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Department of Business Administration

## THESIS

*“A Comparison of Parallel Texts Based on  
Peter Newmark’s Translation Techniques”*

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I, Eleni-Anna Psylla, declare that I have worked on this thesis independently,  
all the work presented is my own and results from my own research.

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# Summary

This thesis "*A Comparison of Parallel Texts Based on Peter Newmark's Translation Techniques*" is about the comparison of two economic texts, an English text which is the Source Text and the Greek Text which is the Target Text. In this thesis I analyze briefly the changes that were made in the Target Text and I comment where I consider it necessary. The first part is the Theoretical Part where I refer to the writers of the English text, the Great Depression and the theory concerning translation and Peter Newmark's translation techniques. Then in the Practical Part I analyze the texts and comment on them. At the end of this thesis is the bibliography which consists of English and Greek bibliography, and reference sources.

## ΠΕΡΙΛΗΨΗ

Η πτυχιακή εργασία με τον τίτλο «*A Comparison of Parallel Texts Based on Peter Newmark's Translation Techniques*» είναι ουσιαστικά σύγκριση μεταξύ δύο κειμένων, ένα αγγλικό (αρχικό κείμενο) και ένα ελληνικό κείμενο (τελικό κείμενο), καθώς και σχολιασμών των αλλαγών που έγιναν στο αρχικό κείμενο προκειμένου να μεταφερθεί το νόημα του στο τελικό κείμενο. Στην εισαγωγή της εργασίας γίνεται μία συνοπτική αναφορά στον Peter Newmark, βάση τις τεχνικές μετάφρασης του οποίου έγινε η σύγκριση, τους συγγραφείς του αγγλικού κειμένου καθώς και στην ελληνική και αγγλική γλώσσα, και στο Μεγάλο Κραχ.

### **Λέξεις – κλειδιά**

Σύγκριση κειμένων, σχολιασμός, μεταφραστικές τεχνικές, οικονομικό κείμενα

### **Key – words**

Comparison of texts, commentary, translation techniques, economic texts

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# THEORETICAL PART

## 1.1 GENERAL INFORMATION

### 1.1.1 General Information about Greek and English

#### Greek Language

Greek is the official language of Greece and one of the official languages of the European Union and Cyprus. Modern Greek derives from Koine Greek and it was divided into dialects; the most common of all were Demotic Greek and Katharevousa Greek. Demotic Greek was the language of everyday life and of creative literature, whether Katharevousa Greek was the official language of the armed forces, law, schools, newspaper and government. In 1976 the Demotic Greece was declared the official language of Greece.

The Greek alphabet derived from the Phoenician alphabet about 3000 years ago. It consists of 24 letters, which 17 are consonants and 7 are vowels. Its vocabulary has a big variety of words and it has influenced many modern languages such as English. Known prefixes that come from Greek are *poly*, *auto*, *micro*, and the suffixes are *phobia*, *graph*, *gram*, etc.

The Greek language has three genders: male, female and neuter. The gender is determined by the ending of the noun or adjective and the words also change according to the case (normative, accusative, genitive and vocative), and number (singular or plural). In general it is a phonetic language since most words are pronounced as they are written and are accompanied by accent marks; this can be a great help to someone who is learning Greek. It is very common to use articles, generally a direct article with a generic or abstract noun.

#### English Language

English is part of the Germanic language family, which in turn belongs to the Indo-European language family. It is also the language of international business and politics