{\Delta P}$$

Point elasticity is also measured by means of the derivative of the demand function when ΔP is infinitesimal; hence:

$$PED = \frac{P}{Q} \frac{dQ}{dP}$$

With respect to (P), dQ / dP is the derivative of the demand function.

Activity 1: If $P1 = 5$, $P2 = 4$; $Q1 = 8$, $Q2 = 10$, calculate PED.

PED:

Activity 2: Calculate PED using the data from the following table:

Price	Quantity	P/Q	$\Delta P/\Delta Q$	PED
8	2			
5	5			
4	6			

Activity 3: Given the demand function $Q = 250 - 10P$, establish PED at $P = 5$.

PED:

Using elasticity

Knowledge of the PED can help organizations charge the right prices and to make accurate forecasts. Particularly interesting are situations where demand is unit-elastic (i.e. $PED = 1$) as this is when the organization can maximize revenue, and others when demand is elastic (i.e. $PED > 1$) as this is when organizations can maximize profit on condition that changes in quantity are lower than those in price.

Further, knowledge of AED for the products on sale can help organizations estimate the necessary promotional budgets.

Factors

The factors affecting PED include¹²:

- *Availability of substitutes:* the closer a substitute to a commodity the more elastic is demand
Example: even if the demand for tobacco products is relatively inelastic, a single brand may have elastic demand relative to other brands depending on brand loyalty.
- *Proportion of income spent:* the higher the proportion of income spent on a commodity the more elastic its demand.
Example: the demand for sugar is relatively inelastic whereas for cars the demand is relatively elastic.
- *Time frame:* the longer the term of consumption the more elastic the demand for the product.
Example: demand for oil in the short run is inelastic until oil consumers can adjust to the new prices.

¹² Wilkinson, 2005.

UNIT 4

Estimates of <i>price</i> elasticities of demand ¹³			
commodity	PED	commodity	PED
Airline tickets	1.30	Furniture	3.04
Car repair	0.36	<i>Healthcare club membership</i>	0.87
Beef	0.65	House appliance	0.64
<i>Beer consumed at home</i>	0.84	Housing	0.23
Bread	0.09	Legal services	0.61
Cheese	1.16	Medical insurance - US	0.31
Chicken	0.65	Milk - US	0.18
<i>Cinema tickets</i>	0.87	Milk - UK	0.49
Coffee - instant	0.36	Potatoes	0.27
Coffee- regular	0.16	Restaurant meals	1.63
Dental visits of adults	0.72	Shoes	0.73
Electricity - home	0.13	Taxi ride	1.24
<i>Fruit juice</i>	0.80	Telephone	0.10
		Tobacco products	0.46

The factors affecting YED include¹⁴:

- *The type of product*: the more the product is essential, the lower the elasticity of income.

Estimates of <i>income</i> elasticities of demand ¹⁵			
commodity	YED	commodity	YED
Airline tickets	1.38	Flour	-0.36
Alcohol	1.54	Furniture	1.48
Apples	1.32	<i>Housing - low income renter</i>	0.22
Beef	1.05	Housing - owner occupied	1.49
Bread	-0.25	Margarine	-0.20
<i>Butter</i>	0.42	<i>Medical insurance - US</i>	0.92
Car travel	1.23	<i>Milk</i>	0.50
<i>Chicken</i>	0.28	<i>Potatoes</i>	0.15
Clothing	1.47	Restaurant meals	1.40
Cinema tickets	3.41	Shoes	1.10
<i>Coffee</i>	0.00	Tea	-0.56

¹³ Wilkinson, 2005: 102. The elasticity of price sensitive commodities >1.

¹⁴ Wilkinson, 2005.

¹⁵ Wilkinson, 2005: 108. The elasticity of inferior products <0; the elasticity of staple products >0 and <1; the elasticity of luxuries >1.

The factors affecting AED include¹⁶:

- *The effectiveness of promotional campaigns*: the more effective the campaign, the less elastic the demand.
Example: brand loyalty resulting from promotional campaigns.

The factors affecting CED include¹⁷:

- *The degree of product substitutability*: the higher the degree, the higher the likelihood of switching products.
Example: Coke and Pepsi are the most likely products consumers will switch from one to the other.
- *The degree of complementarity*: the higher the degree, the higher the likelihood that the products are closely affected by changes in price or income.
Example: a rise in price for food causes a fall in spending on entertainment.

The factors affecting SED include¹⁸:

- *The flexibility of production*: the more flexible the productive organization, the longer it can produce commodities, and the higher the elasticity.
Example: the supply of manufactured goods such as books is elastic.
- *The time of production*: supply is more elastic in the long run rather than the short run.
Example: firms that can expand their productive capacity will have to adapt the price.

References:

MANKIWI, GREGORY (2007), *Economics*, 4th edition, Mason: Thompson
WILKINSON, NICK (2005), *Managerial Economics*, Cambridge: Cambridge University Press

Further Research

Elasticity

¹⁶ Wilkinson, 2005.

¹⁷ Ibid.

¹⁸ Mankiw, 2007.

SESSION 11: Markets and Pareto efficiency

Aims

The aim of this session is to

- Explore surplus.
- Explore Pareto efficiency.
- Establish conditions for Pareto efficiency.

Expectations

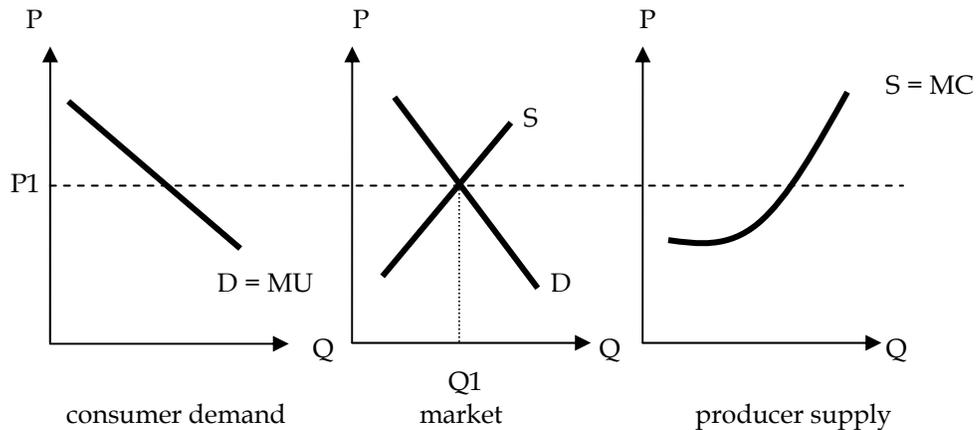
At the end of this session the student will

CA3	K	describe how the self-interest of buyers and sellers affects markets (e.g., by increasing competition, promoting the efficient use of scarce resources and the satisfaction of stakeholders).
EB6	K	explain the major theories of prominent economists (e.g., Adam Smith, David Ricardo, Thomas Malthus, Karl Marx, John Maynard Keynes) in the context of the economic issues and challenges of their times;

Market

The market can be seen as a group of economic agents, business organizations and individuals who interact with each other in a buyer-seller relationship.

The supply curve of the market is the sum of all the supply curves of all the firms that compose it. At the same time, the demand curve of the market is the sum of all the demand curves of all the consumers that compose it:

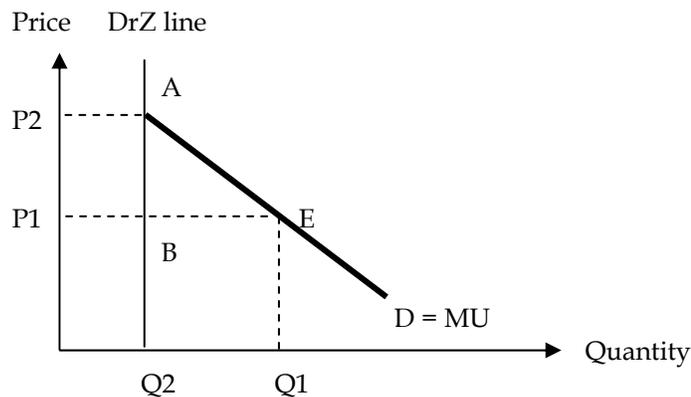


Consumer surplus

Consumer surplus (CS) refers to the amount a consumer is *willing to pay* for a commodity less the amount the consumer in fact pays in the market¹⁹. For instance, if one pays Fr. 2.- for a Cola but is actually ready to pay Fr. 3.-, the consumer surplus is Fr. 1.-.

In other words, what the market offers is a “better deal” relative to what the consumer wants. Thus, the consumer not only derives satisfaction from consuming a commodity at a given price but also derives satisfaction surplus relatively to the price in the market.

Consumers are willing to pay for (P2) for quantity (Q2)²⁰ because at this price level their satisfaction is maximized, but they actually pay (P1) in the market for quantity (Q1) even though the (MU) is falling, the (CS) is area ABE²¹:



Producer surplus

Producer surplus (PS) refers to the revenue that producers receive from selling a commodity less the cost for producing it.

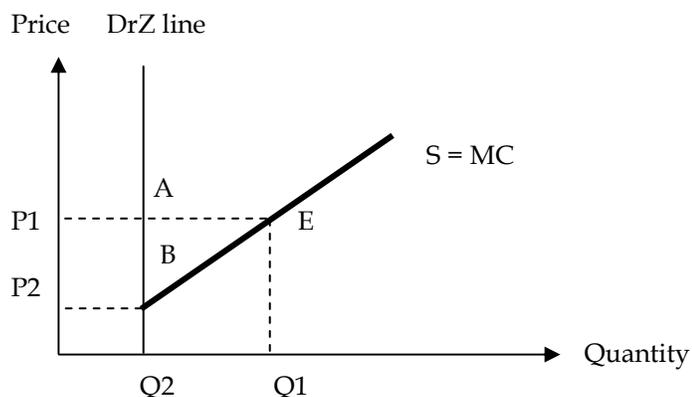
If producers are able to produce at a cost that corresponds to price (P2) for quantity (Q2)²² but actually can charge price (P1) in the market in that consumers are ready to pay (P1) to purchase quantity (Q1), the (PS) is area ABE:

¹⁹ Mankiw, 2007.

²⁰ Q2 corresponds to the quantity that consumers are willing to purchase at price level P2 but not beyond, a limit that is drawn here by the DrZ line.

²¹ The area here is smaller than what is often depicted because of the DrZ line along with the following rationale. Consumer surplus cannot occur when $Q = 0$. And since consumer surplus to occur the consumption of a unit of a commodity requires to have occurred, there is consumer surplus at the first units, which correspond to Q2. But these are the units that the consumer is willing to pay for: consumer surplus is delimited by the DrZ line at Q2.

²² This corresponds to the minimal quantity that producers are willing to produce at price level P2 but not less because it is financially not worth it as producers can hardly cope with fixed costs. This limit is drawn here by the DrZ line.



Efficiency

Efficiency occurs when producers provide consumers with the most desired commodities given the resources that are available and the state of technology at that instance²³.

In passively competitive markets, at the market clearing price ($P1$): $MC = MU$. Thus the price is the mediator which ensures that the worth to the consumer of the last item of each good bought is equal to the additional cost for producing it.

It is an economic situation that is efficient since there is no possibility to expand or contract output. In other words, *passively competitive markets are Pareto efficient* in that the resources are allocated equitably among economic actors.

Equilibrium

Thus in a Pareto-efficient market demand and supply can be seen as mirror forces each one tending to a point of equilibrium at price ($P1$) for quantity ($Q1$).

The equilibrium is²⁴:

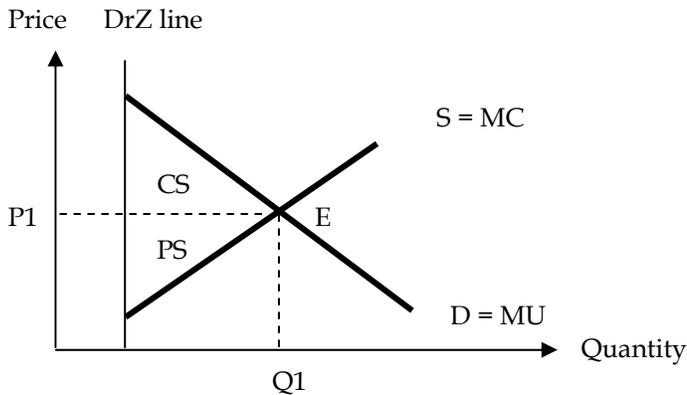
- *Conditional*: only when $QD = QS$ can there be price that satisfies both consumers (maximize utility) and suppliers (maximize revenue). That is the *equilibrium point* where $MU = MR$ (for the business organization this point is where $MR = MC$ since the (MR) curve represents the demand for a product)
- *Temporary*: if the conditions determining demand and supply are changed, the equilibrium is upset leading to changes in demand and supply in such a way so as to restore the equilibrium.
- *Clearing*: there are no shortages or surpluses: everything that has been produced is consumed (and everything the consumers want has been produced).

²³ Samuelson & Nordhaus 2005.

²⁴ Zamaros, 1995

- *Equalizing*: the consumer surplus utility (i.e. the difference between the price paid in the market and the satisfaction from consuming that good) and producer surplus utility (i.e. the difference between the price obtained in the market and the satisfaction obtained from utilizing factors of production as reflected in the marginal costs) are equal.

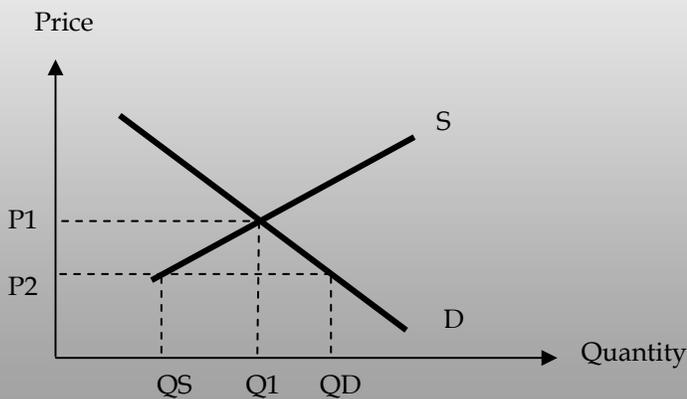
At equilibrium (E) where $Q1 = QD = QS$ holds at price (P1), $CS = PS$:



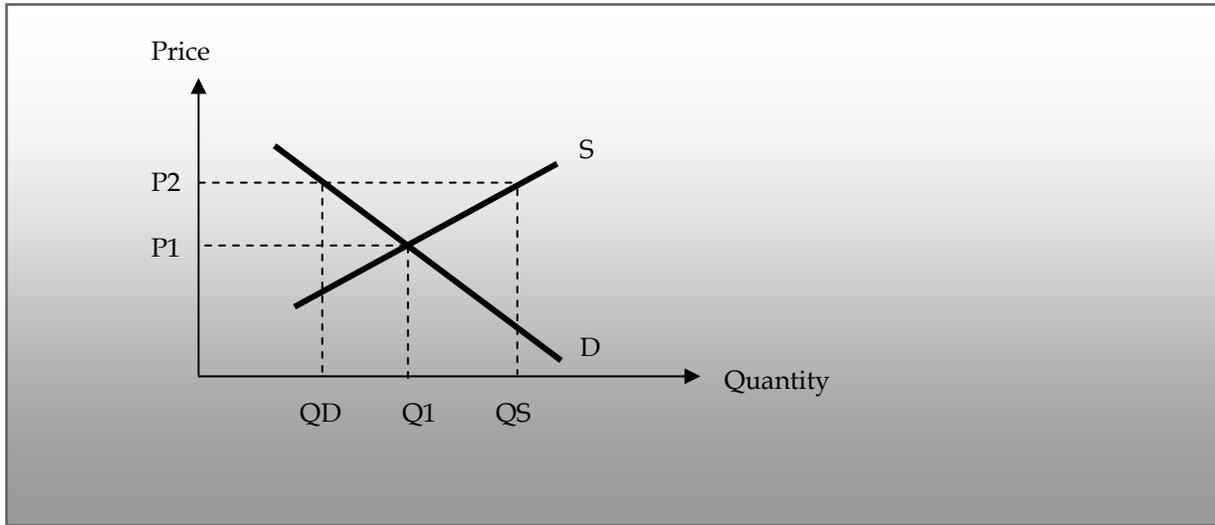
TOOL 12: Using Demand and Supply diagrams

Changes in prices

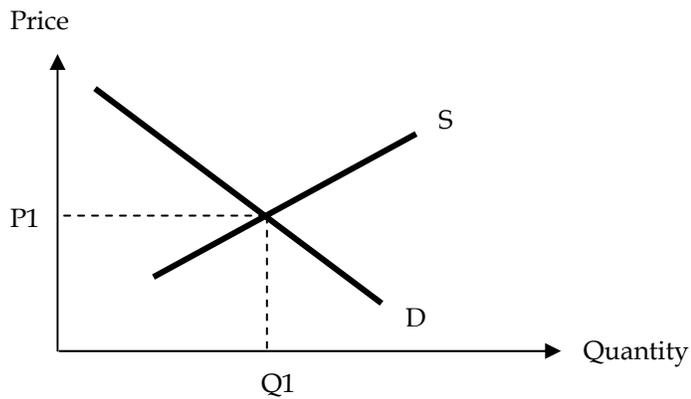
If the price is other than the equilibrium point, and if it is below (P1) at (P2): $QS < QD$: there is shortage of commodities:



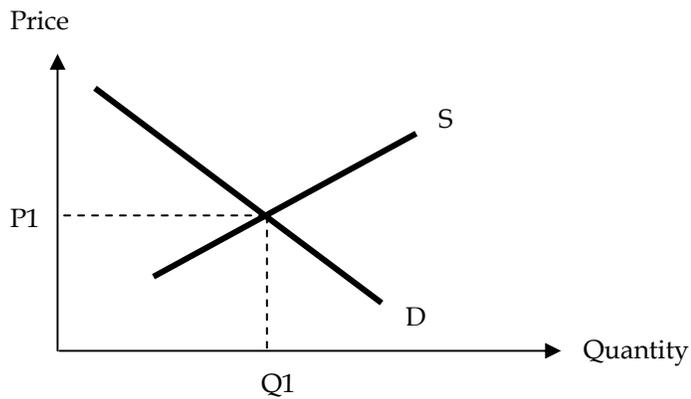
If it is above (P1) at (P2): $QS > QD$: there is surplus of commodities:



Activity 1: individually, establish what happens if the state imposes minimum wages.



Activity 2: individually, establish what happens if the state imposes a ceiling on rents.



References:

MANKIW, GREGORY (2007), *Economics*, 4th edition, Mason: Thompson

SAMUELSON, PAUL & NORDHAUS, WILLIAM (2005), *Economics*, 18th edition, New York: McGraw-Hill

ZAMAROS, PANAYOTIS (1995), *Microeconomic Theory and Practice*, Caux: SHMS

Further Research

Efficiency; equity

Sub-task 3: Market research

Aims

The aim of this session is to

- Revise main concepts.
- Discuss main issues.
- Research on competitive markets.
- Report on competitive markets.

Expectations

At the end of this session the student will

EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Task

In teams, research and report on business organizations operating in passively competitive markets, and give an overview of the industry to which they belong.

UNIT 5

DESCRIBING COMPETITIVE AND NON-COMPETITIVE MARKETS

Sessions:

- 12. Monopolistic competition
- 13. Oligopoly
- 14. Monopoly
- Sub-task 4: Market research

Tools:

- TOOL 13: Graphing Cost and Revenue Curves of Monopolistic Competitors
- TOOL 14: Graphing Cost and Revenue Curves of Duopolies
- TOOL 15: Graphing Cost and Revenue Curves of Monopolies

SESSION 12: Monopolistic competition

Aims

The aim of this session is to

- Explore imperfectly competitive firms.
- Explore monopolistic competition.

Expectations

At the end of this session the student will

CD1	I	analyze the costs and benefits of different types of economic market structures (e.g., perfect/imperfect competition) from the point of view of different stakeholders and the achievement of economic goals;
EA1	I	conduct research to locate reliable information from a variety of different media (e.g., newspapers, Internet sites), institutions (e.g., government agencies), businesses, interest groups (e.g., Canadian Centre for Policy Alternatives, Fraser Institute), and other sources;
EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Dynamically-Competitive Markets

*Dynamic-competitors*¹ are business organizations that actively seek to control to some degree the output in the market and thus the price, and thus behave as *price makers*.

Dynamic-competition can be the result of factors that include²:

¹ I have chosen this label because monopolistic competitors are firms that spend sums of money on research and advertizing for the sole purpose of staying ahead as compared to their competitors. Arguably, these firms belong to industries that contribute to making economies competitive in Porter's sense. Although they behave imperfectly in the traditional discourse, monopolistic competitors are different from oligopolies and monopolies that have no major reason to compete – their behavior is thus non-competitive (see later on in this unit).

² Wilkinson, 2005.

- Product differentiation
- Market differentiation
- Advertising
- Strategic management

Such competitors seek to gain competitive and comparative advantages in local and international markets and thus are at the forefront of technology. For this reason they are legally and infrastructurally encouraged by the state.

TOOL 13: Graphing Cost and Revenue Curves of Monopolistic Competitors

Monopolistic competition

Monopolistic competition refers to the market situation wherein there are many firms vying for *monopoly advantages through product and market differentiation*; thus each business organization develops a specific profile for its product.

Product differentiation is achieved through advertising whose aim is to single out the product. In cases where product differentiation is unlikely to happen in the production process, advertising may change a product from being a mass produced one to becoming a symbolic product (i.e. branded).

Another way of maintaining product differentiation is through innovation, hence the importance of R&D departments in innovative business organizations.

Production structure

From the revenue side of production, unlike a competitive firm which faces a flat demand curve – perfectly price-elastic, a monopolistic competitor is faced with a downward sloping demand curve; hence AR and MR being downward sloping. This, however, is not the demand curve of the whole market as is the case with a monopoly, since there are other firms operating in the market.

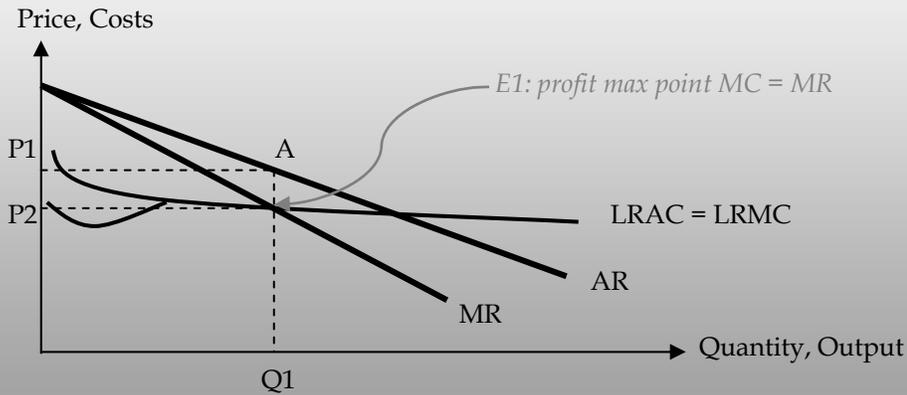
The reason for a downward sloping demand curve is that if with (perfect) competitors consumers may choose any quantity they desire to purchase at one price across the market, because of brand loyalty and differentiation, the monopolistic competitor can raise its prices without losing all of its customers³.

From the cost side of production, in contrast to monopoly, the monopolistic competitor is faced with L-shaped long run cost curves characterized by economies of scale at the early stages of

³ Quite on the contrary in some cases: a high price is an indication of a high quality product that some consumers are very attracted by it.

production, that is where $AC > MC$ similar to a perfect competition situation. Thereafter $LRAC = LRMC$ at the minimum efficient scale.

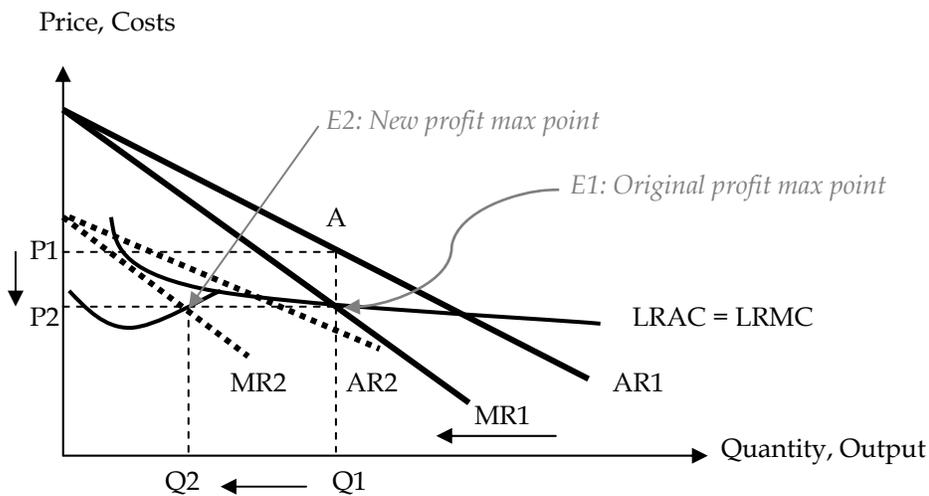
Profit maximization occurs where $MC = MR$ (at $E1$) for price ($P1$); the monopolistic competitor earns $P1 \cdot Q1$. Graphically⁴:



But because $P1 > MC$, the monopolistic competitor makes *above-normal profits* $P1 - A - E1 - P2$.

Entry of competitors

Such profits are only made in the short run and so long as innovation and advertising are able to keep the firm in its monopolistic position. In the long run however, new competitors will enter the market while the existing ones will resort to new advertising campaigns or develop innovative products: in both cases the above-normal profits will dwindle. Graphically⁵:



⁴ Zamaros, 1995

⁵ Ibid.

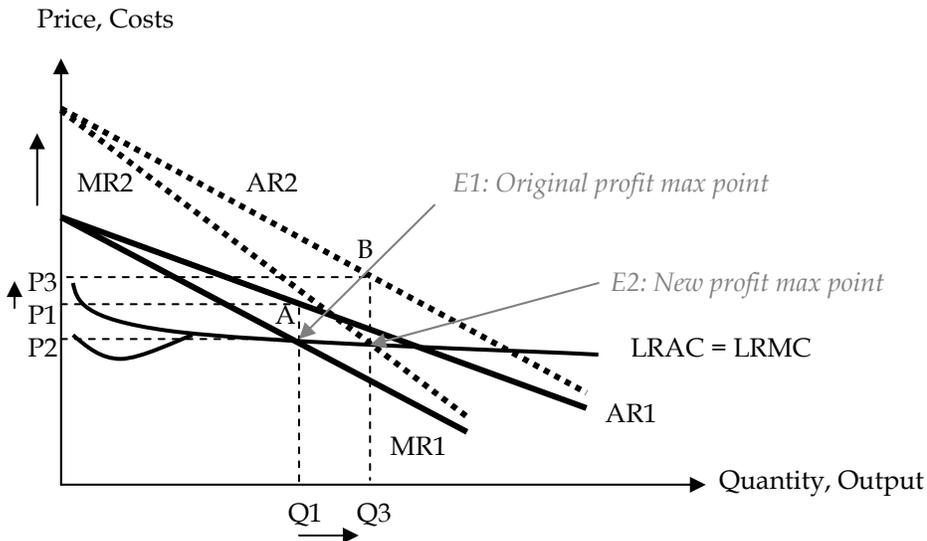
Before the entry of new competitors, the monopolist maximizes profits at price (P_1) and produces (Q_1) thus makes above-normal profits by P_2-P_1-A-B . The entry of competitors brings about the decrease in the demand for the monopolist that is from (AR_1) to (AR_2) reducing above-normal profits to nil: a situation of passive competition.

However, such firms may have set aside sufficient funds for their next monopoly coup!

Advertising effect

Advertising informs potential consumers of existing and new products thus acting as an important tool for the market to function.

Since advertising is used to build up loyalty of consumers to a product by associating that product with particular characteristics which are found to be pleasing, it creates wants to consumers (demonstration effect): it affects the (AR) curve by rendering it less elastic by changing the elasticity from (AR_1) to (AR_2), advertising increases the above-normal profits of the monopolistic competitor from $P_2-E_1-A-P_1$ to $P_2-E_2-B-P_3$ ⁶:



However, the entry of new firms in the market can outweigh this effect and eventually all above-normal profits are lost.

Activity 1: individually identify industries and firms that could be classified as monopolistic competitors.

Industries:

⁶ Ibid.

UNIT 5

References:

WILKINSON, NICK (2005), *Managerial Economics*, Cambridge: Cambridge University Press
ZAMAROS, PANAYOTIS (1995), *Microeconomic Theory and Practice*, Caux: SHMS

Further Research

Monopolistic competition; advertizing

SESSION 13: Oligopoly

Aims

The aim of this session is to

- Explore imperfectly competitive firms.
- Explore oligopolies.
- Explore game theory

Expectations

At the end of this session the student will

CD1	I	analyze the costs and benefits of different types of economic market structures (e.g., perfect/imperfect competition) from the point of view of different stakeholders and the achievement of economic goals;
DC2	I	analyze the growth of private-sector multinational corporations and their impact on the Canadian economy;
EA1	I	conduct research to locate reliable information from a variety of different media (e.g., newspapers, Internet sites), institutions (e.g., government agencies), businesses, interest groups (e.g., Canadian Centre for Policy Alternatives, Fraser Institute), and other sources;
EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Non-Competitive Markets

Unlike passively and dynamically competitive firms, *non-competitors* or imperfect competitors are business organizations that even though they are *price makers* they do not actively and dynamically seek to be competitive.

Non-competition can be the result of structural and strategic barriers that include⁷:

- Control of resources

⁷ Wilkinson, 2005.

- Economies of scale
- Information costs
- Legal restrictions
- Limit pricing
- Predatory pricing
- Excess capacity
- Mergers and acquisitions
- Strategic behavior
- Technology costs
- Input costs

Oligopoly

Oligopoly refers to the market with a small number of rival firms where there is recognition of a mutual interdependence, that is, one business organization has to take into account the expected reaction of rival businesses when deciding on its own strategy.

Such interdependence leads to market concentration and to *cartels* that are measured by means of the *Herfindahl index*⁸.

Oligopolies display the following features:

- The goods produced are similar.
- The number of competing firms is not large.
- Market research is an important element for deciding upon production.
- Advertising and branding is an element that gives such firms a monopoly advantage.
- There is the tendency for alliances into cartels and other associations.

TOOL 14: Graphing Cost and Revenue Curves of Duopolies

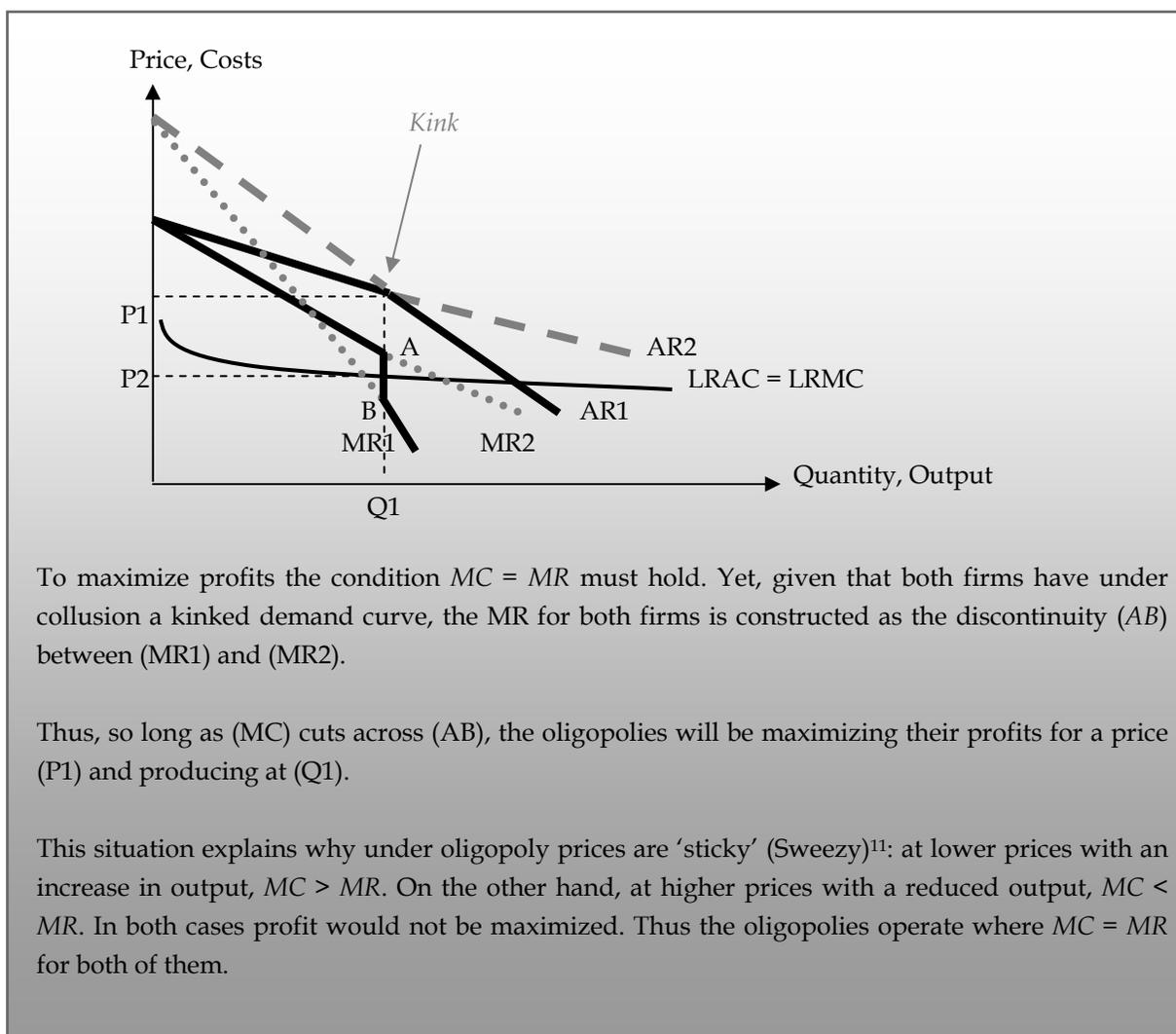
Collusive duopoly

Assuming two oligopolies⁹ A and B, the former has demand curve (AR1) and the latter (AR2). Given that under collusion i.e. agreement to cooperate, one firm has access to the market of the other firm the resulting demand curve is a *kinked curve*¹⁰:

⁸ Online 1.

⁹ In practice there many firms but the example here of two oligopolies is chosen for the purpose of the tool.

¹⁰ Zamaros, 1995.



To maximize profits the condition $MC = MR$ must hold. Yet, given that both firms have under collusion a kinked demand curve, the MR for both firms is constructed as the discontinuity (AB) between (MR1) and (MR2).

Thus, so long as (MC) cuts across (AB), the oligopolies will be maximizing their profits for a price (P1) and producing at (Q1).

This situation explains why under oligopoly prices are 'sticky' (Sweezy)¹¹: at lower prices with an increase in output, $MC > MR$. On the other hand, at higher prices with a reduced output, $MC < MR$. In both cases profit would not be maximized. Thus the oligopolies operate where $MC = MR$ for both of them.

Game Theory

The strategies of business organizations and in particular that of oligopolies can be represented through *games*, that is, *descriptive analyses of the best moves available* in a situation of mutual interdependence.

In each game it is assumed that each of the rival business organizations or *players* of the game, is self-interested, attempts to maximize its own benefits or *payoffs*, calculates its own payoffs irrespective of the social benefits or costs, and calculates the payoffs correctly.

Since the purpose is to correctly understand the best moves available and their payoffs, the players consider rival responses to increases or decreases in price (*price competition*) or consider rival responses to innovation, advertising and the services provided (*non-price competition*).

¹¹ In Wilkinson, 2005.

Two typical games

Dominant strategy: consider the following matrix of pay-offs for players A and B¹²:

	A-LEFT	A-RIGHT
B-LEFT	2 1	1 0
B-RIGHT	1 2	0 1

If player A chooses LEFT player B will respond by choosing RIGHT (2>1); if player A chooses RIGHT player B will respond by choosing RIGHT (1>0). Therefore whatever A chooses, B will always respond with RIGHT: it is its dominant strategy. If player B chooses LEFT player a will respond by choosing LEFT (2>1); If player B chooses RIGHT player a will respond by choosing LEFT (1>0). Therefore whatever B chooses, A will always respond with LEFT: it is its dominant strategy.

Under such conditions both players follows *strictly dominant strategies*. In the case where neither player has a dominant strategy there is *Nash equilibrium*¹³.

Prisoners' dilemma: consider the following matrix representing the months of imprisonment (!) for two suspects depending on whether they deny or confess their crime¹⁴:

	A-CONFESS	A-DENY
B-CONFESS	5 5	10 0
B-DENY	0 10	1 1

¹² Wilkinson, 2005.

¹³ Ibid.

¹⁴ Ibid.

If player A chooses CONFESS player B will respond by choosing CONFESS ($5 < 10$); if player A chooses DENY player B will respond by choosing CONFESS ($0 < 1$). Therefore whatever A chooses, B will always respond with CONFESS: it is its dominant strategy. If player B chooses CONFESS player A will respond by choosing CONFESS ($5 < 10$); if player B chooses DENY player A will respond by choosing CONFESS ($0 < 1$). Therefore whatever B chooses, A will always respond with CONFESS: it is its dominant strategy.

Under such conditions both suspects will tend to CONFESS their crime; however, the payoffs of both DENYING their crime is higher, and this is possible if they choose to *cooperate*.

Activity 1: consider that firm A is Airbus whereas firm B is Boeing; establish the outcome of this game (i.e. decide whether to produce or not produce) - *Brander-Spenser analysis*¹⁵:

	AIRBUS PRODUCE	AIRBUS NOT PRODUCE
BOEING PRODUCE	-5	0
BOEING NOT PRODUCE	100	0
	-5	100
	0	0

Activity 2: suppose now that Airbus receives a subsidy of 25 to produce; how might the outcome change?

	AIRBUS PRODUCE	AIRBUS NOT PRODUCE
BOEING PRODUCE	20	0
BOEING NOT PRODUCE	125	0
	-5	100
	0	0

¹⁵ Venables, 1995 - *first mover advantage* since the game has two symmetrical equilibria.

Activity 3: individually research to identify industries and firms that could be classified as oligopolies.

Industries:

References:

VENABLES, ANTHONY (1995) 'International Trade', in MAUREEN MACKINTOSH et al., *Economics and Changing Economies*, Milton Keynes: Open University

WILKINSON, NICK (2005), *Managerial Economics*, Cambridge: Cambridge University Press

ZAMAROS, PANAYOTIS (1995), *Microeconomic Theory and Practice*, Caux: SHMS

Online 1: Oligopoly Watch, <http://www.oligopolywatch.com/2003/08/15.html>, accessed on 14.9.8.

Further Research

Oligopolies; duopolies; game theory

SESSION 14: Monopoly

Aims

The aim of this session is to

- Explore imperfectly competitive firms.
- Explore monopoly.

Expectations

At the end of this session the student will

CD1	I	analyze the costs and benefits of different types of economic market structures (e.g., perfect/imperfect competition) from the point of view of different stakeholders and the achievement of economic goals;
DC2	I	analyze the growth of private-sector multinational corporations and their impact on the Canadian economy;
AD4	I	evaluate the effectiveness of government legislation (e.g., related to employment standards/health and safety legislation) and programs (e.g., education, health care, employment insurance, pensions, welfare) designed to enhance the economic security of Canadians.
EA1	I	conduct research to locate reliable information from a variety of different media (e.g., newspapers, Internet sites), institutions (e.g., government agencies), businesses, interest groups (e.g., Canadian Centre for Policy Alternatives, Fraser Institute), and other sources;
EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Monopolies

Monopolies as non-competitive firms include:

- *Pure*: a unique seller who controls the entire output in a particular market
Example: nationalized Oil Company.
- *Natural*: when the type of market only permits the presence of one seller.
Example: water, electricity, rail in Switzerland.

TOOL 15: Graphing Cost and Revenue Curves of Monopolies

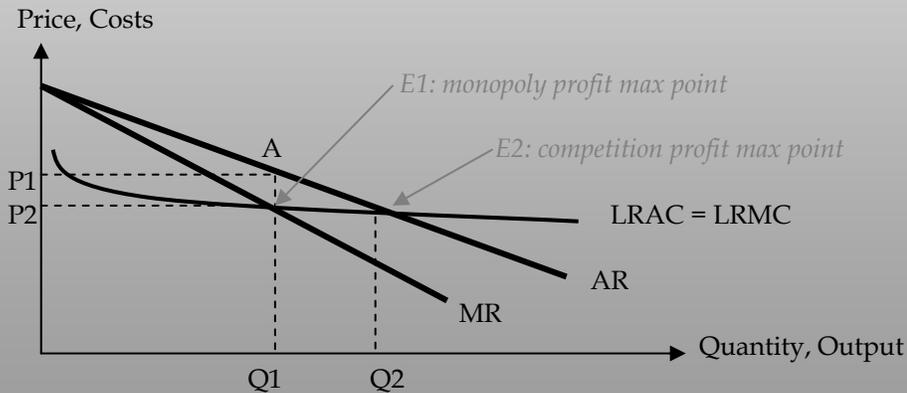
Producer structure

From the revenue side of the producer, even though the a monopolist has no competitors in the short run, consumers are not necessarily ready to spend whatever price the monopolist is willing to charge in the market even though this firm might have the power to do so.

Thus the demand curve is downward sloping and in this situation to sell an additional unit the price must be reduced; thus (AR) is falling and (MR) is falling more rapidly.

From the cost side, given that the firm has no competitors, one can expect that in the long run (AC) and (MC) are horizontal¹⁶.

A monopolists' profit is maximized when $MC = MR$ at output (Q1) and charging (P1) in the market. Graphically¹⁷:



Under this situation the monopolist is making an above-normal profit $P1-P2-A-E1$.

Assessing monopolies

One often hears about the drawbacks of monopolies, but there are advantages as well. To start with, the drawbacks of monopoly behavior include:

- *High costs*: a firm with monopolistic power does not have as an objective of cost minimization (at the least-cost point) but rather profit maximization through output restriction and by

¹⁶ In the shorter run: $AC > MC$.

¹⁷ Zamaros, 1995

charging a price that generates an above-normal profit; a monopolist tolerates some degree of *x-inefficiency*.

- *Stagnation*: output restrictions have knock-out effects on the economy as a whole; given that a monopolist produces less output than feasible, it employs less personnel putting pressure on people's incomes and consumption leading to a further restriction in output (inward shift in AR) hence stagnation.
- *Price discrimination*: selling different units of output at different prices; if the prices differentiate from one person to another there is *first degree price discrimination* (e.g. local doctor); there is *second-degree price discrimination* when prices differ across the units of good and of consumers (e.g. public utilities); *third degree price discrimination* occurs when prices change across different groups of consumers while within each group the good is sold at the same price (e.g. discounts).
- *Social costs*: monopolies cannot distribute goods efficiently since they create a *deadweight loss* E1-A-E2, which is an externality, when comparing the price (P1) and output (Q1) under monopoly and the price (P2) and output (Q2) under perfect competition (i.e. when above-normal profits are zero).

Advantages of monopolies include:

- *Innovation*: above-normal profits enable firms to invest in innovative processes thus reducing costs (downward shift of the AC curve), thus lowering the price and increasing the quantity sold.
- *Stability*: monopoly power brings about some degree of protection from competitors; however, following Schumpeter who developed a dynamic perspective on competition, monopoly power is temporary since new firms may appear attracted by the above-normal profits made by the existing firm.

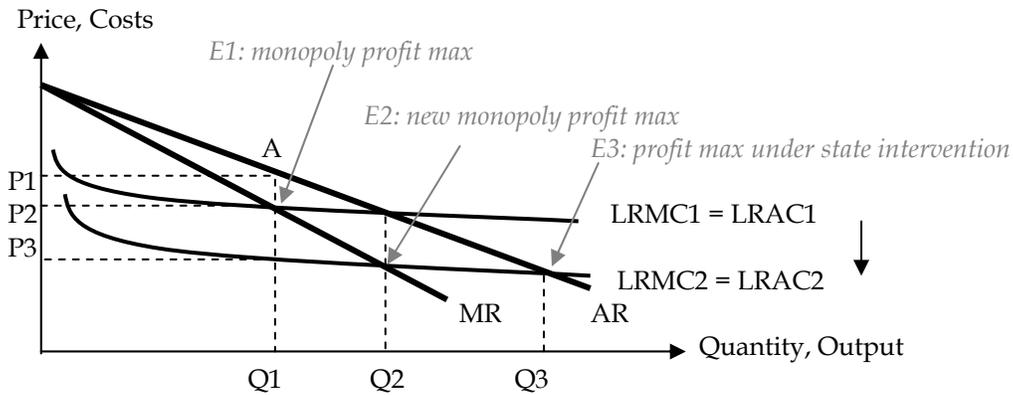
State intervention

Since overall the drawbacks outweigh the advantages, a number of states have put in place laws that prevent the formation of monopolies especially through mergers and acquisitions. Additionally, such legislation aims at:

- Breaking up existing monopoly structures, yet this increases costs.
- Forcing the monopoly to lower its prices in the market but in this case the business organization risks going bankrupt.

In considering the last case where the monopolist charges (P1) for quantity (Q1) and earns above-normal profits equal to P2-E1-A-P1, if the state forces the monopolist to charge at (P3) for quantity (Q3), the firm must reduce its marginal costs from (LRMC1) to (LRMC2). At this level, however, the monopolist faces high average costs in that $LRAC1 > LRMC2$ and risks closing down.

Thus the state will let the monopolist charge (P2) for an output (Q2) thus seeking to make again above-normal profits by lowering its average costs from (LRAC1) to (LRAC2). Graphically¹⁸:



Overall, regulating monopolies can be undesirable (unless politically motivated) or unfeasible.

Activity 1: Identify industries and firms that could be classified as monopolies.

Industries:

References:

ZAMAROS, PANAYOTIS (1995), *Microeconomic Theory and Practice*, Caux: SHMS

Further Research

Monopolies; anti-trust policies; externalities; social costs

¹⁸ Ibid.

Sub-task 4: Market research

Aims

The aim of this session is to

- Revise main concepts.
- Present main issues.
- Research non-competitive markets.
- Present findings.

Expectations

At the end of this session the student will

EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Task

In teams, research and report on business organizations operating in competitive and non-competitive markets, and give an overview of the industry to which they belong.

UNIT 6

UNDERSTANDING THE ECONOMY

Sessions:

- 15. The state
- 16. Why the state?
- 17. National indices
- 18. Econometrics
- Sub-task 5: Forecasting

Tools:

- TOOL 15: Understanding State Challenges
- TOOL 16: Describing Political Regimes
- TOOL 17: Dealing with Externalities
- TOOL 18: Listing the Roles of the State
- TOOL 19: Understanding State Instruments
- TOOL 20: Measuring National Income
- TOOL 21: Using Econometrics

SESSION 15: The State

Aims

The aim of this session is to

- Explore the state.
- Appreciate the role of the state
- Explore resource allocation

Expectations

At the end of this session the student will

DB1	K	describe how government is involved in the economy (e.g., as a provider of public goods and services such as defence, supplier of infrastructure, employer of resources, regulator of competition and of aggregate demand, redistributor of income);
BC1	I	compare the individual's economic rights as defined by the Universal Declaration of Human Rights with those protected by law in Canada (e.g., private property rights, intellectual property rights);
AA4	I	compare the ways in which different types of economic systems (i.e., market, command, and mixed economies) make choices about what, how, and for whom to produce;
BC1	I	analyze the power of different stakeholder groups to make economic decisions in each type of economic system (i.e., market, command, mixed);
DB3	I	explain the difference between, and the recent trends in, the debts and deficits of the three levels of government and the overall impact of these trends on the Canadian economy;

Structure

The state can be seen as the totality of a nation's institutions and officials. It consists of the following bodies:

- *Executive* (i.e. government): where policies are formulated (with the help of the administration and the parliament) and executed.
- *Legislative* (legislature): where policies are formulated (together with the government and the administration), debated and voted upon.
- *Judiciary*: where policies are evaluated (i.e. judicial review).
- *Administrative* (i.e. bureaucracy): where policies are researched and formulated.

In some cases the state may include the military (e.g. Turkey, Thailand) and the media (e.g. Russia).

TOOL 15: Understanding State Challenges

Challenges

Depending on the resources the state has, as well as the limitations and pressures that are imposed upon it, whether external (i.e. originating in the international environment) or internal (i.e. originating from the domestic environment), the following two issues characterize state policies and debates¹:

- *Sovereignty*: the undisputed right the state has to determine the framework of rules, regulations and to take decisions over policies within a given territory and to govern accordingly
- *Autonomy*: the ability the state has to take decisions and to formulate policies independently of internal and external pressures and demands;

The issues are conflicting because if the state is sovereign it may not have the desired autonomy. For instance, joining the EU for any one nation-state such as Romania arguably strengthens the state's sovereignty but weakens its autonomy since EU legislation that concerns trade is imposed by Brussels.

Additionally, the degree to which the state is able to play these roles successfully depends on how it is able to cope with a number of disjunctures that erode its sovereignty and, consequently, its autonomy².

To start with there is a disjuncture between the formal authority of the state compared with the transnational system of production, distribution and exchange. For instance, the maintenance of quotas (i.e. imported quantities) decided by the Swiss state to protect the wine industry against pressures from the WTO to liberalize this industry with the removal of quotas

Second, there is a disjuncture between the authority the state has to formulate policies and the reliance on transnational forums and regimes to further domestic policies. An instance of this are French cases of receivership where the French state seeks through EU institutions to ensure that a French business company takes over the one in difficulty for the purpose of keeping the French economy in French hands.

Third, there is a disjuncture between the policies and laws that the state passes and the development of transnational legal requirements and constraints. As an example, the state in Thailand has signed the *Universal Declaration of Human Rights, 1947*, but has not yet fully implemented policies regarding social security and labor standards.

¹ Held, 1991.

² Ibid.

Last, there is a disjuncture between the policies and laws that the state passes to safekeep its territory and the demands of power blocks and hegemons. Thus the state of Poland has been asked by the EU institutions and the NATO to reinforce its eastern border so as to control immigration.

TOOL 16: Describing Political Regimes

Political Regimes

Typically, a *democracy* refers to the regime where the 'people have the right to determine who governs them ... they elect the principal governing officials and hold them accountable for their actions ... (by imposing) legal limits on the government's authority by guaranteeing certain rights and freedoms to their citizens'³.

This conceptualization points to a number of key aspects of the democratic state⁴:

- *Popular sovereignty*: people have the right to govern themselves and in implementing this right they either exercise control over state authority directly or they establish effective mechanisms for holding their government formally accountable to them; this implies that governing officials are not imposed upon the citizens (elected state), citizens decide over the power of the governing officials (limited state), governing officials are responsible for what they do and must inform their citizens as required (state accountability), and that governing officials have the right to take decisions in virtue of the fact that they have been elected (state legitimacy).
- *Rights and liberties*: consist of certain basic rights and freedoms that must be guaranteed by law to the citizenry – they may not be taken away.
- *Democratic values*: values associated with popular sovereignty and rights and freedoms which include tolerance, fairness and compromise; in particular the various criteria of fairness and equality as social and economic components of democracy.

Thus, so long as the people have the last word, so to speak, one can talk about a democracy.

For this reason Sodano⁵ comes to propose the distinction between the following two *political regimes* (i.e. political arrangements)⁶:

³ Sodano, 2001: 28.

⁴ Sodano, 2001.

⁵ 2001.

⁶ This distinction has the advantage of not confusing ideologies and regimes as -isms that typically include capitalism, communism, national socialism and the sort.

- *Democracies*: where the people are above the state.
- *Autocracies*: where the state is above the people.

Using this distinction and considering the various democratic processes of nation-states it would appear that Greece, which claims to be the birthplace of democracy, is currently an autocracy because it is only the executive-legislative pair that take decisions with immediate effect and with little or no consultation from lobbies, unions or the people in general, whereas Switzerland is a democracy since the Swiss vote four times a year on a number of items by referendum and have, furthermore, the right to submit a “popular initiative” to change the law⁷.

Thus, whether a nation-state is a democracy or not is not just simply whether the people have the last word, but also a question of what opportunities they are given for expressing it.

Political Processes

The *formal* political process in any democracy is voting whose outcome may be based either on a *majority rule* such as the French Presidential elections, or a *unanimous rule* such as the ministerial decisions taken at the EU.

If the latter is cumbersome and lengthy the former presents a paradox that is expressed by *Arrow's Theorem* which states that no majority-rule voting procedure can guarantee efficiency, respect of the individual choice and be independent of informal political processes. Because of this, voting on a majority rule takes place in 2 rounds.

Activity 1: suppose 3 citizens A, B and C are to cast a vote on candidates x, y, z in a system with majority rule along with the following order of preferences. Establish if there is one preference with a clear majority (2>1):

	1 >	2 >	3
A:	x	y	z
B:	y	z	x
C:	z	x	y

If x is preferred to y:

If y is preferred to z:

If z is preferred to x:

Conclusion:

⁷ The state, however, may find ways to do otherwise (e.g. liberalization of electricity).

Informally, the political processes include:

- *Bargaining*: where the political objectives are achieved through negotiation and exchange
- *Coercion*: where the political objectives are achieved through the use of the threat to use force

Political ideologies

The manner the political process is understood and interpreted gives rise to a number of *political ideologies*.

An ideology is seen to be 'a coherent set of ideas and guidelines that defines what the nature and role of [the state] should be and prescribes the main goals the community should pursue through political action'⁸.

Political ideologies typically and historically ranging from the right to the left include⁹:

- *Nationalist*: promotion of state sovereignty and autonomy in addition to national autonomy; complete state involvement with the economy where policies are aimed at decreasing the impact of interdependence at the expense of the foreign economies (e.g. Front National - France).
- *Conservative*: promotion of state sovereignty and autonomy in addition to national autonomy; little state involvement with the economy other than setting the legal framework to enhance the private businesses; policies are aimed at decreasing the impact of interdependence often at the expense of the foreign economies (e.g. UDC - Switzerland; Tories - UK).
- *Liberal*: promotion of state autonomy through bargaining; little state involvement with the economy other than setting the legal framework and providing the necessary incentives to enhance private businesses; emphasis on national competitiveness considering the pressures from the international environment (e.g. Parti Libéral, Parti Radical - Switzerland; The Liberals - UK).
- *Socialist*: promotion of state ownership and control of the basic means of production, distribution and exchange to render viable the social programs and security (e.g. Parti Socialiste - Switzerland; Labor - UK).
- *Communist*: promotion of state involvement to regulate the economy and to control all the factors of production through coercion with the view to distributing income evenly (e.g. POP - Switzerland; Parti Communiste - France).

⁸ Sodano, 2001: 45.

⁹ Sodano, 2001; Ball et al. 2004.

References:

BALL, DONALD et al. (2004), *International Business: the Challenge of Global Competition*, 9th edition, New York: McGraw-Hill

HELD, DAVID (1991), 'Democracy and the Global System', in DAVID HELD (ed.), *Political Theory Today*, Oxford: Blackwell

SODANO, MICHAEL (2001), *Comparative Politics: a Global Introduction*, New York: McGraw-Hill

Further Research

Political ideologies; state structure; state and globalization

SESSION 16: Why the state?

Aims

The aim of this session is to

- Explore externalities
- Explore public and private goods

Expectations

At the end of this session the student will

DA4	I	analyze the advantages and disadvantages, for the overall economy and various stakeholder groups, of privatization compared to the public provision of a specific good or service (e.g., private versus public education, private versus government controlled liquor sales).
AC3	I	analyze whether and to what extent decisions made by markets in the public and private sectors promote achievement of the macroeconomic goals of equity and freedom.
CD3	K	explain how externalities (e.g., third-party costs) result in conflicts in individual stakeholder goals and may prevent the achievement of economic goals.
EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

The necessity of the state

Arguably, the state is necessary for two main reasons: to lessen the effect of externalities and to make public goods available.

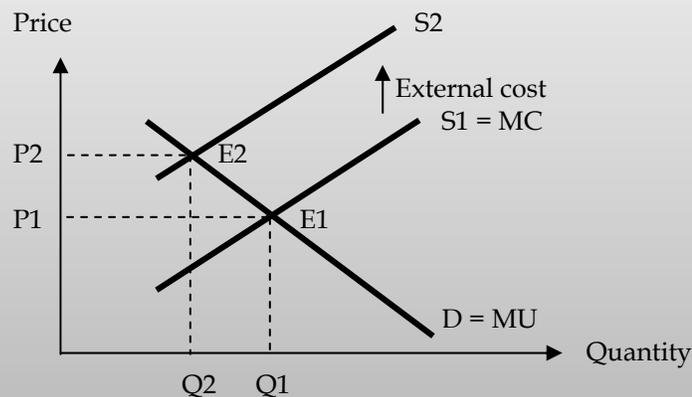
TOOL 17: Dealing with Externalities

Externalities

An externality arises 'when a person engages in an activity that influences the well-being of a bystander and yet neither pays nor receives any compensation for that effect'¹⁰. Externalities can be

- *Negative*: the cost to society is larger than the cost of its production (e.g. pollution, waste).
- *Positive*: the benefit to society is larger than the benefit received through production (e.g. education).

Graphically, an externality affects the allocative (Pareto) efficiency of the market¹¹:



In the case of a negative externality, the social costs (S2) are more important than the private costs $S1 = MC$ and thus instead of the market finding an equilibrium at (E1), it is optimized at (E2) as if there was a shift (S1) to (S2).

Solutions

The solution to the above is to *internalize the externality*, that is, through state involvement via¹²:

- Regulations.
- Corrective taxes that represents the cost to society so that the optimum equilibrium becomes the market equilibrium.
- Permits.

¹⁰ Mankiw, 2007: 204.

¹¹ Mankiw, 2007.

¹² Ibid.

But private solutions may also be a feasible option – *Coase theorem* – even though they may be seen to be the cause of externalities, which involves resorting to bargaining and taking advantage of business synergies. But bargaining involves transactions costs that may not induce parties to seek solutions to solving externalities¹³.

Public goods

Following Mankiw there are two types of goods according to whether they are excludable and rival in consumption¹⁴:

- *Private goods* which are excludable and rival.
- *Public goods* which are neither excludable nor rival.

Additionally¹⁵:

- Common resources which are rival but not excludable
- Natural monopoly products which are excludable but not rival

The reason why public goods are provided by the state is that, if such goods were privately supplied, they would only be available to some but not to all, i.e. such markets would not be efficient. This would be exacerbated when some persons would seek to receive the benefits of such goods without willing to pay for them – *free rider problem*.

For instance, suppose I share a car parking space with my neighbor and it snows: if I plough the snow for my car, my neighbor gets the benefit from my action whereas I get the benefit but pay the cost. One could then argue that I should not plough the snow and wait for my neighbor do it. The risk I am taking is that my neighbor might actually not plough the snow at all! The solution is either collusion or having a private external agency plough the snow and us paying for the job or that the state takes care of it and us paying for the service through the taxes.

Common resources such as fish in sea or lakes are prone to “the tragedy of the commons”, in that since they are freely available but rival in consumption because one consumer’s use reduces another’s ability to use them, they are in danger of depleting. Hence the role of the state to regulate such consumption and protect endangered species

¹³ Ibid. A case in point is the Kyoto agreement.

¹⁴ Ibid.

¹⁵ Ibid.

TOOL 18: Listing the Roles of the State

Role of the state

Accepting, therefore, the necessity of the state, the main roles that the state plays in the *domestic economy* include:

- Monitoring prices.
- Controlling inflation.
- Managing the supply of money and the exchange rates together with the central bank.
- Enhancing innovation and competitiveness.
- Controlling unemployment.
- Controlling taxes.
- Investing in growth industries.
- Developing and improving the infrastructure.

The main roles that the state plays in the *transnational economy* include:

- Establishing trade policies.
- Developing trade regulations.
- Assisting exporting industries.
- Maintaining relations with other nation-states.
- Promoting the domestic economy abroad.

TOOL 19: Understanding State Instruments

Economic instruments

Considering that the main *purpose of the state* is to keep the economy in balance, allocate resources efficiently, and ensure financial viability, the state uses the following economic instruments to achieve its purposes:

- *Expenditure* (G) to induce firms to produce certain commodities.
- *Revenue* (T) that is generated through the tax system (e.g. VAT, tariffs) and participation in the private sector through investments and shareholding.

Additionally, the state uses *laws* to regulate the state budget and the economy by addressing market failures and the effects of imperfect competition.

Principle

The state seeks to keep its budget in balance; hence $G = T$. In the case of *deficit*, that is where $G > T$, the state can resort to the following actions:

- Raise taxes, which is politically unthinkable¹⁶.
- Borrow money and pay an interest (i.e. cost for borrowing money) which poses a creditworthiness problem (i.e. can the state pay back?) not to say that it does not deal with the problem as to why there is a deficit in the first place.
- Use reserves from surplus years.
- Print out money which brings about an inflationary trend.

Thus even though a temporary deficit in the face of recession may not have long-lasting effects, “chronic” deficits distort the economy in that in its effort to finance a deficit, the state removes money from the economy i.e. there is less money in circulation that ought to have been under a balanced budget. Therefore, one should also expect an effect on exchange rates¹⁷.

Expenditure

In terms of *expenditure*, the state, typically, spends on:

- Entitlement programs.
- Programs supporting the agriculture and other vital or ailing industries.
- Grants to local governments.
- Defense.
- Environmental services.
- Transportation.
- Education.
- Health care system.
- Infrastructure.
- Housing.

The percentages allocated to such items are subject to political debate.

References:

MANKIWI, GREGORY (2007), Economics, 4th ed., Mason: Thompson

¹⁶ Except maybe in Switzerland !

¹⁷ Online 1.

Online 1: GULKAN, YAPRAK & BILAM, MUSTAFA (2005), The Effects of Budget Deficit Reduction on Exchange Rate: Evidence from Turkey, *University of Connecticut: Ideas*, <http://ideas.repec.org/p/deu/dpaper/0507.html>, accessed on 18.9.8

Further Research

Externalities; social costs; public and common goods

SESSION 17: National indices

Aims

The aim of this session is to

- Explore national indices.
- Calculate national indices.

Expectations

At the end of this session the student will

DA2	K	describe the nature, causes, and consequences of economic institutions and activities that are part of the “hidden” economy;
EB2	K	define and calculate the following statistical measures: economic output (gross domestic product [GDP]), economic growth (changes in real GDP over time), standard of living (real GDP per capita), balance of trade (exports versus imports), and productivity (output per worker);
EB3	I	evaluate the validity of the most commonly used measures of economic wellbeing (e.g., growth, standard of living, inflation, unemployment, poverty);
EB4	K	describe measures of economic well-being and performance other than those based on the System of National Accounts (e.g., human-development index);

National income

Given the equivalence of the (expenditure on) goods flow approach and the earnings flow approach, the income of an economy is its output that is produced with a certain level of expenditure: (Expenditure on) Goods (consumption + domestic investment + state expenditure + net foreign purchases) = Y = Earnings (wages + rent + interest + indirect taxes + profits).

Thus the following measure of aggregate expenditure: $Y = C + I + G + X$.

TOOL 20: Measuring National Income

Economic performance is measured with the following *domestic measures*¹⁸:

¹⁸ Zamaros, 1995.

- *Gross Domestic Product (GDP)*: measures expenditure made domestically only: $GDP = C + I + G + X$; the (GDP) is measured at current prices; unfortunately, this measure does not take into account a global reality i.e. earnings made abroad – this the (GNP) does.
- *Real Gross Domestic Product (RGDP)*: measures expenditure made domestically at constant prices; to obtain the (RGDP), (GDP) must be deflated by the Gross National Product Deflator (DGDP) i.e. % measure of inflation where $DGDP = (GDP \text{ at current prices } \times 100) / (GDP \text{ at constant prices})$; thus $RGDP = GDP / DGDP$

Economic performance is measured with the following *national measures*¹⁹:

- *Gross National Product (GNP)*: measures the earnings for the total economic activity made domestically and abroad: $GNP = C + I + G + X + FY$ where FY measures the income made abroad; the (GNP) is measured at current prices i.e. nominal measure.
- *Real Gross National Product (RGNP)*: measures the earnings for the total economic activity at constant prices; to obtain the (RGNP), (GNP) must be deflated by the Gross National Product Deflator (DGNP) i.e. % measure of inflation where $DGNP = (GNP \text{ at current prices } \times 100) / (GNP \text{ at constant prices})$; thus $RGNP = GNP / DGNP$.
- *Gross National Product per capita (GNP/h)*: measures the output per person and serves as a welfare indicator.
- *GNP at factor cost (GNPfc)*: measures the output at market prices less taxes plus subsidies: $GNP - T - Sb$.
- *Net National Product (NNP)*: measures the total economic activity less the depreciation (δ) which measures the amount of capital used up per year: $GNP - \delta$.
- *National Income (NI)*: earnings made through labor, capital (less depreciation), and land: $GNP - \delta - \text{indirect taxes}$.
- *Net Economic Welfare (NEW)*: it is an adjusted measure of GNP that includes only consumption and investment items that contribute directly to economic welfare.

Activity 1: individually establish the real GNP supposing that an economy produces 1000 units of a commodity sold at CHF 2.- in 2004 and that in 2005 it produces 1010 units sold at CHF 2.50 the unit.

	2004	% change	2005
Output Q	1000		1010
Price P	2.00		2.50
Nominal GNP			
Deflator			
Real GNP			

¹⁹ Ibid.

Activity 2: given the following data, individually calculate GDP, GNP, GNP at factor cost, and NNP

consumer expenditure	135'000.00
general government final consumption	50'000.00
gross domestic fixed capital formation	25'000.00
increases in stocks	-2'000.00
exports	45'000.00
imports	40'000.00
net property income from abroad	-50.00
taxes on expenditure	60'000.00
subsidies	10'000.00
capital consumption	30'000.00

Activity 3: in pairs, research on the national indices of an economy and those provided by international organizations to supplement the above domestic and national measures.

Other indices:

References:

ZAMAROS, PANAYOTIS (1995), *Macroeconomic Theory and Practice*, Caux: SHMS

Further Research

National income and other indices

SESSION 18: Forecasting

Aims

The aim of this session is to

- Forecast quantitative changes.

Expectations

At the end of this session the student will

EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

TOOL 21: Using Econometrics

Econometrics

Econometrics involves the quantitative measure of *forecasting* that is based on causal relations between two variables, one of them being time and the other being any macroeconomic variable²⁰.

It is, in other words, based on a correlation in a scatter of data that is represented by the line of best fit which serves the purpose of predicting trends for the years to come.

It is therefore necessary to know the values of (*a*), the intercept, and slope (*b*), where (*m1*) and (*m2*) are the means of the variables (X) and (Y) respectively:

$$a = m_2 - bm_1$$

$$b = \frac{\sum (X - m_1)(Y - m_2)}{\sum (X - m_1)^2}$$

The degree to which the line is representative of the scattered data for variables x and y is given by the *correlation coefficient* R^2 where $0 < R^2 < 1$:

²⁰ The same technique can also be used for microeconomic variables.

$$R^2 = \frac{(\sum (X - m1)(Y - m2))^2}{\sum (X - m1)^2 \sum (Y - m2)^2}$$

Activity 1: individually, with the help of a spreadsheet, establish the line of best fit and its goodness of fit based on the following:

<i>X (year)</i>	<i>X</i>	<i>Y (income)</i>	<i>X-m1</i>	<i>Y-m2</i>	<i>(X-m1)(Y-m2)</i>	<i>(X-m1)²</i>	<i>(Y-m2)²</i>
2005		1					
2004		4					
2003		4					
2002		5					
2001		6					
					Σ =	Σ =	Σ =

Activity 2: individually, use the draw functions of the spreadsheet to draw the line of best fit.

Activity 3: forecast income for the year 2006.

Activity 4: research statistics from official (i.e. national) statistics websites to extract data on national income.

Further Research

Econometrics

Sub-task 5: Forecasting

Aims

The aim of this session is to

- Revise main concepts.
- Discuss main issues.

Expectations

At the end of this session the student will

EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Task

Use income data from official statistics websites of the nation-state of your choice to forecast income for the following 2 years with the help of econometrics.

Continue with data on consumption, investments, and state expenditure.

UNIT 7

INFLUENCING THE ECONOMY

Sessions:

- 19. AD-AS model
- 20. Fiscal mechanisms
- 21. Monetary mechanisms
- 22. State policies
- Sub-task 6: Country research

Tools:

- TOOL 22: Describing Aggregate Demand
- TOOL 23: Describing Aggregate Supply
- TOOL 24: Assessing Fiscal Systems
- TOOL 25: Understanding the Welfare Effect of Taxes
- TOOL 26: Demand and Supply for Money
- TOOL 27: Multiplier

SESSION 19: AD-AS model

Aims

The aim of this session is to

- Explore aggregates
- Explore the AD-AD model

Expectations

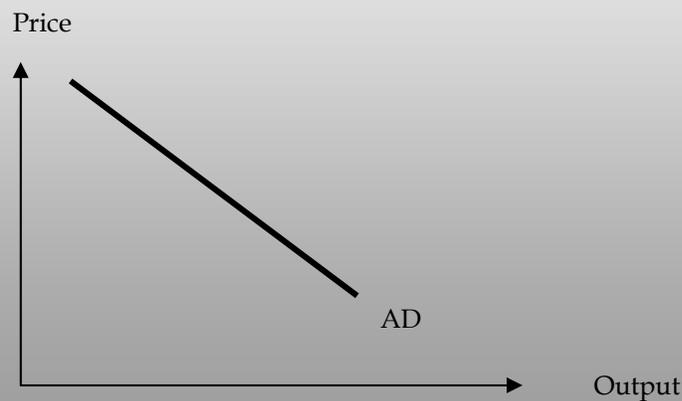
At the end of this session the student will

CA1	K	explain why an understanding of market activity is in the self-interest of stakeholders (e.g., because it permits them to forecast change);
EB6	K	explain the major theories of prominent economists (e.g., Adam Smith, David Ricardo, Thomas Malthus, Karl Marx, John Maynard Keynes) in the context of the economic issues and challenges of their times;

TOOL 22: Describing Aggregate Demand

Aggregate demand

Aggregate Demand (AD) is the total sum of the planned demand and hence planned expenditure of all economic agents in the economy at a given price level. The relationship between the aggregate demand and the price level is given by the aggregate demand function: $AD = C + I + G + X$:



Effects

The main feature of the (AD) curve is that it is *downward sloping* for three reasons¹. To start with, there is the *wealth effect*: a decrease in the price level raises the real value of money and makes consumers wealthier, which in turn encourages them to spend more, hence purchasing additional goods. Further, the *interest-rate effect* in that a lower interest rate encourages greater spending on investment, hence an increase in the quantity of goods demanded. Finally, there is the *exchange-rate effect* where the fall in the level of prices, hence the fall in interest rates, brings about a decrease in the real value of the domestic currency relative to foreign currencies, which, by stimulating net exports, increases the quantity of goods demanded.

What is problematic nevertheless here is the direction of the causal relation from the level of prices (P) to income (Y) in that a change in the price level affects a number of variables (value of money, interest rate, value of domestic currency), and therefore national income. Yet, the state cannot decide on the level of prices in the same manner as firms do! Thus, since the state cannot decide on the level of prices as firms do, such a level, and any change thereof, is merely the result of a change in a host of variables that the state cannot control. Yet, the state seeks to offset or at least control their effects.

AD determinants

It is therefore important to highlight the major determinants of the (AD) curve. There are three views on this matter².

First, the *Classical view* considers that the major determinant of the (AD) curve is household income and spending, hence an emphasis on *consumption* (C), *credit and investments* (I) through the bourses.

Next, the modern or *Keynesian view* considers that the major determinants of the (AD) curve are *state expenditure* (G) and *investments* (I).

In opposition³, the *Monetarist view* considers that there is a relationship between the value of all purchases and the money available in the economy, actually or perceptually. Thus the demand for expenditure which is none different from the demand for *transactions money* (L) is affected by the *supply of money* (M) and therefore by the interest rate.

¹ Mankiw, 2006

² Zamaros, 1995

³ Monetarism considers that state expenditure is a catalyst for inflation especially when the state runs a budget deficit as it cannot spend enough money in the infrastructure necessary for energizing the industries and hence the aggregate supply.

To sum up, the (AD) curve shifts for the following reasons:

- Increased savings shifts the (AD) curve to the left – encouraging saving.
- Bullish bourses shift the (AD) curve to the right – attracting investments.
- Improvements in technology shift the (AD) curve to the right – encouraging innovation.
- Increases in tax credits shift the (AD) curve to the right – fiscal policy.
- Increase in the money supply shifts the (AD) curve to the right – expansionary monetary policy.
- State investment in infrastructures shifts the (AD) curve to the right – expansionary fiscal policy.
- Decreases in the money supply shifts the (AD) curve to the left – tight money.
- Lowered purchases by the state shifts the (AD) curve to the left – lower consumption.
- Recessions in home economies reduce imports shifting the (AD) curve of the foreign economy to the left – lower consumption.
- Appreciations of the home currency making exports more expensive than imports shifts the (AD) curve to the left – increase in price and lower consumption.

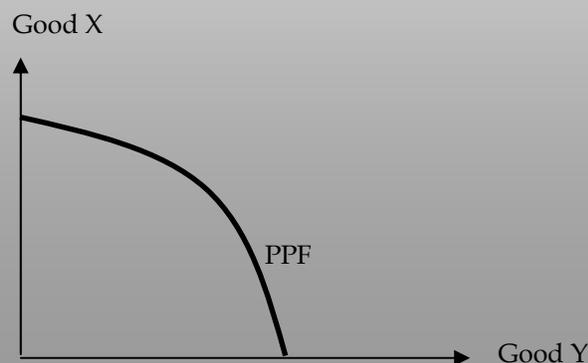
TOOL 23: Describing Aggregate Supply

Aggregate supply

The *Aggregate Supply* (AS) shows the total quantity of goods and services that are provided by firms in an economy at any price level.

The total quantity of commodities can be shown as the *production possibility frontier* (PPF), as the limit where the economy uses its resources, that is (N), (L) and (K), in the most efficient manner given the state of technology. Beyond the frontier, the economy is overusing its resources, and by association, within the frontier the economy under-uses its resources.

In a simplified manner, if an economy produces goods (X) and (Y), its PPF shows the optimal production of combinations (X, Y).



Composition of the AS

The way the (AS) is composed depends on what view one adopts⁴.

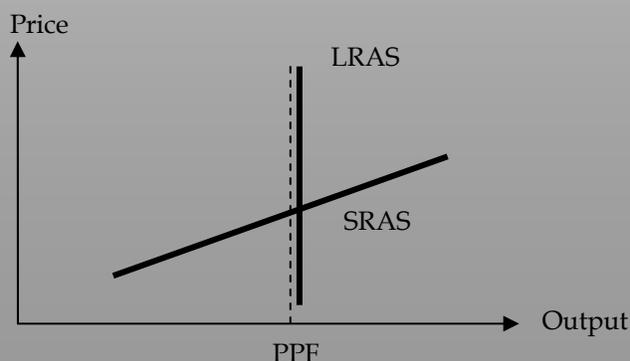
The *Classical view* considers the market to be perfectly competitive and thus prices and wages are flexible relative to changes in demand and supply. Thus, over-production or under-production is impossible since markets clear perfectly (*Say's Law*). It follows that the state need not intervene to correct the markets. However, in the short run firms do not know why prices change – *Price Surprises Model* – because such changes could either be due to strategic decisions or because of a more general trend that is inflationary. Thus, in the short run at least, markets cannot be perfectly competitive: firms need to respond to price changes and the state needs to correct any imbalances in the markets.

The modern or *Keynesian view* considers the market to be on the whole imperfectly competitive because firms seek to influence the level of prices, the costs of production factors, and in particular wages. However, wages tend to be relatively inflexible as they do not adjust quickly to changes in demand and supply⁵. Hence full employment is not attained: the state must intervene to ensure that production is maximized and consumption is encouraged.

The *Monetarist view* also considers the market to be perfectly competitive in that prices and wages can change quickly according to the requirements of the market rendering the industries competitive. However, wages do not increase uniformly in all the industries and not as much as expected: the markets do not clear as fast as they should.

AS Curves: Classical and Monetarist views

The (AS) in the short run is upward sloping since there is responsiveness of firms to changes in prices. The (AS) curve, in the long run is vertical. It expresses the long-term equilibrium in the economy (perfectly competitive). Graphically⁶:



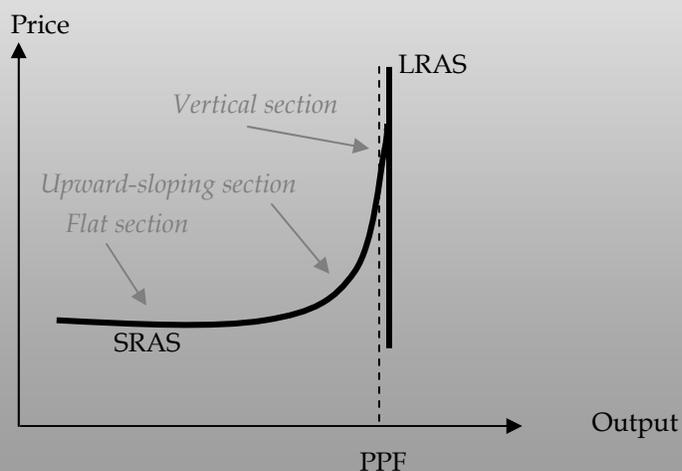
⁴ Zamaros, 1995.

⁵ Mention should be made here that firms are unwilling to increase wages and this could be one reason for wages being “sticky”.

⁶ Zamaros, 1995.

AS Curves: Modern or Keynesian view

The *Short Run Aggregate Supply* (SRAS) shows different stages of the economic activity. In the *underproduction stage* (SRAS flat section) economic activity is low and inefficient and there is room for improvement. At the *optimum production stage* (SRAS upward-sloping section) there is a booming activity at near potential (PPF). At the *overproduction stage* (SRAS vertical section), the economy is unable to respond to changes as the resources are over-utilized. The *Long Run Aggregate Supply* (LRAS) shows the economy at its maximum potential, with rising prices resulting in a bargain between labor seeking higher wages to offset the effect of higher prices, and firms seeking to keep their costs stable. Graphically⁷:



AD and AS

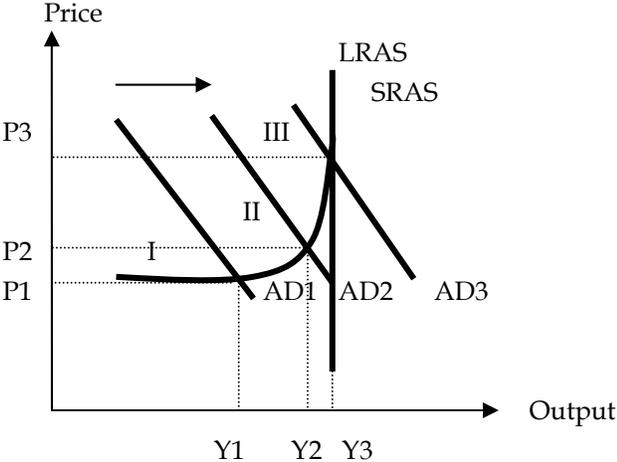
The interaction between a rightward shift in (AD) and the (AS) curves under the Keynesian view defines three areas⁸:

- Area I, where output grows to optimize underutilized resources (i.e. low productive capacity because of obsolete machinery, and unemployment) with low inflation at (P1) and output at (Y1).
- Area II where resources are utilized at their optimum (up-to-date machinery and full employment) but with a growing inflation from (P1) to (P2) that accompanies output growth from (Y1) to (Y2).
- Area III where resources are over-utilized hence output stagnates at (Y3) (i.e. at its potential) with growing inflation from (P2) to (P3) - *stagflation*.

⁷ Ibid.

⁸ Ibid.

Graphically:



References:

MANKIW, GREGORY (2007), *Economics*, 4th ed., Mason: Thompson
ZAMAROS, PANAYOTIS (1995), *Microeconomic Theory and Practice*, Caux: SHMS

Further Research

Aggregate demand and supply

SESSION 20: Fiscal mechanisms

Aims

The aim of this session is to

- Explore fiscal systems.
- Explore tax effects.

Expectations

At the end of this session the student will

DB2	I	analyze how and for what purposes fiscal policy tools (e.g., taxation and spending) are applied at each level of government (i.e., federal, provincial, and local);
AD4	I	evaluate the effectiveness of government legislation (e.g., related to employment standards/health and safety legislation) and programs (e.g., education, health care, employment insurance, pensions, welfare) designed to enhance the economic security of Canadians.
DB2	I	analyze how and for what purposes fiscal policy tools (e.g., taxation and spending) are applied at each level of government (i.e., federal, provincial, and local);
EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Taxes

Taxes are considered to be the part of the resources of the household and the firm that are used by the state for the provision of public goods; they tend to reduce either consumption expenditure, or saving or all three.

Taxes mainly include:

- Excise tax on goods.
Example: taxes on cigarettes.

- Income tax on revenue received.
Example: taxes on wages.
- Property tax on assets held.
Example: tax on a house.
- Value added tax (VAT, GST) on any item that is consumed.
Example: in Switzerland one pays 7.5% VAT on the price sold for beverages.

According to who pays the tax one can distinguish between *direct* and *indirect taxes*. In the former case, the tax payer pays directly a given tax: the formal and the effective incidence of the tax are the same. This is the case with income and property taxes. In the later case, the tax is shifted onto another tax payer: the formal and the effective incidence of the tax are different. This is the case with excise tax and VAT because although it is the firms who pay the tax, it is actually the consumer who bears the burden.

TOOL 24: Assessing Fiscal Systems

Tax equity and efficiency

When computing taxes one speaks of *taxable income*, which is the portion of the income that is taxed net of deductions. The tax is then calculated as a percentage of the taxable income referred to as the *tax rate*, which serves as a tax base.

To compute a tax two notions are used:

- *Marginal tax* (MT): it is the rate that applies to the last franc of the taxable income; it can also be seen as the additional tax that is paid with an increase in the taxable income and thus determines the equity of the tax system: $MT = \Delta T / \Delta Y$; an increase or a decrease in the marginal rate at a given bracket of taxable income induces or restrains people to consume.
- *Average tax* (AT): the amount of taxes paid as a percentage of taxable income: $AT = T / Y$; the sum total of received average taxes determines government revenue.

Since the marginal taxes determine the *equity* of the tax system whereas average taxes determine the *efficiency* of the system, the state is faced with a policy dilemma of how to minimize the conflict between these objectives because on the one hand it needs to generate sufficient revenue for its expenditure, while on the other it needs to manage the tax system in a way which is equitable.

Income tax principles

Thus the way the tax system is designed to operate takes into account a number of principles.

To start with, *horizontal equity*, in that those who are essentially equal should be taxed equally. Thus earners of the same income will be paying according to the same tax rate.

Next, *vertical equity* in that people with different levels of income should be taxed accordingly. In other words, the more one earns the higher the tax rate. Vertical equity requires that the tax system is at least *proportional*, that is when the proportion of income taken in tax is equal to a proportionate increase in income, or at best *progressive* and that is when the proportion of income taken in tax increases with a proportionate increase in income. In such cases the average tax is lower than the marginal tax. Some governments, however, for fear that an overly progressive tax may drive high income earners away, tend to render the system *regressive* and that is when the proportion of income taken in tax decreases with a proportionate increase in income. But the tax system is not equitable in that the burden of the tax is borne by the lower income earners.

Next, the *ability-to-pay principle* in that the amount of taxes paid should relate to one's income, wealth and ability to pay. Thus a person whose income is low and whose ability to pay is low should not pay tax. However, the person may be paying taxes indirectly especially VAT.

Last, the *benefit principle* in that people should be taxed proportionally to the benefit they receive from the state. Thus, although it may seem awkward, benefit earners are taxed proportionally to the amount they earn: the greater the benefit, the higher the tax.

Activity 1: in considering the following data, assess Thailand's fiscal structure.

Tax rates of the Personal Income Tax (<http://www.rd.go.th/publish/6045.0.html>)

Taxable Income (baht)	Marginal Taxable Income (baht)	Tax Rate (%)
0 - 150,000 (2005 onwards)	150,000	Exempt
150,001 - 500,000	350,000	10
500,001 - 1,000,000	500,000	20
1,000,001 - 4,000,000	3,000,000	30
4,000,001 and over		37

In the case where income categories (2) - (8) mentioned in 2.1 are earned more than 60,000 Baht per annum, taxpayer has to calculate the amount of tax by multiplying 0.5% to the assessable income and compare with the amount of tax calculated by progressive tax rates. Taxpayer is liable to pay tax at the amount whichever is greater.

Computing income taxes

To compute income taxes there are two systems:

- *Self-assessment systems*, whereby the tax payer assesses the amount of tax to be paid (e.g. Switzerland).
- *Withholding systems*, whereby it is the tax authorities who determine the amount of tax to be paid (e.g. UK).

In contrast to the self-assessment principle, withheld income tax is calculated by the tax authorities following two systems of calculating the tax liability:

- *Cumulative system* whereby the tax liability is accumulated throughout a given taxable period⁹.
- *Non-cumulative system* whereby the tax liability is not accumulated but set for a taxable period.

The tax in both cases is directly withheld from earnings and it is the employer's liability to do so.

Cumulative system

Under the cumulative system¹⁰ the actual amount of tax deducted in any period depends on the income already received in the year as well as the income received in the current period. Thus the system is able to deduct the correct amount of tax throughout the year and at the end of the year the total amount of tax collected should be equal to the taxpayer's liability.

Suppose that the tax rate set by the authorities is 25% of taxable income and that total deductions for the tax period amount to Fr. 2080. Thus the effect of accumulation would divide the taxpayer's total allowances into fifty-two periods of Fr. 40 worth allowances each week.

The calculation for each week proceeds as follows. Cumulative deductions are subtracted from cumulated income to generate the taxable income. The tax liability is calculated as 25% of taxable income and the actual dues are the difference between two tax liabilities:

- For week 1, the individual earns Fr. 160 and since is allowed Fr. 40 his taxable income is Fr. 120 (160 - 40). His tax liability is then 25% of Fr. 120 that is Fr. 30.
- For week 2, an additional income of Fr. 200 yields cumulative income of Fr. 360 and his taxable income is Fr. 280 (360 - 80) – the new tax liability is then Fr. 70 and the actual dues Fr. 40 (70 - 40).

⁹ This system is mainly used in the UK, better known as the Pay-As-You-Earn scheme (PAYE).

¹⁰ Zamaros, 1995.

- For week 3, the same calculation yields a due of -10, which would constitute a rebate, payable at the following tax period.

WEEK	GROSS INCOME	CUMULATED INCOME	CUMULATED DEDUCTIONS	TAXABLE INCOME	TAX LIABILITY	ACTUAL DUES
1	160	160	40	120	30	30
2	200	360	80	280	70	40
3	0	360	120	240	60	-10

Non-cumulative system

Under the non-cumulative system¹¹ the tax liability is proper to a specific tax period and cannot be added to that of the previous tax period or that of the following tax period. The system also results in accurate tax deduction.

Given that the tax rate is 25% of taxable income, consider the following table:

WEEK	GROSS INCOME	DEDUCTIONS	TAXABLE INCOME	ACTUAL DUES
1	160	40	120	30
2	200	40	160	40
3	0	40	0	0

The difference with the cumulative system is that here the taxable income varies with changes in gross income. Hence the actual dues will vary accordingly.

Overall, the main difference between the cumulative and non-cumulative system is that in the former case, low earnings may affect the tax liability since a rebate is possible. In the latter case though, since a rebate is not possible, excess tax has been collected, which is refunded at the end of the tax period.

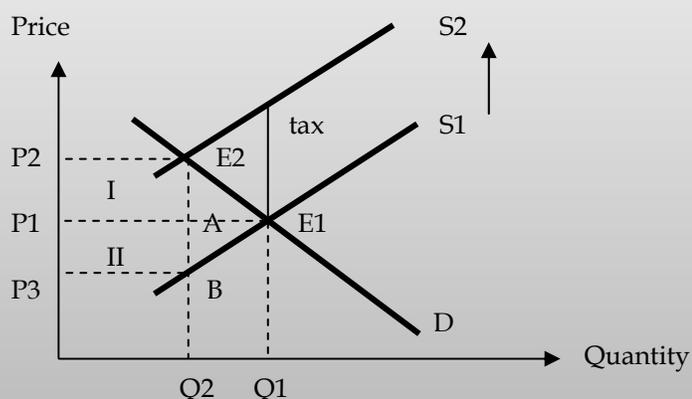
¹¹ Ibid.

TOOL 25: Understanding the Welfare Effect of Taxes

Effect of excise taxes

The effect of excise taxes is to reduce welfare. Graphically¹², the imposition of a tax shifts supply from (S1) to (S2), increases price from (P1) to (P2) and lowers the equilibrium quantities from (Q1) to (Q2). The tax will have the following effects:

- The consumer pays (P2) for a quantity (Q2) and bears a tax equal by area I (P2-E2-A-P1).
- The producer receives (P2) from the consumer but the government levies tax equal to P2-P3, thus the producer only receives (P3) when producing at (P2) as well as bears the tax equal by the area II (P1-A-B-P3).
- The tax, in reducing both consumer and producer surplus, brings about a deadweight loss (E2-E1-B)



Thus the *economic incidence* of the tax is both on the producer and consumer whereas the *statutory incidence* (i.e. who is liable to paying the tax to the state) is on the producer only.

Excise taxes are often used as a deterrent to consuming certain goods. However, the state will have to consider the effect of the tax in the increase in price according to the price elasticity of the product. If the government wants to raise a large amount of tax revenue, the government needs to impose a tax that has a large effect on the price and where there is mass consumption of that good: a good with a low price elasticity of demand such as cigarettes, alcohol, petrol since the greater the elasticity the smaller the revenue raised. But if the government wants to further raise tax revenue, an additional imposition of a tax substantially raises the price of the good thus the price elasticity tends to increase: the government's efforts will be frustrated if demand from relatively inelastic goods becomes elastic.

¹² Zamaros, 1995b.

The imposition of a specific tax may have disastrous effects on the industry's output given that the higher the elasticity the larger the change in (QS), meaning that producers prefer an imposition of a tax which affects their revenue the least and where consumers bear most of the tax incidence: goods that are relatively inelastic.

References:

ZAMAROS, PANAYOTIS (1995), *Hospitality Law: a Course*, Caux: SHMS

ZAMAROS, PANAYOTIS (1995b), *Microeconomic Theory and Practice*, Caux: SHMS

Further Research

Externalities; social costs; public and common goods

SESSION 21: Monetary mechanisms

Aims

The aim of this session is to

- Explore demand and supply for money.
- Describe credit creation.
- Discuss inflation.

Expectations

At the end of this session the student will

BA4	I	analyze the costs and benefits of an economic choice or change (e.g., a rise in interest rates) for different stakeholder groups (e.g., consumers, importers, workers, exporters).
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TOOL 26: Demand and Supply for Money

Money demand and supply

The flow of money in an economy is determined by its demand and supply of money relative to the financial needs of consumers and business organizations, as well as the demand and supply of the domestic (national) currency in the transnational markets.

In particular, the demand for money is determined by¹³:

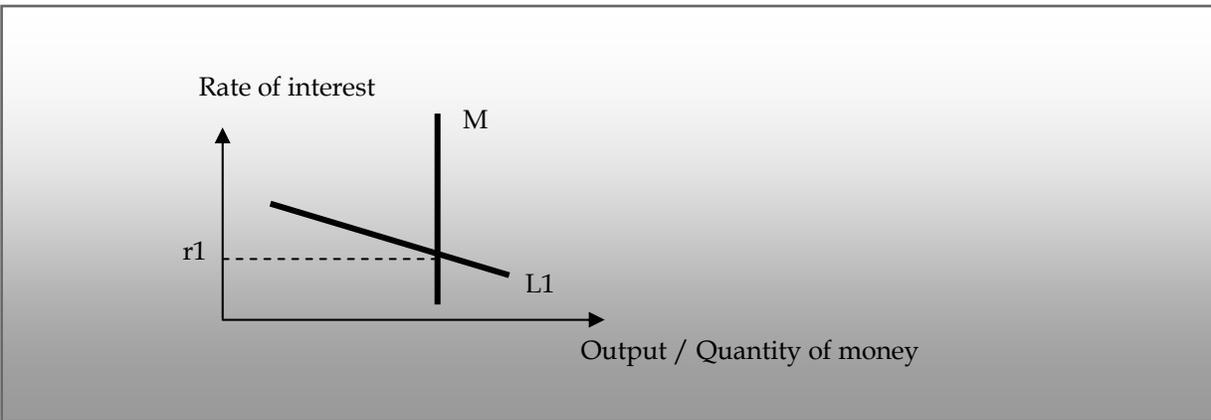
- The needs for financial transactions – paying bills (transactions demand for money)
- The savings given the (employment and financial) risks in the market (precautionary demand for money)
- The speculative purposes through the purchase and sale of bonds (speculative demand for money).

The supply for money is determined by¹⁴:

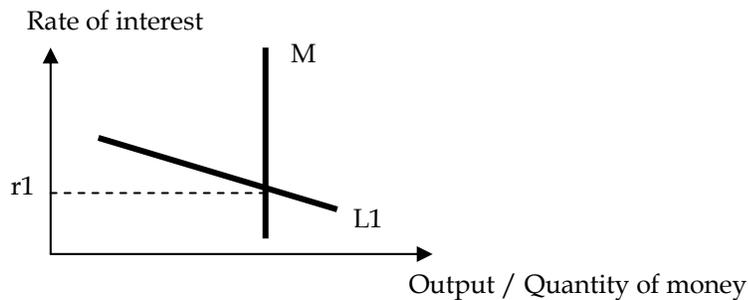
- The multiplier model of credit creation
- The national income model of credit creation.

¹³ Zamaros, 1995.

¹⁴ Dawson, 1995.



Activity 1: individually, what is the effect of an increase in demand?



Multiplier model of credit creation

Main economic actors for this type of supply are banks acting as intermediaries wherein funds are transferred from lenders to borrowers. One typically distinguishes between commercial banks and the central (federal, national) bank, which is the bank for banks.

Commercial banks are required to hold reserves, assets in the form of funds deposited by the commercial bank in the central bank used for deposit creation – the amount to be deposited is determined by the central bank. These are *legal reserve requirements*.

In the *multiplier model of credit creation* (exogenous model) credit is generated by the state by issuing a certain amount of cash to commercial banks or when banks create credits through the transformation of reserves into bank money through a multiple expansion (fractional reserve banking).

Suppose a deposit K of Fr. 1'000.00 and a legal reserve requirement (liquidity ratio) R is 10% and that the difference I is invested within the banking system (i.e. deposited in another bank):

	Assets		Liabilities
Bank 1	R	100	1'000
	I	900	
		1'000	1'000
Bank 2	R	90	900
	I	810	
		900	900
Bank n	R	1'000	10'000
	I	9'000	
		10'000	10'000

In other words, a deposit of Fr. 1'000.00 has generated a total flow of Fr. 10'000.00, which is the total amount that the banking system has in aggregate. Put differently, for any additional franc in reserves, the banking system creates Fr. 10.00 of additional deposits. Thus for a liquidity ratio of 10%, the amount of money has multiplied tenfold: $10 = 1/0.1$

The credit creation system defines the *money multiplier* (MM), a measure that serves to calculate the stock of money in taking into account the monetary base, i.e. cash in circulation: $MM = K/R$ for deposits (K) at a given liquidity ratio (R).

Thus if the state wishes to increase the supply of money it can either print it, which is to be avoided because of inflationary consequences, or instruct the central bank to engage in open market operations. It will determine the sale and purchase of state securities (bonds) through lowering or increasing the legal reserve requirements. In case of inflation it will lower the legal reserve requirements to bring about a money supply contraction thus a rise in the interest rate which will reduce consumption.

National income model of credit creation

In the *national income model of credit creation* (endogenous model) credit is generated when commercial banks meet customer demand for loans while taking steps to acquire liquid assets to meet future needs without the interference of the state (through the central bank).

Under the profit maximization logic the rate of interest is determined by the demand curve of the bank (marginal revenue curve) and its costs (marginal cost curve) that is, its ability to supply money. Thus an increase in national income induces an increase in the supply of money. If the state wishes to control the supply for money it adjusts the interest rates.

Inflation

Inflation is the rise of the general level of prices in the economy. It is expressed as a percentage relative to a base year (i.e. base weighting) or a previous year. Thus given two periods (P1) and (P2), $\text{inflation \%} = (P2 - P1) * 100 / P1$. *Deflation* is the opposite.

Inflation is typically measured by means of the *consumer price index* (CPI) and the *producer price index* (PPI).

Inflation comprises the following types¹⁵:

- *Moderate* (0-10%): there is confidence in the value of the national currency and state monetary policy: economic actors make savings and thus invest in all sectors of the economy with positive effects on growth.
- *Important* (11-50%): confidence in the value of money and monetary policy is variable as the state manages overall to control inflation: investments are made in growth industries mainly.
- *Galloping* (51-100%): there is little confidence in the value of money and state ability to control inflation: transactions take place with hard currencies and investments are mainly made abroad in refuge currencies.
- *Hyperinflation* (>100%): national currency is worthless and state monetary policies inefficient: money is traded by the kilo!

Inflation can be caused¹⁶ when aggregate demand and supply increase progressively while pushing outward the production potential of the economy: there is economic growth, betterment of the quality of life and a moderate increase in the level of prices (*inertial inflation*). Another cause is when (AD) shifts a lot quicker than the (AS) past the potential output of the economy (LRAS): there is overuse of resources with important or galloping inflation (*demand-pull*). Finally, inflation can be brought about when the costs of production rise owing to a rise in the costs of transportation or a devaluation of the currency, thus shifting (AS) to the left (*cost-push*).

In response to inflationary pressures, the state may encourage production growth and use *automatic stabilizers*, that is, fiscal and monetary policies.

However, according to the monetarist view, monetary policies need to focus on controlling the supply of money rather than the demand for money that is stimulated by fiscal policies because they consider the latter are ineffective to change the output.

¹⁵ Zamaros, 2008.

¹⁶ Zamaros, 1995

Additionally, monetary policies depend on the velocity of money. In particular, *Income Money Velocity* (V) measures the speed with which a currency “changes hands” within an economy. This velocity depends on the real domestic income, the level of prices (i.e. inflation) and the supply of money (M) that is made available to carry out monetary transactions.

Therefore $V = (P \cdot RGDP) / M$; hence $P = (M \cdot V) / RGDP$, that is $V = k \cdot M$ where k is a constant. If k is unchanged, the level of prices changes proportionally with the supply of money. This means that an increase in the supply of money in the economy triggers inflation and a fall in the rate of interest, which boosts consumption and investment expressed as a shift of the (AD) curve (fuelling inflation in the classical view).

References:

- DAWSON, GRAHAM (1995) ‘Money in Market Economies’, in MAUREEN MACKINTOSH et al., *Economics and Changing Economies*, Milton Keynes: Open University
- ZAMAROS, PANAYOTIS (1995), *Macroeconomic Theory and Practice*, Caux: SHMS
- ZAMAROS, PANAYOTIS (2008), *Economics – Lecture Notes and Activities*, Lausanne: P. Zamaros

Research

Banking; inflation

SESSION 22: State policies

Aims

The aim of this session is to

- Explore the multiplier model
- Appreciate fiscal and monetary effects

Expectations

At the end of this session the student will

AD2	K	explain how government fiscal policy (e.g., government spending and/or taxation) and monetary policy (e.g., increasing or decreasing interest rates and the money supply) can help stabilize the business cycle and prices and lower the unemployment rate;
AD3	I	evaluate how well current fiscal and monetary policies are achieving the goal of economic stability;
BA4	I	analyze the costs and benefits of an economic choice or change (e.g., a rise in interest rates) for different stakeholder groups (e.g., consumers, importers, workers, exporters).
CB3	K	describe why and how one change (e.g., a change in interest rates) can affect an entire economy (e.g., employment levels, prices, total output).
DB1	K	describe how government is involved in the economy (e.g., as a provider of public goods and services such as defence, supplier of infrastructure, employer of resources, regulator of competition and of aggregate demand, redistributor of income);
EB6	I	explain the major theories of prominent economists (e.g., Adam Smith, David Ricardo, Thomas Malthus, Karl Marx, John Maynard Keynes) in the context of the economic issues and challenges of their times;

TOOL 27: Multiplier

Multiplier model

The multiplier model shows short and medium-run changes in the components of the (AD) and their effect on output where the *multiplier* is the number by which the level of output grows as a result of a change in each component of the (AD) i.e. increased spending.

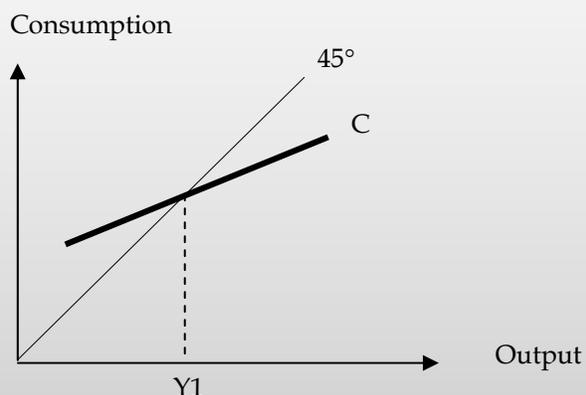
The state, in setting the multiplier and knowing the initial level of output (Y1) (i.e. GNP or GDP of the previous year) can decide on the size of expansionary fiscal and monetary policies in the open economy so as to attain its output objectives for the current year (Y2).

Thus, there is *multiplier effect* when spending 1 franc brings about an output worth more than 1 franc.

Consumption (C), Savings (S)

Consumption expenditure is represented with the *consumption function* (C) which shows the correlation between consumption expenditure (C) and income (i.e. output) (Y).

On the 45° line consumption equals income i.e. whatever is earned is spent; on the right of 45°, the household is saving; on the left it is dissaving:



Since the state is interested in determining how income will change relative to a change in consumption (as a component of the AD), it needs to establish the *Marginal Propensity to Consume* (MPC). This measures the additional consumption to an increase in income: $MPC = \Delta C / \Delta Y$; it shows the slope of the consumption function.

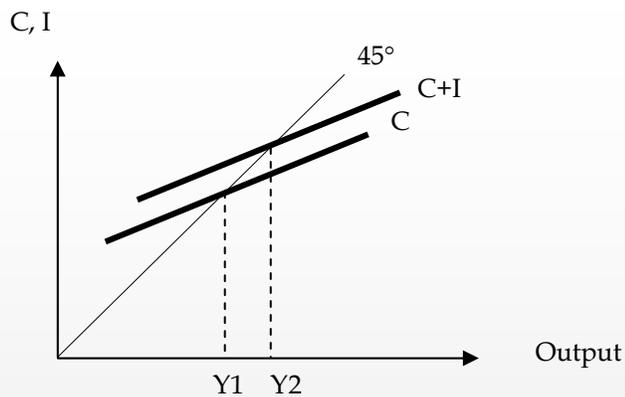
Given a level of consumption, the *savings function* (S) shows the relationship between savings (i.e. what is not consumed) and income; it is the mirror function of the consumption function.

Thus, the *Marginal Propensity to Save* (MPS) measure the additional savings made to increases in income, ceteris paribus: $MPS = \Delta S / \Delta Y$; it shows the slope of the savings function; considering that the consumption and savings functions are opposite then: $MPS = 1 - MPC$.

Investment (I)

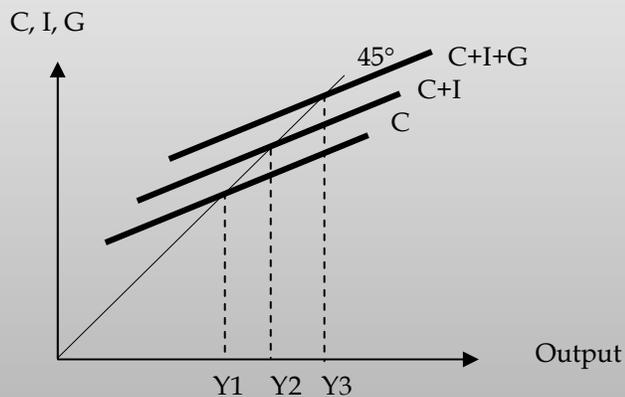
Expansionary monetary policies (as the increase in the supply for money M) lower the rate of interest, ceteris paribus, which in turn encourages consumption and debt financing by firms.

Thus an increase in *investments* shifts the (C) function upwards, raising the price, and the output:



Government expenditure (G)

An increase in state expenditure (fiscal expansion) encourages firms to produce more, and hence demand labor. This is seen as a shift of the (C + I) function upwards, raising output from (Y2) to (Y3) with a multiplying effect given by the *State Multiplier* $GM = 1 / (1 - MPC)$:

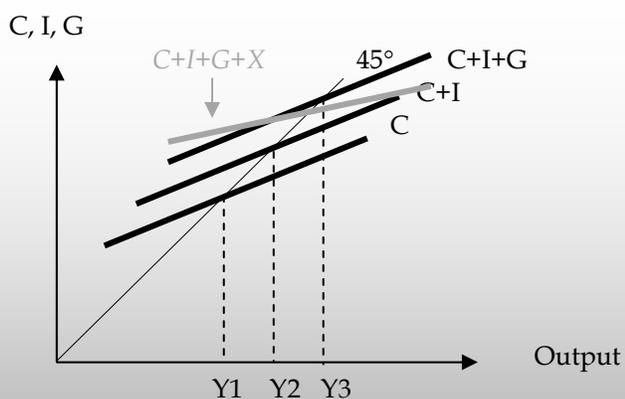


The *Tax Multiplier* (TM) is given by: $TM = MPC * [1 / (1 - MPC)]$.

Net exports (X)

Since net exports depend on how much of the consumption expenditure is made on imports, the state needs to establish the *Marginal Propensity to Import* (MPH) so as to measure the additional consumption on imports with respect to an increase in income: $MPH = \Delta H / \Delta Y$, and then calculate the *Net Exports Multiplier* (XM) with: $XM = 1 / (MPS + MPH)$.

An increase in net exports *tilts* the (C + I + G) function according to whether net exports are negative or positive:



Since the effect of net exports does not shift the $(C + I + G)$ function and thus there is no increase in output, one can consider that the net exports have virtually no multiplying effect. They could even reduce the multiplier effect and thus output from (Y_3) to (Y_2) since part of the consumption expenditure is devoted to imports.

Activity 1: in pairs, given the initial output Y_1 , consumption expenditure C , investments I , state expenditure G , exports E and imports H , establish Y_2 in the following table or means of a spreadsheet:

Y_1	C	ΔI	ΔG	ΔE	ΔH	X	Y_2
42	38	2	2	3.6	4.2		
39	36	2	2	3.6	3.9		
36	34	2	2	3.6	3.6		
33	32	2	2	3.6	3.3		
30	30	2	2	3.6	3.0		
27	28	2	2	3.6	2.7		

Activity 2: draw the AD components by using the draw function of the spreadsheet.

Activity 3: using the figures from the above table, calculate the following multipliers:

MPC =

MPS =

GM =

TM =

XM =

Critique

Despite its attractiveness, the multiplier model is not entirely reliable because it cannot account for a number of policy dilemmas and in particular the *crowding out effect*. This is when the increase in state expenditure raises the rate of interest upsetting expansionary monetary policies.

Further Research

Multiplier

Sub-task 6: Country research

Aims

The aim of this session is to

- Revise main concepts.
- Discuss main issues.
- Research the economics of a country.
- Present findings.

Expectations

At the end of this session the student will

EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Task

The Class is to be divided in 6 teams, each to research, prepare and formally present the components of AD and AS of one nation-state other than the student's origin.

UNIT 8

BOOSTING THE ECONOMY

Sessions:

- 23. Growth
- 24. Capital contribution
- 25. Labor contribution
- Sub-task 7: Country research

Tools:

- TOOL 28: Growth Accounting and Determinants
- TOOL 29: Understanding Labor Markets

SESSION 23: Growth

Aims

The aim of this session is to

- Explore growth models

Expectations

At the end of this session the student will

AB1	I	compare the performance of the Canadian economy at different times, including the present, with the performance of other economies;
AB2	K	explain the benefits and the costs of economic growth and of the efficient use of economic resources;
AB3	I	evaluate proposals (e.g., for regulation, market incentives) to reduce the negative consequences of growth (e.g., pollution, resource depletion);
AB4	K	explain how the current trend towards corporate concentration (e.g., mergers) may threaten or promote economic growth and efficiency.
AD4	I	evaluate the effectiveness of government legislation (e.g., related to employment standards/health and safety legislation) and programs (e.g., education, health care, employment insurance, pensions, welfare) designed to enhance the economic security of Canadians.
EB2	K	define and calculate the following statistical measures: economic output (gross domestic product [GDP]), economic growth (changes in real GDP over time), standard of living (real GDP per capita), balance of trade (exports versus imports), and productivity (output per worker);
EB3	I	evaluate the validity of the most commonly used measures of economic wellbeing (e.g., growth, standard of living, inflation, unemployment, poverty);

Growth

Growth can be looked at in three ways. First as *demand side growth*, that is, a shift of the (AD) curve expressed as the annual % change in (GDP), which is the *growth rate*. This is the common way to express growth. It includes the following types¹:

- *Negative growth* (<0%): state fiscal and monetary policies are ineffective in regards to the efficient use of resources in the economy; the situation is often accompanied by inflation.
- *Low* (0-2%): the growth rate is too low to have positive effects in the economy; the resources are still underutilized (i.e. rising unemployment) and the state cannot raise enough revenue to address social needs.

¹ Zamaros, 2006.

- *Moderate* (3-5%): a growth rate that gives the state enough resources to address a number of social issues (e.g. lower unemployment, finance pension schemes) so long as inflation is kept at low levels i.e. expenditure is controlled.
- *Important* (6-10%): considerable (foreign) investments in the economy are translated by rapid industrial growth and urbanization, bringing about a long-run strain on the local resources.

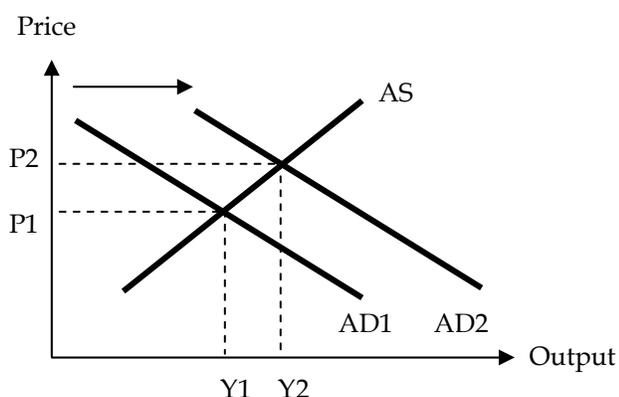
However, such growth rates apply to changes from year to year and as a nominal value, it does not take into account inflation. A more accurate measure is, therefore, the % change in the real (GDP)².

A second way to view growth is *supply side growth*: this is a shift of the (AS) curve.

A final way is to consider growth as the shift in economy's potential output expressed as the expansion of its (PPF): this is *production possibility growth*. This type of growth can be associated with economic development.

Demand side growth

Growth as the rightward shift of the (AD) curve is the result of an increase in consumption expenditure (due to a fall in the rate of interest, or increase in wages), in investments (due to increased savings, stock purchases and entry in new markets by businesses), in government expenditure due to increased tax returns (and not necessarily due to an increase in taxes), and an increase in net exports due to growth abroad (despite the increase in imports due to increased consumption expenditure). Graphically³:



However, *such growth is inflationary* since such increased expenditure signifies an increased demand for money that has to be met with an increase supply of money if the current interest rate is to be defended. Regardless of whether the state changes the supply of money or the

² This, arguably, is less remarkable than its nominal equivalent which explains why politicians and journalists indulge in using the nominal measures!

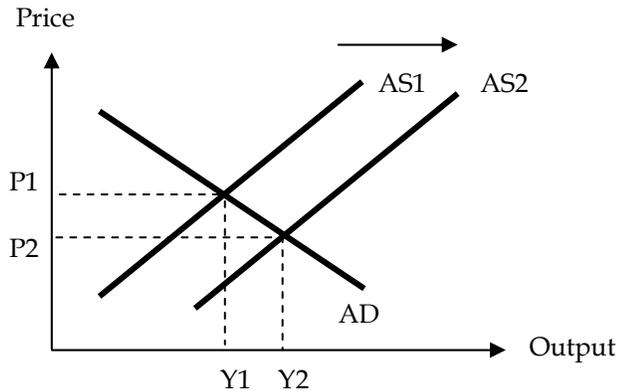
³ Zamaros, 1995.

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prime (interest) rates, the fact that now commodities are more expensive due to inflation will slow down growth.

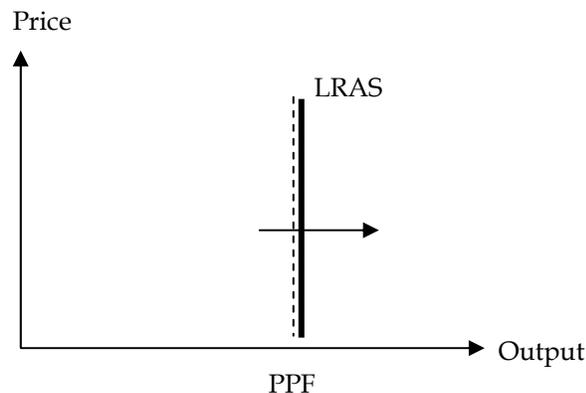
Supply-side growth

If in the Keynesian model it is the (AD) components that need to be managed by the state, in particular the taxes and state expenditure, while the others including consumption, investments and exports need to be encouraged by fiscal and monetary policies, from a supply-side perspective the state efforts should be geared towards improving the supply side of the economy mainly. This is achieved through improving the management of production relatively to the quantity and the price of resources (i.e. controlling wage increases). Further, the state together with the private sectors needs to manage innovation, research and development so as to give the economy the necessary competitive edge. But this is conditioned on improving worker skills and enhancing enterprise and business creation. Graphically⁴:



Production possibility growth

Growth as the outward expansion of the production possibility frontier is a long-term and *potential process*: it is about the shift of the (LRAS) curve. Graphically⁵:



⁴ Ibid.

⁵ Ibid.

In this case demand and supply side growth can be seen to be short-term. The reason for making the distinction between short-term and long-term growth is that the quantitative measures of the (AD) (i.e. GDP or consumption indexes) or that of the (AS) (i.e. production indexes) are not necessarily at potential output. That is, the economy is not as efficient as it is often assumed to be. Hence there is a *GDP Gap* that expresses the *difference between actual (GDP) and potential (GDP)* measured as a % of potential output.

TOOL 28: Growth Accounting and Contributions

Growth accounting

Growth Accounting seeks to assess the relative *contributions* of capital and labor to output growth.

To assess these contributions one considers that the increase in output (i.e. GDP) due to capital and labor employed equals the amount of capital and labor employed relative to their marginal product (MP). The estimated shares in national income of profits for labor are about 3/4 and for capital 1/4. In other words: $\% \Delta Y = \frac{3}{4} \% \Delta L + \frac{1}{4} \% \Delta K + \Delta Tec$; if $\Delta Tec = 0$ output grows with diminishing returns⁶. Other studies place these estimates at 4/5 for capital and 1/5 for labor.

But given the disagreement over such studies, a rough measure to establish the relative contributions is to identify which of the 4-5 top ranking industries of an economy is capital or labor intensive. Knowing for instance that in Switzerland the service sector accounts for more than 60% GDP and that this sector is labor-intensive, the contribution of labor to the Swiss economy would seem to be more important than that of capital

References:

ZAMAROS, PANAYOTIS (2006), *Economics: Notes and Activities*, Lausanne: P. Zamaros

ZAMAROS, PANAYOTIS (1995), *Macroeconomic Theory and Practice*, Caux: SHMS

Further Research

Growth

⁶ Ibid.

SESSION 24: Capital contribution

Aims

The aim of this session is to

- Explore capital as a determinant of growth
- Explore endogenous and exogenous growth

Expectations

At the end of this session the student will

BA4	I	analyze the costs and benefits of an economic choice or change (e.g., a rise in interest rates) for different stakeholder groups (e.g., consumers, importers, workers, exporters).
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Capital formation

Capital is formed through saving, which is the part of one's income that has not been spent. Typically one speaks of capital assets which are monetary, including cash, current account deposits, savings account deposits, or non-monetary including short-term loans to governments (treasury bills, IOUs), government bonds, equities (stocks of shares), and real assets (buildings and land).

Capital rent

Capital can be made available to borrowers in exchange for capital rent, that is, an interest (n) for the use of capital over a specified period (t). Thus the *interest rate* determines the rate of return on the use of a specific capital asset. Thus, given an asset (K_0), if after 1 year it is (K_1), then the interest is given by $n = (K_1 - K_0) / K_0$.

There are two relationships between capital invested and the (nominal) rate of interest. The first one concerns the *Future Value* (FV) of one's capital K , which is the amount of money an investment will grow over a period of time (t) at some interest n : $FV = K * (1 + n)^t$. Typical applications of such valuations include pension schemes and life insurance or similar banking products. The second one concerns the *Present Value* (PV) of one's capital, that is, establishing the necessary investment today given the expected earnings in the future at some interest rate n : $PV = FV / (1 + n)^t$. In this case it is typical banking and stock market products that are sought by international investors causing capital flows.

In addition to the present value, future value and interest rate (i.e. rate of return), it is both *risk*, as the variability contributing to saver's wealth, and *liquidity*, as the ease with which an asset can be sold or exchanged for goods, that determine the nature of investment.

Capital markets

In the market for capital, demand is affected by the following factors:

- *Investment expenditure*: depending on the production process: the firm's MRP curve.
- *State of the market*: an increase in the demand for good and services brings about the increase in investments.
- *Size of rent*: the lower the rent to be paid the greater the demand for investment.
- *Maturity of the rent*: time over which rent has to be paid.

The supply for capital is determined by:

- *Future expectations*: the more a person is certain about the future, the greater the savings.
- *Consumption preference*: the more an individual postpones present consumption, the greater the savings.
- *Income levels*: the greater the income, while holding consumption fixed over a period of time, the greater the savings.
- *Social factors*: saving habits of a community.

Capital and growth

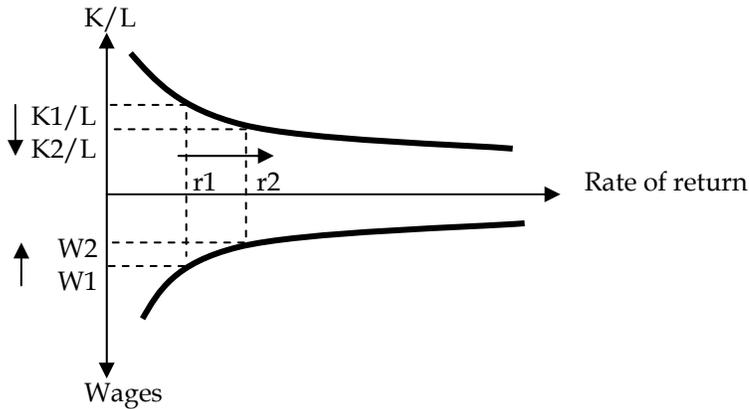
It is the increase in capital as a factor of production (capital deepening and capital expansion – exogenous growth) and the improvements in productivity due to technological advancement through R&D and innovation coupled with the perfection of labor skills (endogenous growth) that economic growth can be brought about. However, the use of monetary and fiscal policies (discretionary and automatic stabilizers) must accompany the process.

Exogenous growth

Capital deepening refers to the increased use of *capital relative to labor* (K/L). In other words, the industry or firm becomes more capital-intensive rather than labor intensive. This brings about a fall in labor factor costs (i.e. wages), and an increase in the expected rate of return relative to the capital employed (i.e. invested).

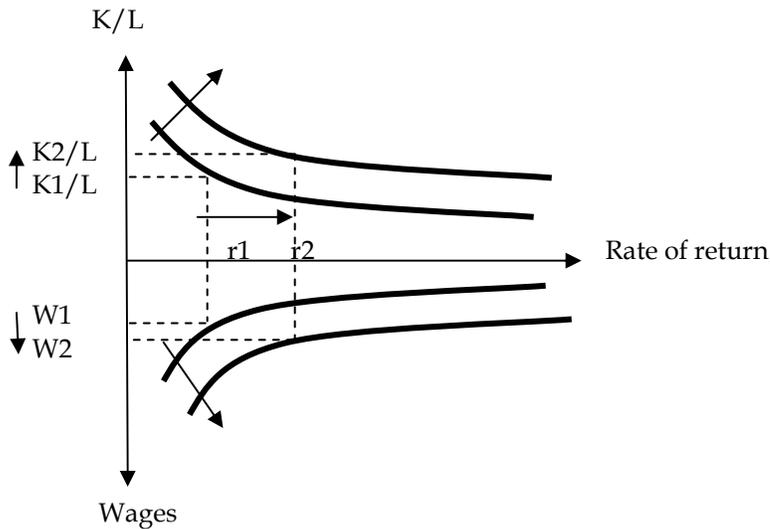
Thus what underlies capital investments is the *Marginal Efficiency of Capital* (MEC) as the annual extra income yielded by an increase in the capital stock (K). That is $MEC = \Delta Y / \Delta K = \Delta Y / \Delta I$. Thus the rate of growth depends on the portion of national income that is devoted to investment.

But not only just investment: it is an investment *over and above* what is necessary to replace technological obsolescence and *depreciation* (δ)⁷. Graphically⁸, capital deepening is translated as the increased use of capital relative to labor, thus a falling ratio (K/L), which brings about a fall in wages from ($W1$) to ($W2$) because less labor is employed, and the expected rate of return on capital increases from ($r1$) to ($r2$):



Endogenous growth

Improvements in productivity bring about the increase of output when inputs remain unchanged. Graphically⁹ improvements in productivity bring an improvement in the utilization of both resources, (K) and (L), thus an increasing ratio (K/L), which brings about an increase in wages from ($W1$) to ($W2$), and an increase in the expected rate of return ($r1$) to ($r2$):



Comparatively speaking, endogenous growth is more effective than exogenous growth for the economy.

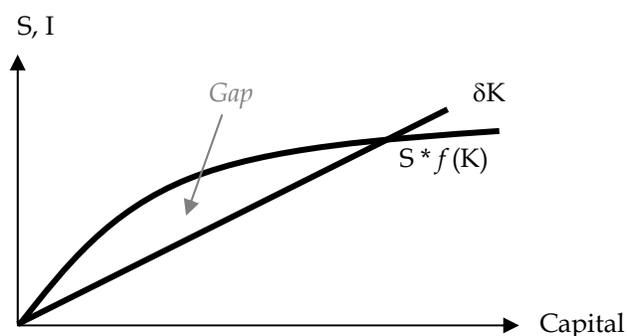
⁷ Sloman, 1991.
⁸ Zamaros, 1995.
⁹ Ibid.

As with exogenous growth, in endogenous growth one also needs to account for depreciation (δ) which shows the proportion of capital equipment (δK) that wears out.

Thus, for an economy with zero growth the necessary investment (I) as a proportion of saving (S) must be equal to (δK) ; that is: $I = \delta K$. Considering that capital (K) is used in the production function $Q = f(K)$ then: $S * f(K) = \delta K$ ¹⁰.

If for zero growth $S * f(K) = \delta K$, to sustain economic growth it is necessary that $S * f(K) > \delta K$. In other words, *only by saving and investing more than the rate of depreciation* can an economy increase the amount of capital that it leaves to its future workers (higher capital-labor ratio) thereby raising their productivity and hence their income. Ultimately the economy reaches a point at which each generation saves enough to replace the capital it has depleted.

Graphically¹¹, the production function ($S * f(K)$) grows away from δK . This brings about the *gap* ($S * f(K) - \delta K$) which represents the excess investment needed for economic growth above depreciation:



However, *this may not bring about economic growth*: an increase in savings generates an increase in investment and while the capital stock increases with higher wages, economic growth takes place, but as soon as the new equilibrium is reached, the extra investment is absorbed by the extra depreciation.

To solve this problem (i.e. to avoid that any additional savings, hence investments, are enough only to replace the capital that has depleted), *the economy needs to solve the problem of diminishing returns on labor with the help of technological advancement* in the form of innovation, training, research and development so as to ensure that the economy grows at a steady pace.

¹⁰ Winters, 1995.

¹¹ Ibid.

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References:

SLOMAN, JOHN (1991), *Economics*, 2nd ed., Prentice Hall

WINTERS, ALAN (1995), 'European Integration and Economic Growth', in MAUREEN MACKINTOSH et al., *Economics and Changing Economies*, Milton Keynes: The Open University

ZAMAROS, PANAYOTIS (1995), *Macroeconomic Theory and Practice*, Caux: SHMS

Further Research

Capital and investments; present and future valuation

SESSION 25: Labor contribution

Aims

The aim of this session is to

- Explore labor as a determinant of growth.
- Explore labor markets.

Expectations

At the end of this session the student will

BA4	I	analyze the costs and benefits of an economic choice or change (e.g., a rise in interest rates) for different stakeholder groups (e.g., consumers, importers, workers, exporters).
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Demand for labor

The *demand for labor by firms*¹² is determined by the demand for the product it helps to produce, the portion of costs it represents in relation to the total costs for all the inputs used, the availability of substitutes, and the supply of investment capital to ensure that production is a going concern.

Overall, an increase in these factors brings about an increase in the labor hours the firm makes available. However, this does not mean that the wages will increase. The reason is that the demand for labor depends on how the firm uses labor in its productive processes to maximize profits¹³. There are two aspects to this.

On the one hand, firms are eager to generate additional revenue from using an additional unit of labor each time the firm decides to increase its output. In other words, the determining factor is the *Marginal Revenue Product* (MRP), where $MRP = MP \times P$.

On the other hand, the utilization of labor entails a cost, that is $MC = W$. Thus the firm will seek to maximize its profits where $MC = MR$ that is where $W = MRP$ and (L1) is the optimum number of workers employed.

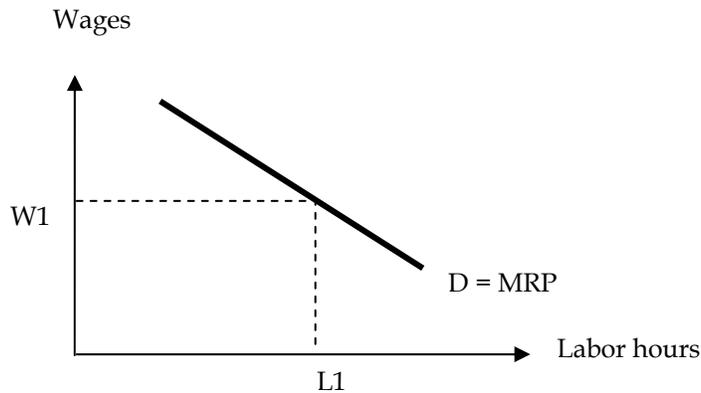
Thus any additional revenue will entail additional wages (W) to be paid out since more labor is used. But in this case the firm will not be maximizing its profits because $MC = W > MRP$: the firm will tend to lower the wages.

¹² Demand for labor is derived since it is not wanted for itself but for the profits it can generate.

¹³ And not whether workers are seeking a job in the market which is typical of the HRM perspective.

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There follows that an increase in labor hours will be met with falling wages. Consequently the demand for labor by firms is downward sloping:



Supply for labor

The *supply for labor by workers* depends on

- Attitudes towards the workers in any given economy.
- The number of hours that workers are prepared to work.
- The environment at home affecting motivation.
- Remuneration they are offered.
- Desired and effective income or wage level.
- The size of the population.
- Self-worth and qualifications.
- Labor division in society and in the firms¹⁴.
- Working conditions and the inherent risks in any type of job¹⁵.

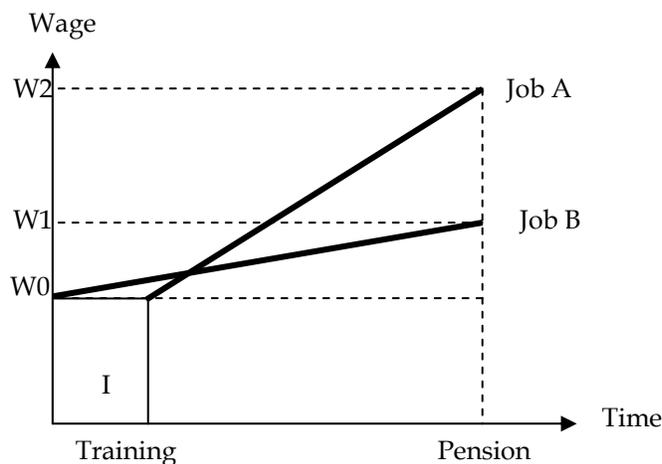
The supply for labor by workers is upward sloping since an increase in the above factors brings about the increase in the labor hours made available by the workers while pushing for higher wages. The supply for labor is mainly determined by the tendency workers have to seek low-risk jobs.

At the same time they will seek to acquire skills, or human capital, through training that gives them access to higher wages. Assuming two jobs, A and B, such as that job A pays more than

¹⁴ Labor has become specialized because of higher productivity yields, increased expertise and the construction of specific worker roles through specialized training, increased inventiveness.

¹⁵ Working conditions seem to be the most important factor for worker motivation because labor division has rendered worker roles unimaginative and monotonous as the work places have become dehumanized in that labor has become a commodity that is sold and bought in a market. In extreme cases there has been a reduction of knowledge and skills which increases unemployment risks. However, it is not only the lack of skills that is risky: since over-specialized skills are not transferable factors of production, the reduction in demand for a particular job leads to unemployment since these workers cannot be hired in other industries (unless they are retrained).

job B but it requires an additional year's training. If both jobs start at (W_0), job B at retirement reaches level (W_1) whereas job A at level (W_2)¹⁶. The cost from training for job A is the additional training year where no income is made (area I) whereas the benefit is the wage compensation for this additional year of training¹⁷:



TOOL 29: Understanding Labor Markets

Passively competitive labor markets

Considering the labor market as *passively competitive*, it is assumed that buyers and sellers of labor are wage-takers with the following features:

- The supply curve for labor to a firm is perfectly elastic.
- Workers have information of what jobs are available.
- Firms know the potential job-seekers on the market.
- Workers can change jobs freely and easily.
- Labor hours are used efficiently.
- Firms aim at keeping its costs at the minimum.

The wage in the market then represents a *Pareto efficient situation*¹⁸ where there is no excess or shortage in labor.

¹⁶ The assumption here is that wages progress over time, but this is *not* always the case.

¹⁷ Green, 1995.

¹⁸ In perfectly competitive labor markets knowledge of available jobs is deemed perfect in the sense that workers know all about the jobs that are available and what firms are really seeking in terms of the skills. At the same time, firms know who is looking for what jobs for what skills and what wages. In fact, this is not the case since firms have hidden agendas in terms of recruitment, even though they may claim otherwise, not to say that workers use various strategies to find a job. One might therefore, want to question this label and adopt a more appropriate one: *near-Pareto allocative efficiency*. If so, the market is not perfectly competitive but *passively competitive*.

In this case, *wage differentials* arise from risks associated with certain types of jobs, or the skills that are required to perform a job.

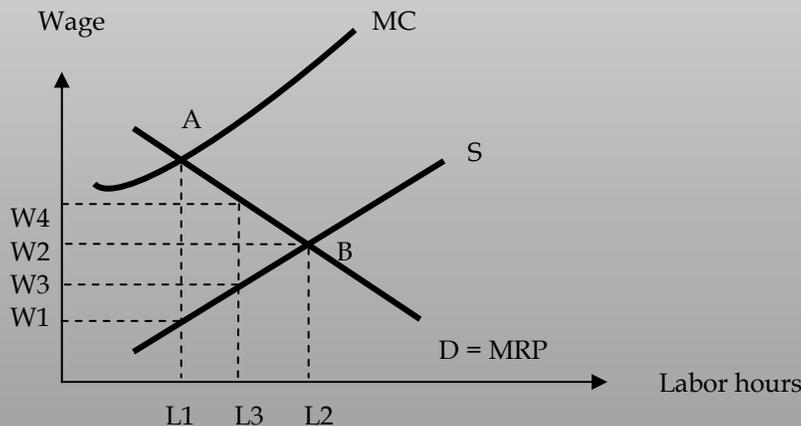
Non-competitive labor markets

Considering the market to be *non-competitive*¹⁹ means that workers do not have all the information available about the jobs in demand and that labor mobility is low and hence it is difficult to switch to other jobs. Further, there are barriers in terms of acquiring the necessary skills especially when education and training are private goods rather than public.

Consequently, labor markets tend to be segmented (primary and secondary sectors according to the wages paid) and segregated in that some industries tend to attract more women than men and vice versa and this because firms are *wage makers* since they can find workers who would accept to work for a lower wage.

Thus, the supply curve to the firm is relatively inelastic.

Graphically, the firm will not seek to maximize its profits where $MRP = MC = W2$ at point B for (L2) as in a passively competitive situation, since it can push for lower wages at (W1) so as to make above-normal profits. Therefore, at (W1), where $MC = MRP$ at point A, it will hire labor (L1):



Under these circumstances the state may seek to redress the situation and attempt to increase wages and impose a wage (W3) and thus increase employment from (L1) to (L3). If the productive efficiency of the firm is not much affected, the firm will accept the increase in wage since it continues to make above-normal profits. But if the state imposes a wage that is above the passively competitive wage level, say at (W4), the firm will seek to reduce employment at (L3) so as to reduce costs.

¹⁹ I privilege here the term *non-competitive* over *imperfectly competitive* because in the face of a monopsonist i.e. the situation where there is one employer in the vicinity, one cannot talk about competition at all!

Overall, despite efforts by the state, wage differentials persist because workers lack economic power: the firm behaves as a *monopsonist*.

These situations very often call for union action.

Typically, labor unions seek to improve wages, working conditions, and worker productivity and to maintain full employment. For this reason they lobby for favorable legislation that enhances education and training, and which protects workers from unfair practices and monopsonist behavior.

Thus, in considering that the labor market is *non-competitive* labor unions are seen to work towards making labor supply information readily available to workers, thus rendering the market more competitive.

But labor unions are not without their critics. Considering the labor market as *passively competitive*, trade unions are seen to contribute to unemployment and slow down innovation and productivity.

References:

GREEN, FRANCIS (1995), 'Labor in the Economy', in MAUREEN MACKINTOSH et al., *Economics and Changing Economies*, Milton Keynes: The Open University

ZAMAROS, PANAYOTIS (1995), *Macroeconomic Theory and Practice*, Caux: SHMS

Further Research

Labor theories

Sub-task 7: Country research

Aims

The aim of this session is to

- Revise main concepts.
- Present main issues.

Expectations

At the end of this session the student will

EA1	I	conduct research to locate reliable information from a variety of different media (e.g., newspapers, Internet sites), institutions (e.g., government agencies), businesses, interest groups (e.g., Canadian Centre for Policy Alternatives, Fraser Institute), and other sources;
EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);
EC4	A	produce a report analysing the current economic situation, the trends in the economy, and the strengths and weaknesses of the economy.

Task

The Class is to be divided in 6 teams, each to research, prepare and formally present the growth determinants (capital, labor) of the same nation-state as that chosen for the previous sub-task.

UNIT 9

MANAGING THE ECONOMY

Sessions:

- 26. Trade
- 27. Trade balance
- 28. Exchange rates
- 29. State policy dilemmas
- 30. Trade regimes
- Sub-task 8: Country research

Tools:

- TOOL 30: Using the Balance of Payments (BOP) Mechanism
- TOOL 31: Using Policy Dilemmas

SESSION 26: Trade

Aims

The aim of this session is to

- Explore comparative advantage

Expectations

At the end of this session the student will

AA2	K	identify options and the explicit and implicit (e.g., opportunity) costs associated with each option when making an economic choice;
CC1	K	explain, using the concepts of absolute and comparative advantage, the benefits of specialization and international trade;
DC3	I	analyze the costs and benefits to Canadian stakeholders of the trend towards freer international trade.
EB6	K	explain the major theories of prominent economists (e.g., Adam Smith, David Ricardo, Thomas Malthus, Karl Marx, John Maynard Keynes) in the context of the economic issues and challenges of their times;

Trade and production advantages

Trade is a source for growth when positive net exports (i.e. $E > H$) shift the (AD) curve.

Typically, economies trade in the industries where there is excess productive capacity. There are two explanations as to this¹.

The first is that it costs fewer resources to produce such commodities in the domestic economy rather than abroad (*absolute advantage*).

The second explanation lies in labor and capital *productivity*, that is when the *opportunity cost* of producing a unit of such commodities in terms of other commodities forgone (i.e. instead of producing other commodities) is lower in the domestic economy than it is abroad (*comparative advantage*).

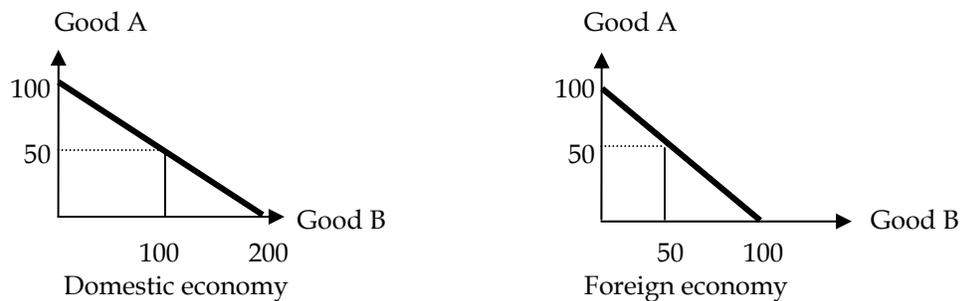
Situation without trade

Consider the situation where domestic and foreign economies produce goods A and B in the following quantities, which correspond to maximum output in each case:

¹ Venables, 1995.

	Good A (wine)	Good B (freezers)
Domestic (CDN)	100	200
Foreign (CH)	100	100
Total output	200	300

In terms of the *production possibility frontiers*, the domestic economy uses its resources to produce 100 units of good A when none is produced of good B and 200 units of good B when none is produced of good A. For both goods, a 50/100 production ration is a possibility, The foreign economy uses resources to produce 100 units of good A when none is produced of good B and 100 units of good B when none is produced of good A. For both goods, the production ratio 50/50 is a possibility. Graphically:



Here the domestic economy has an absolute advantage for producing good B but not in terms of good A and thus may find it advantageous to enter into trade on the basis on comparative advantage.

Situation with trade

In this situation and assuming that resources are equally allocated to the production of both goods, to produce 1 additional unit of good A the domestic economy must forgo the production of 2 additional units of good B: $1A = 2B$. In the foreign economy the production of 1 unit of good A is foregone by 1 unit of good B: $1A = 1B$. Comparatively speaking, it is more “expensive” to forgo 1 unit in the domestic economy than in the foreign. Since the opportunity cost is lower in the foreign economy, it will therefore specialize in the production of good A. There follows that the domestic economy will specialize in the production of good B.

Production after specialization will be as follows:

	Good A (wine)	Good B (freezers)
Domestic (CDN)	0	400
Foreign (CH)	200	0
Total output	200	400

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And a possible scenario of consumption with trade is

	Good A (wine)	Good B (freezers)
Domestic (CDN)	100	200
Foreign (CH)	100	200
Total output	200	400

Thus, trade has enhanced the production and consumption of goods.

Critique

Despite empirical support for the *Ricardian model*, it is not without its limitations² as it fails to consider the relative contributions (K/L) and does not consider the quality of outputs. Thus specialization might be partial considering increasing costs, or in some cases unwanted, and considering the competitive pressures no specialization might occur.

Sources of comparative advantage

Sources of comparative advantage mainly include differences in technology and endowments (i.e. stocks of skilled and unskilled labor, capital, land and other resources of the economy) described through the *Heckscher-Ohlin model*³ along with two observations⁴. First, economies differ in the relative quantities of different factors of production with which they are endowed. And second, the production of different goods requires the use of factors of production in different proportions (differing factor intensities).

One would therefore expect that an economy is the exporter of capital-intensive commodities (using more capital relative to labor) and the importer of labor-intensive commodities (using more labor relative to capital). However, the *Leontief Paradox*⁵ points to the opposite direction. The rationale behind this is the effect of technological progress whereby an economy derives a momentary advantage from newly developed commodities.

Thus data does not seem to confirm the validity of the Hecksher-Ohlin model: economies do not always export on the basis of abundant factors.

Activity 1: with a view to completing sub-task 8, find the endowments of the chosen nation-state and establish the industries which have a comparative advantage.

Notes:

² Carbaugh, 2006.

³ Ibid.

⁴ Venables, 1995.

⁵ Carbaugh, 2006.

References:

CARBAUGH, ROBERT (2006), *International Economics*, Ohio: South-Western

VENABLES, ANTHONY (1995), 'International Trade', in MAUREEN MACKINTOSH et al., *Economics and Changing Economies*, Milton Keynes: The Open University

Further Research

Trade, comparative advantage

SESSION 27: Trade balance

Aims

The aim of this session is to

- Explore trade balance
- Explore current and capital accounts

Expectations

At the end of this session the student will

BA4	I	analyze the costs and benefits of an economic choice or change (e.g., a rise in interest rates) for different stakeholder groups (e.g., consumers, importers, workers, exporters).
CC2	I	analyze data on Canada's balance of payments to establish the importance of trade to Canada's economy and to identify historical and evolving patterns of trade both in goods and services and in capital flows;
EB2	K	define and calculate the following statistical measures: economic output (gross domestic product [GDP]), economic growth (changes in real GDP over time), standard of living (real GDP per capita), balance of trade (exports versus imports), and productivity (output per worker);
AD4	I	evaluate the effectiveness of government legislation (e.g., related to employment standards/health and safety legislation) and programs (e.g., education, health care, employment insurance, pensions, welfare) designed to enhance the economic security of Canadians.
DC3	I	analyze the costs and benefits to Canadian stakeholders of the trend towards freer international trade.

TOOL 30: Using the Balance of Payments (BOP) Mechanism

Current account

Typically if trade is about the exchange of goods between two or more economies, formally these constitute the *Current Account* (CA) with the following main components⁶:

- *Goods*: general merchandise, goods for processing, repairs on goods, goods procured in ports by carriers, trade of non-monetary gold.
- *Services*: transportation, insurance, travel, communications, construction, finance, information transactions, royalties and license fees and recreational services.
- *Income*: compensation of employees and investment income.
- *Current transfers*: state international cooperation, payments of current taxes and benefits.

⁶ Zamaros 1995.

Thus the current account is in balance when the difference between exports (E) and imports (H) is nil: $CAB = X = E - H = 0$. When $E > H$, there is *current account surplus* and when $E < H$ there is *current account deficit*.

Capital account

But it is not only goods that are traded: capital crosses borders too. Formally such capital constitutes the *Capital Account* (KA) which includes the following main components⁷:

- *Capital flows*: transfers of the ownership of fixed assets, migrants' transfers, debt forgiveness, patented entities, and leases.
- *Direct investment* (transaction between the investor and the firm): equity capital, reinvested earnings and inter-company transactions.
- *Portfolio investment* (transactions in equity securities and debt securities): bonds, notes, derivatives.
- *Credits*: loans, deposits, trade credits.
- *Reserve assets* (transactions that are used to meet the balance of payments): monetary gold, foreign exchange assets.

But the capital account must also be in balance: *capital inflows* (Ki) and *outflows* (Ko) must be equal.

Balance of payments

The *Balance of Payments* (BOP) refers to the equilibrium between the goods traded, the Current Account (CA), and capital flows, the Capital Account (KA). Otherwise put, the sum of all international transactions, current (CAB) and capital (KAB), is in principle equal to zero (*balance of payments identity*): $CAB + KAB = 0$.

Thus a *trade imbalance* occurs when either $CAB > KAB$ or that $CAB < KAB$; *correcting the imbalance implies selling or buying capital assets*, respectively.

The BOP mirrors the demand and supply of the domestic currency in the foreign exchange markets.

In terms of the current account, the demand for domestic goods as what will be exported corresponds to the demand for domestic currency (DPa) because the goods are usually paid in this currency⁸. Thus $DPa = E$. Symmetrically, imports correspond to the supply of domestic currency (SPa) and thus $SPa = H$. Thus $DPa - SPa = E - H = CAB$. At the same time capital

⁷ Zamaros, 1995.

⁸ In some situations of strong inflation payments are made by means of hard currencies.

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outflows correspond to an investment in another economy which corresponds to the demand for its currency; capital inflows the contrary.

Activity 1: with a view to completing sub-task 8, research into the BOP of the chosen economy and identify challenges and policy choices.

Notes:

References:

ZAMAROS, PANAYOTIS (1995), *International Economics and Relations*, Caux: SHMS

Further Research

Balance of payments

SESSION 28: Exchange rates

Aims

The aim of this session is to

- Explore exchange rates

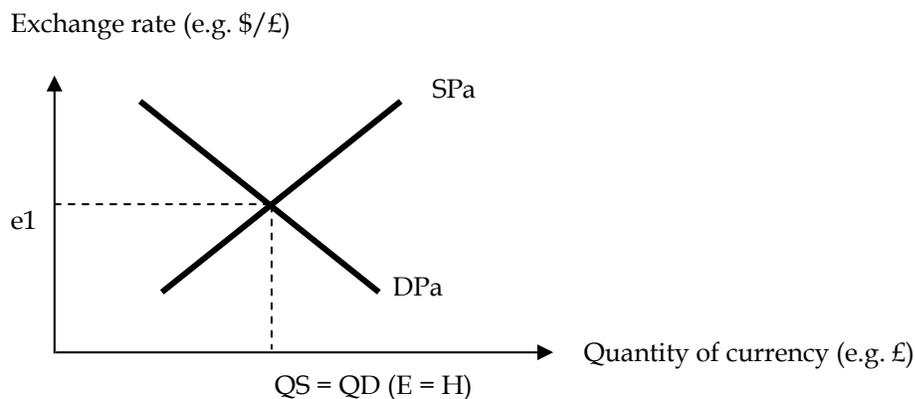
Expectations

At the end of this session the student will

CC3	I	analyze the factors that influence the exchange rate of the Canadian dollar and the ways in which changes in the dollar's value affect the economy (e.g., output, employment, prices);
DC1	K	describe the nature and role of international economic agreements and institutions (e.g., North American Free Trade Agreement, Kyoto Protocol, World Trade Organization, International Monetary Fund, Organization for Economic Cooperation and Development);

Exchange rates

The demand and supply for a currency in the foreign markets determine the *exchange rate*, that is, the trade of one *domestic currency* (P_a) for a *foreign currency* (P_b). There is thus demand and supply for currencies: the demand for foreign exchange corresponds to the debit items of the BOP whereas the supply corresponds to the credit side⁹:



Quotation

Exchange rates can be quoted *directly*, i.e. P_a/P_b (e.g. $\$/1\text{£}$) or *indirectly* i.e. P_b/P_a (e.g. $\text{£}/1\text{\$}$), the two being equivalent¹⁰.

⁹ Carbough 2006.

¹⁰ Since the \$ is the main trading currency, quotes in the US are typically direct whereas abroad indirect.

Real exchange rates

The *real exchange rate* is the trade of one currency for another factored by inflation. It affects changes in the current account, whether as an improvement (increase in e) or a worsening (decrease in e), which depend on:

- The effect the exchange rate has on consumer spending preference on the quantities imported or exported (*volume effect*).
- Their price (*value effect*).

Exchange rate regimes

One speaks of *floating exchange rates* when the rates are determined by the demand and supply of currencies in the foreign exchange market, and of *fixed exchange rates* when the state intervenes to adjust the demand and supply of currencies. In the latter case we speak of devaluation and revaluation of currencies.

Considering a floating exchange rate system (quoted indirectly)¹¹:

- If there is a rise in exports, that is, $DPa > SPa$, there is *appreciation*.
- If there is a rise in imports, that is, $DPa < SPa$, there is *depreciation*.

Under a fixed exchange rate system:

- *Devaluation* depreciates home currency thus counteracting a payments deficit.
- *Revaluation* appreciates home currency thus counteracting a payments surplus.

Exchange rate policies

Floating rate regimes are preferred when the state seeks to set independent monetary and fiscal policies; however such policies are conducive to price inflation if monetary and fiscal policies are expansionary.

Fixed rate regimes are used to control inflation but are prone to speculative attacks since the economy has to defend the quoted exchange rate in a situation of disequilibrium between demand and supply for the currency.

Factors affecting exchange rates

The exchange rate of the domestic currency is determined by¹²:

¹¹ The opposite occurs when the e-rate is quoted directly.

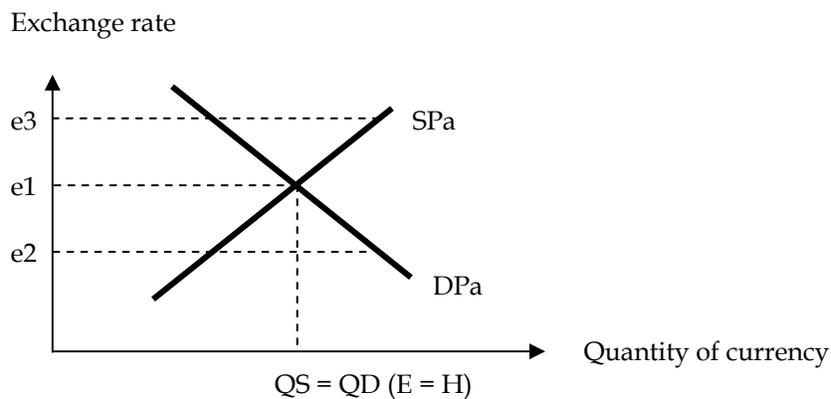
- Inflation (increase \Rightarrow depreciation and vice versa).
- Productivity (increase \Rightarrow appreciation and vice versa).
- Preferences (increase \Rightarrow depreciation and vice versa).
- Trade barriers (increase \Rightarrow appreciation and vice versa).
- Interest rate (increase in domestic-denominated assets \Rightarrow appreciation and vice versa).

Changes in exchange rates will also vary according to the *elasticity of demand of domestic exports*: the change in the quantity exported is dependent on the effect depreciation has. Thus the more elastic export demand is, the greater the value of exports. A similar argument can be made for imports: the more elastic import demand is, the lower the value of imports (elasticities are inversely proportionate).

It can be concluded from this that depreciation is likely to increase the value of the current account depending on the price elasticity of demand for exports and imports (*Marshall - Lerner condition*). The condition states that if the current account is initially zero, real currency depreciation causes a current account surplus so long as the sum of relative elasticities of export and import demand is greater than 1. Should the elasticities be low, it is possible for a depreciation to decrease the value of the current account - short run elasticities may be lower than the long-run elasticities leading to the phenomenon known as *j-curve*¹³.

Stabilizing the exchange rate at its current level

Considering that the exchange rate is quoted indirectly, and that trade is balanced ($E = H$):



Given the equilibrium exchange rate (e_1), to offset an appreciation from (e_1) to (e_3)¹⁴, that is, avoiding a balance of payments deficit ($E < H$), the state needs to purchase domestic currency equal to the excess supply by selling foreign reserves. This in turn lowers the supply for money.

¹² Carbaugh, 2006.

¹³ Zamaros, 1995.

¹⁴ In direct terms this is depreciation.

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Conversely, to offset a depreciation from (e_1) to (e_2) ¹⁵, that is, avoiding a balance of payments surplus ($E > H$), the state needs to sell domestic currency equal to the excess demand by buying foreign reserves. Thus in turn raises the supply for money.

Faced with changing supply of money, the state can carry out *sterilization policies*. If it is running a trade deficit ($E < H$), the state can buy bonds off the market by offering a lower interest rate thus putting money back in circulation. Conversely, if it running a trade surplus ($E > H$), the state can sell bonds buy offering a higher interest rate thus removing monetary surpluses from the market.

Capital mobility

However, *sterilization policies may be upset when there is capital mobility*, that is, when investors can freely move their capital from one economy to another according to the rates of return. These capital flows are determined by the rates of interest on offer and the current as well as the *expected* exchange rates.

This means that if investors are expecting¹⁶:

- A rise in the exchange rates ($\Delta e > 0$), hence (P_a) appreciates, there is capital inflow increasing the demand for the domestic currency.
- A fall in the exchange rates ($\Delta e < 0$), hence (P_a) depreciates, there is capital outflow lowering the demand for domestic currency.
- That $X > 0$ then the domestic currency is riskier than the foreign.
- That $X < 0$ then the foreign currency is riskier than the domestic.

Policy dilemma

Overall, the effect of capital mobility makes that foreign reserves may *not* be enough to offset any monetary consequences of trade imbalances. Therefore, the state will be faced with a *policy dilemma to either control the interest rate or to control the exchange rate*, but not both at the same time.

Activity 1: with a view to completing sub-task 8, research the exchange rate regime of the chosen economy.

Notes:

¹⁵ In direct terms this is an appreciation.

¹⁶ Ibid.

References:

CARBAUGH, ROBERT (2006), *International Economics*, Ohio: South-Western

ZAMAROS, PANAYOTIS (1995), *International Economics and Relations*, Caux: SHMS

Further Research

Exchange rates

SESSION 29: State policy dilemmas

Aims

The aim of this session is to

- Explore state mechanisms in an open economy

Expectations

At the end of this session the student will

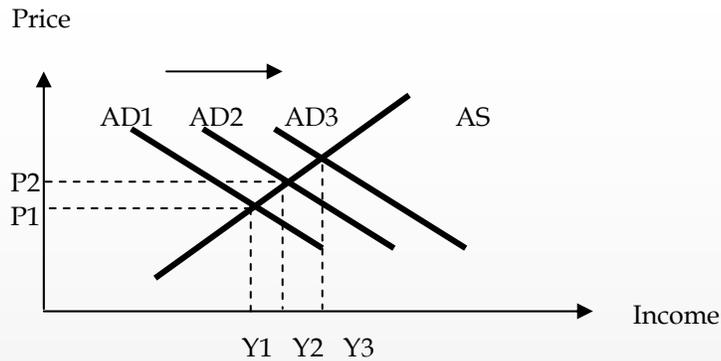
AA5	K	identify economic choices that must be made at both the microeconomic and the macroeconomic level.
AD4	I	evaluate the effectiveness of government legislation (e.g., related to employment standards/health and safety legislation) and programs (e.g., education, health care, employment insurance, pensions, welfare) designed to enhance the economic security of Canadians.
CB1	K	explain how specialization benefits stakeholders (e.g., through increased productivity) and creates interdependence (e.g., between consumers and producers);
CC4	K	illustrate, using specific examples, how events in another part of the world can affect the Canadian economy and groups of Canadian stakeholders.

TOOL 31: Using Policy Dilemmas

Given that state fiscal and monetary policies are effective when they result in changing the short-run equilibrium by shifting the (AD) curve to the right (multiplier model), and taking into account that the state can either control the interest rate or the exchange rate but not both, *the extent to which these policies are effective depends on the degree of capital mobility and on whether the exchange rate regime is floating or fixed.*

Effect of monetary policies

Expansionary monetary policies increasing the supply for money bring about a short-run rightward shift from (AD1) to (AD2) as shown in the diagram below. The price level rises from (P1) to (P2) and domestic products become more expensive while there is increased demand for money. Thus $E < H = DP_a < SP_a$ hence (Pa) depreciates and the fall in the interest rates brings about a capital outflow; there follows that under flexible rates, the depreciation causes that $E > H$, hence a further shift from (AD2) to (AD3):



In this case *monetary policy is effective*.

Yet, *under fixed rates* we need to consider the degree of capital mobility.

If capital is immobile, to offset the depreciation, the state buys domestic currency and sells foreign currency but this will lead to no change in (AD): monetary policy is ineffective.

If capital is mobile, the sterilization policies result in a fall in the domestic interest rates making the domestic currency become riskier ($X > 0$) leading to a capital outflow, which in turn causes the depletion of the foreign reserves. However, if the exchange rate is to be defended, the state needs to raise the interest rates shifting (AD2) back to (AD1). Again monetary policy is ineffective.

Overall, *monetary policies are effective only under a flexible exchange rate regime*.

Effect of fiscal policies

Keeping in mind that monetary policies are neutral (i.e. that the supply of money stays fixed), expansionary fiscal policies also result in a trade deficit and to a capital outflow by shifting (AD).

Under the *flexible rates regime*, the rise in the demand for money will cause interest rates to rise leading to capital inflow. But since (P_a) appreciates moving (AD) back government expenditure is crowded out by falling exports. Fiscal policy in this case is ineffective.

Under a *fixed rates regime* and considering that *capital is immobile*, with an exogenous supply for money, the excess demand for money pushes interest rates up as well as puts the trade balance in deficit since (P_a) appreciates. This is an ineffective policy.

If capital is mobile, with an exogenous supply for money, the rise in interest rates brings about a capital inflow which increases the domestic stock of money, thus leading to a trade surplus, shifting the (AD) curve further (which outweighs the trade deficit caused by the initial shift in AD). *Here fiscal policy is effective*.

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Overall, *fiscal policies are only effective under a fixed exchange rate regime and where there is capital mobility.*

Activity 1: with a view to completing subtask 8, research to identify monetary and fiscal policies and compare them against the exchange rates regime of the chosen economy.

Notes:

References:

ZAMAROS, PANAYOTIS (1995), *International Economics and Relations*, Caux: SHMS

Further Research

Open economy policies

SESSION 30: Trade regimes

Aims

The aim of this session is to

- Explore trade regime institutions.
- Explore trade policies.
- Discuss issues with examples.

Expectations

At the end of this session the student will

AA2	K	identify options and the explicit and implicit (e.g., opportunity) costs associated with each option when making an economic choice;
AD4	I	evaluate the effectiveness of government legislation (e.g., related to employment standards/health and safety legislation) and programs (e.g., education, health care, employment insurance, pensions, welfare) designed to enhance the economic security of Canadians.
CC1	K	explain, using the concepts of absolute and comparative advantage, the benefits of specialization and international trade;
CC2	I	analyze data on Canada's balance of payments to establish the importance of trade to Canada's economy and to identify historical and evolving patterns of trade both in goods and services and in capital flows;
DC3	I	analyze the costs and benefits to Canadian stakeholders of the trend towards freer international trade.
EB2	K	define and calculate the following statistical measures: economic output (gross domestic product [GDP]), economic growth (changes in real GDP over time), standard of living (real GDP per capita), balance of trade (exports versus imports), and productivity (output per worker);
EB6	K	explain the major theories of prominent economists (e.g., Adam Smith, David Ricardo, Thomas Malthus, Karl Marx, John Maynard Keynes) in the context of the economic issues and challenges of their times;

Regimes

Following Keohane¹⁷, *regimes* refer to the set of transactions that are regulated by economic and political international institutions.

A typical trade regime is the World Trade Organization (WTO) and a monetary regime is the International Monetary Fund (IMF).

¹⁷ In Online 1.

Trade regime

The overall result of the Uruguay Round under the auspices of the General Agreement on Tariffs and Trade (GATT) has been the liberalization of trade to the advantage of developed countries and the creation of a new body the WTO¹⁸. Specifically¹⁹:

- Enhanced access to agricultural markets.
- Domestic support and export competition for agricultural products.
- Increased awareness of food security and the protection of the environment.
- Improved protection against cheap products.
- Transparency of services.
- Enhanced transfers of payments.
- Access to domestic telecommunication network.
- Progressive removal of state incentives for trans-border investments or restrictions to protect domestic businesses.
- Improved protection in terms of copyright, trademarks, geographical indications, industrial designs, patents, trade secrets and the control of anti-competitive practices.

Overall the main gainers have been the developed economies who are net exporters of agricultural produce while the developing economies are the importers who have suffered losses²⁰.

Trade Integration

The effect of GATT and WTO policy has been *trade integration*, which may be viewed as the effort to bring economies closer²¹. This is the case with a *customs union*, being mid-path of a free trade area as NAFTA, and an economic union as the is the EU, involves the removal of tariffs on trade for the benefit of producers and consumers belonging to the union, but not to the rest of the world.

¹⁸ Ball et al., 2004

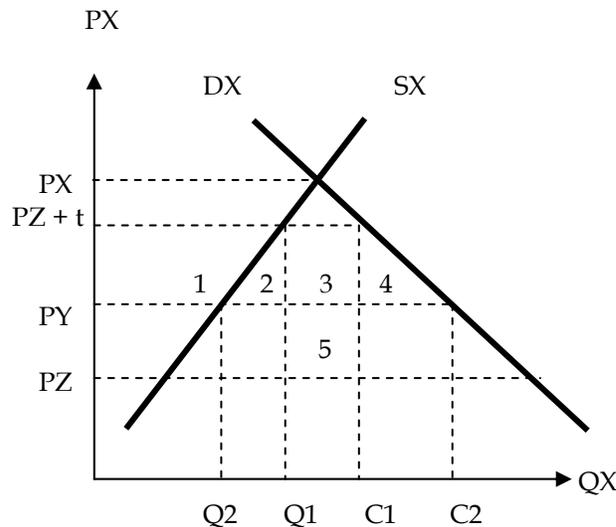
¹⁹ Online 1.

²⁰ Ibid.

²¹ There is an evolution from *preference area* (economies agree to levy preferential tariffs on certain trade) to *free trade area* (FTA) (partner economies agree to abolish tariffs on mutual trade yet each partner determines the tariff to be levied to non-partner economies), to a *customs union* (CU) (economies apply free trade policies within the union and have a common trade policy with non-partners), to a *common market* (CM) (relatively free mobility of factors of production and trade harmonization) to the *economic union* (EU) (extensive harmonization in trade, monetary, legal and social policies and complete mobility of factors of production) (Ibid.).

Considering that the domestic economy X (the EU) forms a customs union with a foreign economy Y (Turkey), but not with economy Z (Syria), thus a tariff (t) is levied, and its imports increase from $C1 - Q1$ to $C2 - Q2$ since $PY < PZ + t$.

However, a union with economy Z would have increased imports further if it is more competitive than Y because $PZ < PY$ ²²:



As a result of the customs union there is *trade creation* resulting from the removal of trade barriers, hence an increase in imports which displace higher cost home production $Q2 < Q1$ and increase overall consumption $C1 < C2$. Thus the gains from trade creation are areas 2 + 4. However, there is also *trade diversion* because trade is shifted from a more efficient economy to a less efficient economy as a result of trade policy. Thus the loss from such a policy can be shown as area 5.

In the case of an economic union, that is the EU, trade creation (far exceeded trade diversion which shows the benefit of the union.

Trade policies in developed economies

The states of developed economies aim at the allocation of resources to sectors that can contribute positively to economic growth²³. Specifically, funds are allocated for the purpose of adding value per unit of labor utilized through training, research and development. Moreover for developing core industries with future growth potential, while protecting industries that are vital for the economy.

²² Venables, 1995.

²³ Ibid.

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Trade policies in developing economies

In developing economies, in the attempt to cope with the uneven development of the domestic economy and counter what is perceived as unfair economic practices, the state supports domestic efforts of industrialization by means of the following main policies²⁴. To start with, through trade barriers and other protectionist measures encourage the creation of businesses with comparative and competitive advantage, even though such policies may stand counter to the purposes of the WTO. Moreover, this is an industrialization that is characterized by import substitution for the equivalent domestic commodities, and technology transfers.

Activity 1: with a view to completing subtask 8, research the chosen economy to establish the relationship it has with WTO and to highlight specific trade policies.

Notes:

References:

BALL, DONALD et al. (2004), *International Business: the Challenge of Global Competition*, 9th edition, New York: McGraw-Hill

VENABLES, ANTHONY (1995) 'International Trade', in MAUREEN MACKINTOSH et al., *Economics and Changing Economies*, Milton Keynes: Open University

Online 1: ZAMAROS, PANAYOTIS (2006), 'Trade Regimes and Policies', online course lecture extracted from PANAYOTIS ZAMAROS, *Transnational Business Analysis – Workbook*, 2nd ed., Lausanne: P. Zamaros, *The DrZ Network*, <http://www.zamaros.net>, 30.9.8

Further Research

WTO, trade policies

²⁴ Ibid.

Sub-task 8: Country research

Aims

The aim of this session is to

- Revise main concepts.
- Present main issues.

Expectations

At the end of this session the student will

BC2	I	compare the economies of different nations (e.g., Canada, United States, Japan, China, Sweden) with respect to ownership of resources, goods, and services (e.g., public or private) and method of decision making (e.g., by individuals in markets or by a central authority);
EA1	I	conduct research to locate reliable information from a variety of different media (e.g., newspapers, Internet sites), institutions (e.g., government agencies), businesses, interest groups (e.g., Canadian Centre for Policy Alternatives, Fraser Institute), and other sources;
EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Task

The Class is to be divided in 6 teams, each to research, prepare and formally present the aspects of trade (trading nations, trade policies, BOP, exchange rates regimes) of the same nation-state as that chosen for the previous sub-task.

UNIT 9

UNIT 10

STABILIZING THE ECONOMY

Sessions:

- 31. Stabilization
 - 32. The challenge of unemployment
 - 33. The challenge of poverty
 - 34. The challenge of the environment
- Sub-task 9: Country research

Tools:

TOOL 32: Managing the Open Economy

SESSION 31: Stabilization

Aims

The aim of this session is to

- Explore stabilization mechanisms and trade-offs.
- Explore stewardship and sustained development.

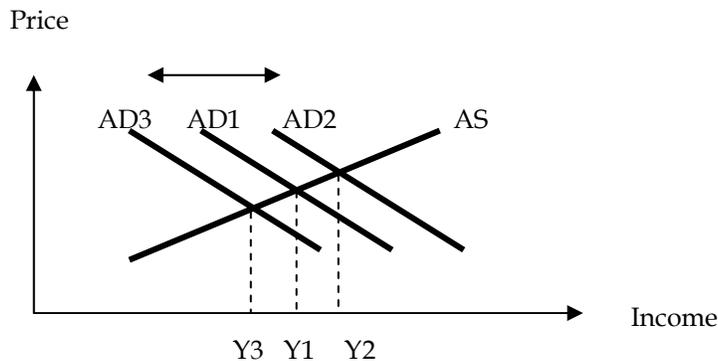
Expectations

At the end of this session the student will

AC2	I	evaluate how economic trends (e.g., deficits, debt, globalization) have influenced decisions made by markets in the public and private sectors (e.g., restructuring, downsizing, privatization, deregulation);
AD1	K	describe the characteristics (e.g., inflation, deflation, unemployment) and causes of economic instability in each phase of the business cycle;
AD2	K	explain how government fiscal policy (e.g., government spending and/or taxation) and monetary policy (e.g., increasing or decreasing interest rates and the money supply) can help stabilize the business cycle and prices and lower the unemployment rate;
AD3	I	evaluate how well current fiscal and monetary policies are achieving the goal of economic stability;

Business cycles

Business cycles are a fluctuation in the output of an economy. Typically they consist in the *boom phase* where output increases from (Y1) to (Y2), the *recession phase* where the output begins to fall from (Y2) to (Y1), the *depression phase* when the output falls further from (Y1) to (Y3), and the *recovery phase* where the output begins to rise again from (Y3) to (Y1)¹:



¹ Zamaros, 1995.

These fluctuations can be seen to either be endogenous to the market system, or caused by shocks that are exogenous to the market system.

Endogenous views

The Keynesian approach sees the fluctuations in *investment* to bring about changes in the (AD). It considers that a decrease/increase in investment (via the accelerator) generates a decrease/increase in output (via the multiplier)².

The Marxian approach sees the changes in the *rate of profit* to be the determinant of fluctuations in investment. It considers that an increase/decrease in the capital stock (because of low sales) lowers/raises the rate of profit. Thus, when the latter is small/large, firms are discouraged/encouraged to invest³.

The Schumpeterian approach sees *innovation* as the prime factor that determines a business cycle according to the capacity that innovation has on displacing old productive methods (*process of creative destruction*).

Exogenous views

The monetarist approach sees the *price level and the supply of money* as the main factors in a business cycle. It considers that an increase/decrease in the supply of money raises/lowers the price level and output (*quantity theory of money*).

Mixed view

A simpler explanation could be that business cycles are due to *misinterpreting* or misreading the indicators in the economy. For instance, in reading the news about financial problems of the banking sector⁴, consumers may be thinking that the economy will get worse and thus decide to reduce consumption, which triggers a (technical) recession. A fall in consumption is thus not a sign of recession but its cause, where the decrease in consumption is due to thinking that a financial crisis invariably leads to a recession or even worse to a depression, forgetting the role the states and international bodies can play in reducing the effect of financial problems on the economy.

Managing the business cycles

Overall, regardless of the approach, capital seems to be the factor of production that is responsible for the business cycles. Thus the effects of business cycles are reduced by the management of capital, that is, the management of the relationship capital-investment-savings.

² Trigg, 1995.

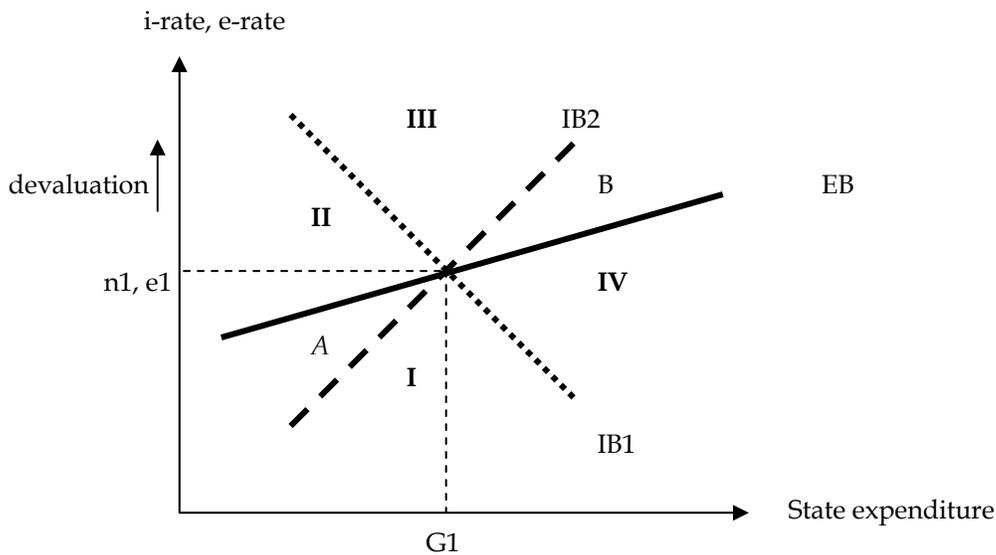
³ Ibid.

⁴ Such as those in Asia (1996-7) or the US and Europe (2007-8).

This is, nevertheless, a long-run process because states are keen on having sustained economic growth as the progressive outward expansion of the (PPF) or the (LAS). In this way it is hoped that the most disruptive effects that the business cycles have on employment and output will be reduced.

Stabilization of the open economy

States, in other words, especially of developed economies, are keen on *stabilizing the economy* in macroeconomic equilibrium characterized by an *internal balance* (IB) and an *external balance* (EB)⁵:



The (IB1) curve shows full employment and price stability; it is downward sloping because a revaluation causing the deterioration of the trade balance and hence unemployment must be balanced out by an increase in state expenditure.

The (IB2) curve also shows full employment and price stability but it is upward sloping because a higher state expenditure must be balanced out with a tight monetary policy and hence a higher interest rate.

The (EB) curve shows balanced payments; it is upward sloping because a devaluation which improves the trade balance must be balanced out by an increase in state expenditure, which in increasing output, encourages imports. This must be balanced out with higher capital inflows, requiring higher interest rates.

⁵ Salvatore, 1990.

We can thus define the following regions between (IB1) and (EB): I: unemployment, deficit; II: unemployment, surplus; III: inflation, surplus; IV: inflation, deficit. In the regions A and B defined by (IB2) and (EB), there is a tradeoff between fiscal and monetary policies.

Thus, knowing in which region the state is, it can readily take measures to attain (IB) and (EB) simultaneously. To achieve this⁶, the state can resort to *expenditure-changing policies* i.e. monetary and fiscal policies, or *expenditure switching policies* i.e. currency devaluation/reevaluation.

TOOL 32: Managing the Open Economy

Following Carbaugh, one can summarize the above as follows⁷:

Fiscal policy with fixed e-rates: $G \uparrow$

- 1) $AD \uparrow \Rightarrow Y \uparrow$ but trade account worsens, $BOP \downarrow$
- 2) $L \uparrow$, K inflow, sale of currency, $M \uparrow \Rightarrow Y \uparrow$
- 3) $L \uparrow$, i-rate $\uparrow \Rightarrow$ K inflows \Rightarrow BOP may improve

Fiscal policy with floating e-rates: $G \uparrow$

- 1) $AD \uparrow \Rightarrow Y \uparrow$ and $H \uparrow \Rightarrow AD \downarrow$
- 2) $L \uparrow$, K inflow, currency $\uparrow \Rightarrow H \uparrow \Rightarrow AD \downarrow$

Monetary policy with fixed e-rates: $M \uparrow$

- 1) i-rate $\downarrow \Rightarrow AD \uparrow \Rightarrow Y \uparrow$, trade account worsens, $BOP \downarrow$
- 2) K outflows, bank purchases currency, $M \downarrow \Rightarrow Y \downarrow$,
- 3) i-rate \downarrow , K outflows, capital account worsens $BOP \downarrow$

Monetary policy with floating e-rates: $M \uparrow$

- 1) i-rate $\downarrow \Rightarrow AD \uparrow \Rightarrow Y \uparrow$
- 2) K outflows, currency $\downarrow \Rightarrow E \uparrow \Rightarrow Y \uparrow$

Activity 1: in pairs, detail the above summary.

⁶ Salvatore, 1990.

⁷ In Zamaros, 2008.

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References:

TRIGG, ANDREW (1995), 'Economic Fluctuations and Technological Change', in MAUREEN MACKINTOSH et al., *Economics and Changing Economies*, Milton Keynes: The Open University

SALVATORE, DOMINICK (1990), *Schaum's Outline of Theory and Problems of International Economics*, 3rd ed. New York: McGraw-Hill

ZAMAROS, PANAYOTIS (2008), *Economics – Lecture Notes and Activities*, Lausanne: P: Zamaros

ZAMAROS, PANAYOTIS (1995), *Macroeconomic Theory and Practice*, Caux: SHMS

Further Research

Stabilization

SESSION 32: The challenge of unemployment

Aims

The aim of this session is to

- Explore unemployment.

Expectations

At the end of this session the student will

BA4	I	analyze the costs and benefits of an economic choice or change (e.g., a rise in interest rates) for different stakeholder groups (e.g., consumers, importers, workers, exporters).
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Unemployment

Unemployment refers to the partial or total loss of employment. One typically makes reference to the following types⁸:

- *Frictional unemployment* as the consequence of labor mobility whereby workers switch jobs easily and firms having sort-term vacancies.
- *Structural unemployment* as the consequence of social and physical barriers as a loss in skills and an industrial output decline.
- *Demand-deficient unemployment* as the consequence of an overall fall in the demand for productive resources as there is a fall in investments, consumer spending or because there are contractionary fiscal of monetary policies by the state.

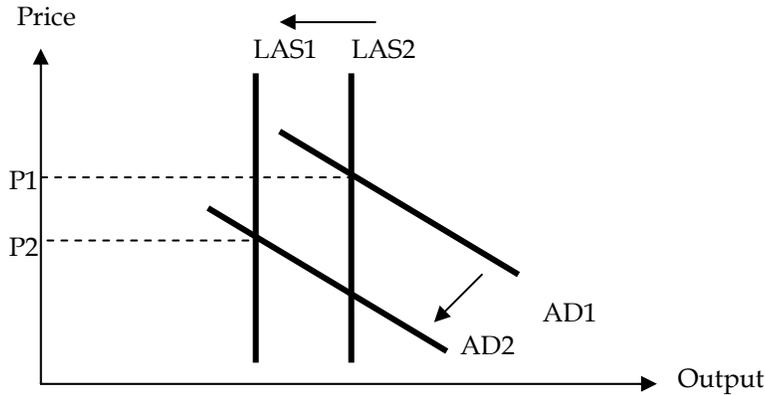
The state can resort to the following policies to correct unemployment:

- *Frictional unemployment*: provide counseling services, vary the benefits provided.
- *Structural unemployment*: reallocate labor away from declining industries by retraining workers and reconstructing free market practices.
- *Demand deficient unemployment*: promote coordination between employer and employee unions and regulate the fluctuations in the demand for productive resources by enhancing investment.

⁸ Zamaros, 1995.

Hysteresis

The long-run effect of high rates of unemployment is *hysteresis*⁹. Since the present levels of unemployment depend on past levels of actual unemployment mainly caused by deflationary policies shown by the shift from (AD1) to (AD2), there follows a permanent loss in output expressed by the leftward shift (LAS1) to (LAS2)¹⁰:



Hysteresis is characterized by the loss of worker skills, low investments and bankruptcies or because the employed have managed to get wage increases at the expense of the unemployed compared to the wage costs of the firm.

Labor markets

But the implications for employment depend on how the labor market is considered, that is, as passively competitive or non-competitive.

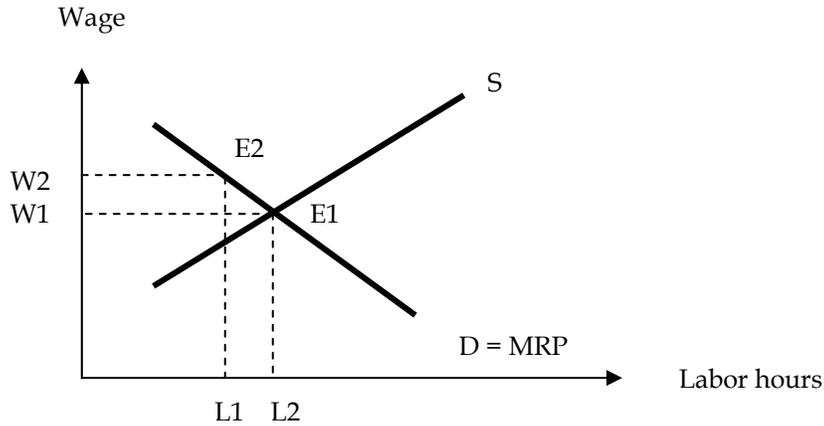
In the former case, unemployment arises due to workers insisting on higher wages or that the wages are too low and there is state intervention to increase them.

If the wage is considered too low, the state may impose a minimum wage ($W2$) such as $W2 > W1$. This reduces the number of hours worked to ($L2$) causing a short-run excess supply (i.e. unemployment). The imposition of a minimum wage reduces the productive efficiency of the firm since it raises costs and the reduction in producer surplus upsets the allocative efficiency of the labor market. Thus minimum wage legislation introduces an externality in the labor market which is an additional source for wage differentials even in the case where the policy has aimed to raise the wages in a specific industry.

However, in the long run the market is expected to settle at a new equilibrium ($E2$) where wages are higher and eventually reducing wage differentials:

⁹ Dawson, 1995. For instance, in France during the 1980s and 1990s.

¹⁰ Ibid.

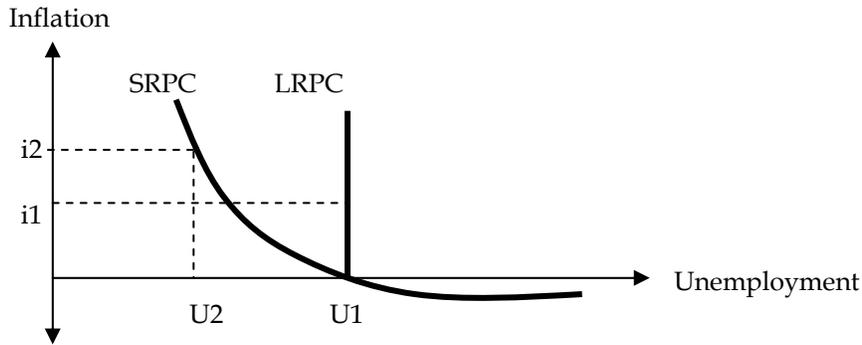


In the case where the labor market is considered *non-competitive*, the state, together with labor unions, seeks to reduce the power of *monopsonist firms*.

Theories on unemployment

Unemployment Theory 1 - Phillips: given that nominal wages tend to rise with inflation, whether demand-pull or costs push, the unemployment rate tends to fall.

There is a *trade-off between unemployment and inflation* as represented by the *Short-Run Phillips Curve (SRPC)*¹¹:



However, since changes in wages depend on the expectations workers have on inflationary tendencies (*rational expectations theory*) in the *Long Run the Phillips Curve (LRPC)* is perfectly inelastic which indicates that unemployment stays at its *natural rate*, or even below this level, despite (accelerating) increases in the price level

Unemployment Theory 2 - Okun: each time national income (i.e. GDP) falls by 2%, unemployment rises by 1%.

¹¹ Ibid.

Views on unemployment

The *New Keynesian approach* makes reference to the *Non-Accelerating-Inflation Rate of Unemployment (NAIRU)*¹² as the level of unemployment at which wages and prices are mutually consistent. This level accommodates both the requirements of firms in terms of their production decisions, and the workers in terms of their consumption expenditure. The NAIRU is the level of unemployment as a result of *collective bargaining*.

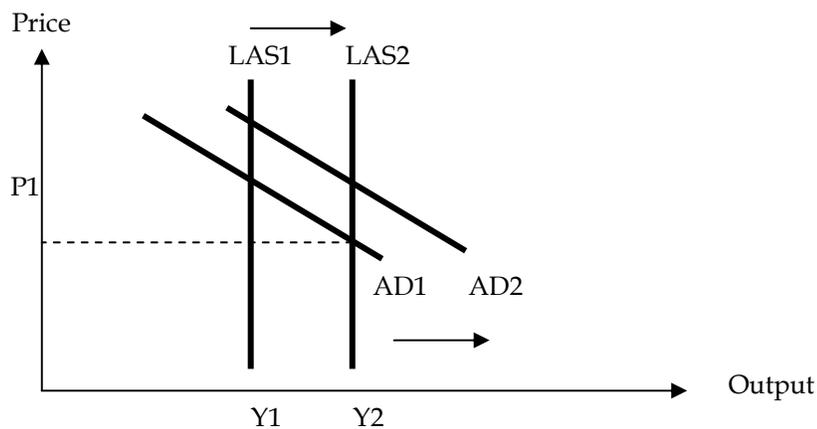
The *New Classical or Monetarist approach* refers to the *Natural Rate of Unemployment (NRU)*¹³ as the level of unemployment at which the labor market clears. This is when demand and supply for labor hours are equal at a give wage rate. The (NRU) is frictional unemployment.

Since collective bargaining establishes a wage level higher than when the labor market clears, in comparing the (NRU) and (NAIRU), the (NAIRU) is higher that the (NRU).

Considering the two unemployment views, the *policy implications* for the state are the following:

- To affect the (NAIRU) states need to reduce union power, structure collective bargaining, and educate and train workers.
- To affect the (NRU) states need to reduce the role of unions, remove minimum wages legislations, increase job information flows and reform the benefit systems.

Overall the (NAIRU) and (NRU) can be reduced by initiating *supply-side policies* which entail enhancing venture creation, adapting worker skills to the needs of the market through re-training and by a fairer resource allocation and income redistribution. Graphically¹⁴ supply-side policies can be seen as the sustained outward shift in the long-run equilibrium from (LAS1) to (LAS2):



¹² Dawson, 1995.

¹³ Ibid.

¹⁴ Zamaros, 1995.

This is a much preferred solution to demand-led policies, that is, expansionary fiscal and monetary policies since the latter have inflationary effects on the economy thus affecting the level of unemployment.

Activity 1: in view of completing sub-task 9, assess unemployment in the chosen economy.

Notes:

References:

DAWSON, GRAHAM (1995), 'Unemployment and Inflation', in MAUREEN MACKINTOSH et al., *Economics and Changing Economies*, Milton Keynes: The Open University

ZAMAROS, PANAYOTIS (1995), *Macroeconomic Theory and Practice*, Caux: SHMS

Further Research

Unemployment

SESSION 33: The challenge of poverty

Aims

The aim of this session is to

- Explore resource allocation and income distribution.
- Explore poverty.

Expectations

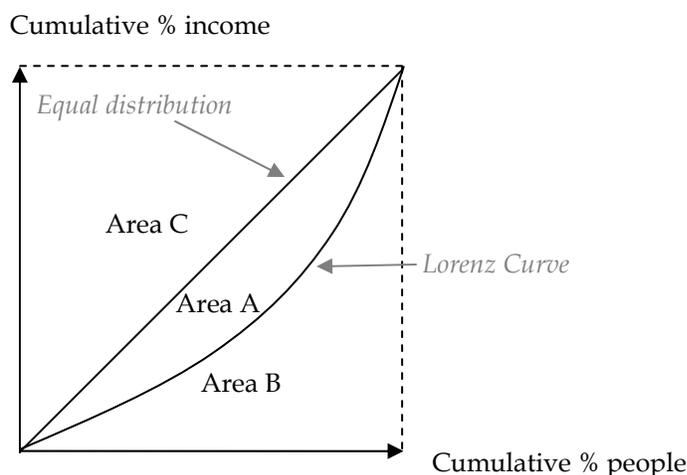
At the end of this session the student will

AD4	I	evaluate the effectiveness of government legislation (e.g., related to employment standards/health and safety legislation) and programs (e.g., education, health care, employment insurance, pensions, welfare) designed to enhance the economic security of Canadians.
BA3	K	explain the concept of the poverty line and the characteristics of the groups of stakeholders that fall below it;
DB1	K	describe how government is involved in the economy (e.g., as a provider of public goods and services such as defence, supplier of infrastructure, employer of resources, regulator of competition and of aggregate demand, redistributor of income);
EB3	I	evaluate the validity of the most commonly used measures of economic wellbeing (e.g., growth, standard of living, inflation, unemployment, poverty);
EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Revenue and resource allocation

Resource allocation or income distribution that is managed by the state is based on the premise that, ideally, markets are Pareto efficient, that is when consumer surplus utility (i.e. the difference between the price paid in the market and the satisfaction from consuming that good) and producer surplus utility (i.e. the difference between the price obtained in the market and

the satisfaction obtained from utilizing factors of production as reflected in the marginal costs) are equal. In this situation, resources are efficiently allocated along the *line of equal distribution* at 45°¹⁵:



The actual distribution is the deviation from the line of equal distribution (*Lorenz Curve*).

Measures of income distribution

The *Gini Coefficient* measures the ratio of the area that represents the deviation and the area below that of equal distribution; that is $GC = A / (A + B)$.

An additional measure is that of *Atkinson's*¹⁶, which assumes that the welfare of a society is represented by the sum of the utilities of its members. But since the (MU) of income falls as income increases, an attempt to reach equal distribution i.e. transfer of income from the richer groups of households to the poorer, will reduce the (MU) of the high-income earners by less than it would increase the utility of the low-income earners. If the level per capital income that brings about the same level of welfare is Y_s , and Y is the actual income, the Atkinson's measure of inequality is given by: $A = 1 - (Y_s / Y)$.

Poverty

Poverty arises from inequitable income distribution and can be defined as the level of income below the estimated cost of living in an economy. As a measure, if a household spends more than 1/3 of its income on food, it is considered poor.

¹⁵ Zamaros, 1995.

¹⁶ Bailey and Hargreaves Heap, 1995.

UNIT 10

Antipoverty policies are those aimed at protecting persons against economic difficulties through a comprehensive social insurance system i.e. the provision of subsidies and benefits and the reduction or even cessation of tax payments.

However, two factors may upset such efforts. The first one is the *poverty trap* i.e. when a higher level income, which no longer gives the right to state benefits, is lower than that with the benefits received or when it becomes more costly to generate. The second is the *tax payment cessation trap* i.e. when a higher level of income, which no longer gives the right to tax payment cessation, is lower than that with the benefits received.

Activity 1: in view of completing sub-task 9, assess poverty in the chosen economy.

Notes:

Reference:

BAILEY, DAVID & HARGREAVES HEAP, SHAUN (1995), 'Values and Distribution', in MAUREEN MACKINTOSH et al., *Economics and Changing Economies*, Milton Keynes: The Open University

ZAMAROS, PANAYOTIS (1995), *Microeconomic Theory and Practice*, Caux: SHMS

Further Research

Poverty; income allocation; development economics

SESSION 34: The challenge of the environment

Aims

The aim of this session is to

- Explore sustainable development.
- Explore stewardship.

Expectations

At the end of this session the student will

AD4	I	evaluate the effectiveness of government legislation (e.g., related to employment standards/health and safety legislation) and programs (e.g., education, health care, employment insurance, pensions, welfare) designed to enhance the economic security of Canadians.
BB1	I	compare the individual's economic rights as defined by the Universal Declaration of Human Rights with those protected by law in Canada (e.g., private property rights, intellectual property rights);
BB2	K	explain the concept of stewardship as it applies to specific examples of economic responsibility and choice (e.g., pollution, income distribution, use of resources and energy);
BB3	I	compare markets and governments with regard to their ability to respect and protect the individual's and the community's economic rights and to promote the objectives of economic stewardship and responsible decision making.
BC3	I	analyze the economic and social/cultural impact of resource development on traditional lands of First Nation peoples (e.g., logging or commercial fishing in British Columbia, pipeline construction or mining in the North, gaming in Ontario).

Sustainable development

According to the World Commission on Environment and Development, *sustainable development* refers to 'development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs'¹⁷.

This way to approach simultaneously the environment and society requires that one recognizes that certain actions are likely to harm the environment and that in consequence they reduce the ability of future generations to meet their own economic needs i.e. such actions injure future generations.

¹⁷ In Alexandrowicz et al., 2004: 361.

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One could therefore be talking about environmental damage and of *environmental tort* that can be addressed through either individual actions or state actions. In both cases, such actions are seen as an attempt to correct an *externality*.

Stewardship

As Kao has put it: 'ownership-based economics is an endless struggle in search of short-term equilibrium between two players (the seller and buyer), without any thought to the true cost of human labor, resources or environmental health'¹⁸.

Thus, related to the idea of sustainable development is *stewardship* as a new mindset to replace ownership for increases in social responsibility from the firms.

The economics of stewardship involves answering five questions¹⁹.

- What is the economy for?
- Where does and how should the economy fit in the physical and biological world it is a part of?
- How much economic growth is enough?
- How should we think about the byproducts of the processes of economic production?
- How should we think about the future?

Thus *environmental stewardship* seeks to make citizens aware of environmental and resource related issues. Specific projects may relate to 'biodiversity, food, local green efforts, energy conservation, recycling, transportation, new media, peer to peer outreach, water conservation, air quality, parks, community gardens, green building, green roofs, and incentives for green initiatives, among others'²⁰.

Activity 1: in view of completing sub-task 9, assess the environmental state of the chosen economy.

Notes:

References:

ALEXANDROWICZ, GEORGE et al. (2004), *Dimensions of Canadian and International Law in the 21st Century*, Emond Montgomery Publications.

¹⁸ Online 1.

¹⁹ Online 2.

²⁰ Online 3.

Online 1: KAO, RAYMOND, *Stewardship-based Economics*, <http://www.worldscibooks.com/economics/6355.html>, accessed on 1.10.8

Online 2: BROWN, PETER, 'Economics, Stewardship and the Transportation Sector', pp 24-49 in Transportation, Energy and Environmental Policy, Asilomar Conference, *Transportation Research Board*, <http://pubsindex.trb.org/document/view/default.asp?lbid=663836>, accessed on 1.10.8

Online 3: *Environmental Stewardship*, Columbia University, <http://www.environment.columbia.edu>, accessed on 1.10.8

Further Research

Sustainable growth, stewardship economics

Sub-task 9: Country research

Aims

The aim of this session is to

- Revise main concepts.
- Present main issues.

Expectations

At the end of this session the student will

BC2	I	compare the economies of different nations (e.g., Canada, United States, Japan, China, Sweden) with respect to ownership of resources, goods, and services (e.g., public or private) and method of decision making (e.g., by individuals in markets or by a central authority);
EA1	I	conduct research to locate reliable information from a variety of different media (e.g., newspapers, Internet sites), institutions (e.g., government agencies), businesses, interest groups (e.g., Canadian Centre for Policy Alternatives, Fraser Institute), and other sources;
EA2	I	analyze different types of economic information (e.g., statistical data, charts, graphs, tables, commentaries) to determine main ideas and supporting factual details, identify assumptions, and evaluate the logical consistency, relevance, and validity of the opinions expressed;
EB5	I	evaluate the truth of conclusions by applying the appropriate method of inquiry (e.g., positive compared with normative economics);
EB7	A	apply economic concepts (e.g., opportunity cost, demand, absolute advantage) and models (e.g., production-possibility boundary, the market, circular flow) to identify and analyze choices, forecast economic change, and define a reality, problem, or issue;
EB1	A	use different types of economic information (e.g., statistical data, charts, graphs, tables, linear equations) to analyze and describe key economic concepts (e.g., the effect of economic change);
EC1	C	communicate the results of inquiries, using a variety of styles and forms (e.g., reports, essays, discussions, presentations), as well as visual supports (e.g., charts, graphs, computer presentations);

Task

The Class is to be divided in 6 teams, each to research, prepare and formally present the social, economic, political and environmental challenges of the same nation-state as that chosen for the previous sub-task.

For each challenge, a set of solutions is to be suggested.

Appendix 1: Using the Tools

Unit 1: The science of Economics

TOOL 1: Understanding Consumers and Producers: use this tool to map out the basic questions that specific producers and specific consumers pose when faced with a situation of scarcity. For instance: to describe the thought processes between a hamburger consumer and McDonald's.

TOOL 2: Describing Relationships between Economic Actors: use this tool to describe and illustrate the different economic and legal relations (i.e. transactions) between chosen actors, such as the relationships between a household in France and a firm in Canada.

Unit 2: Understanding Consumers

TOOL 3: Measuring Satisfaction from Consuming Commodities: use this tool to show how satisfaction from consuming a good falls. For instance, the satisfaction from consuming a number of cans of beer decreases as the number of cans consumed increases.

TOOL 4: Establishing Consumer Choices: use this tool to describe the relationship between budget (i.e. the amount of money that a consumer holds) and a choice of 2 goods, say, steak and fries.

TOOL 5: Using Research Methods for Understanding Consumers: use this tool to carry out research on consumer behavior to establish consumption patterns and motives other than satisfaction.

Unit 3: Understanding Production Decisions

TOOL 6: Using Profit Maximization Table to Establish Production Resources: use this tool to establish profit maximization and the resources (i.e. labor and capital) that the firm will use and pay for in order to produce and sell the quantity that will maximize profits.

Unit 4: Describing Passively Competitive Firms and Markets

TOOL 7: Graphing Cost and Revenue Curves of Passively Competitive Firms: use this tool to describe the revenue and cost sides of a typical firm that is passively competitive, such as a hamburger producer; the same analysis can be use for perfect competitors.

TOOL 8: Criteria for Demarcating Passively from Perfectly Competitive Firms and Markets: use this tool to qualify a firm and its market.

TOOL 9: Defining Demand and Supply: use this tool for describing changes in demand/supply and changes in the quantities demanded/supplied.

TOOL 10: Using Econometrics to Graph Demand and Supply: use this tool to establish the correlation between two variables, notably, quantity and price so as to establish the line of best fit from a scatter of data.

TOOL 11: Measuring the Responsiveness to Changes in Price: use this tool to discuss elasticities whether of demand or supply, and their importance for taking price decisions.

TOOL 12: Using Demand and Supply diagrams: use this tool to establish shortage or surplus.

Unit 5: Describing Competitive and Non-Competitive Firms and Markets

TOOL 13: Graphing Cost and Revenue Curves of Monopolistic Competitors: use this tool to describe the revenue and cost side of a typical firm that is dynamically competitive such as Toyota, or Apple.

TOOL 14: Graphing Cost and Revenue Curves of Duopolies: use this tool to describe the revenue and cost side of 2 typical firms forming a cartel such as OPEC.

TOOL 15: Graphing Cost and Revenue Curves of Monopolies: use this tool to describe the revenue and cost sides of a typical monopoly such as Swiss Rail.

Unit 6: Understanding the Economy

TOOL 15: Understanding State Challenges: use this tool to describe the domestic and international challenges a state is faced with. For instance: issues of autonomy and sovereignty for Canada within NAFTA.

TOOL 16: Describing Political Regimes: use this tool to assess whether the regime of a nation-state is democratic or autocratic.

TOOL 17: Dealing with Externalities: use this tool to suggest solutions to deal with externalities (i.e. effects to third parties).

TOOL 18: Listing the Roles of the State: use this to describe what the state does domestically and internationally.

TOOL 19: Understanding State Instruments: use this tool to discuss the state budget.

TOOL 20: Measuring National Income: use this tool to calculate the various indices that show the economic health of a nation-state.

TOOL 21: Using Econometrics: use this tool to forecast likely trends for each component of the GDP and other indices.

Unit 7: Influencing the Economy

TOOL 22: Describing Aggregate Demand: use this tool to describe the components of the AD, the effects that render it downward sloping and the rightward/leftward effect any of the AD variables affecting it.

TOOL 23: Describing Aggregate Supply: use this tool to describe and graph the short run and long run AS curves in the Keynesian and Classical/Monetarist approaches.

TOOL 24: Assessing Fiscal Systems: use this tool to establish the degree to which a fiscal system is efficient and equitable.

TOOL 25: Understanding the Welfare Effect of Taxes: use this tool to describe and graph the welfare losses that excise taxes bring about.

TOOL 26: Demand and Supply for Money: use this tool to describe what money is wanted for (i.e. demand) and what its sources of supply (i.e. banking) as well as the interaction between them.

TOOL 27: Multiplier: use this model to forecast the amount of expenditure needed in an economy to generate a given output.

Unit 8: Boosting the Economy

TOOL 28: Growth Accounting and Contributions: use this tool to establish whether the industries in an economy are labor-intensive or capital-intensive.

TOOL 29: Understanding Labor Markets: use this tool to qualify the labor market as either passively competitive or non-competitive.

Unit 9: Managing the Economy

TOOL 30: Using the Balance of Payments (BOP) Mechanism: use this tool to establish the relationships between the current and capital accounts. For instance, the US trade deficit is financed by selling US assets.

TOOL 31: Using Policy Dilemmas: use this tool to describe what the state can and cannot do under a given exchange rate regime.

Unit 10: Stabilizing the economy

TOOL 32: Managing the Open Economy: use this tool to describe the sequence of events surrounding state decision-making in the open economy.

Appendix 2: Business Analysis

To carry out a business analysis the following points are to be considered:

Identification of a firm and its products

Consumption

- Consumption of 1 product: utility and limitations of satisfaction
- Consumption of 2 products: consumer equilibrium

Production

- Firm ownership
- Range of products on offer
- Process for the production of 1 product - example
- Utilization of labor and capital in production - examples
- Cost management
- Price management and elasticity

Market

- Use of criteria for establishing the nature of the market i.e. competitive or not
- Graphing the revenue and cost curves
- Welfare implications

Appendix 3: Economy Analysis

To carry out an economy analysis the following points are to be considered:

- National indices
- Political arrangements and ideologies
- Patterns of consumption
- Direct and indirect investment
- State expenditure and budget management
- Fiscal system and policies
- Banks and the monetary policies
- Capital utilization, research and development, education
- Labor markets and industrial make-up
- Exporting industries and imports
- Trade partners and policies
- Balance of payments
- Exchange rate regimes and management
- Participation to trade and monetary regimes
- Stabilization efforts
- Unemployment and policies
- Income allocation and anti-poverty management
- Resource and environment management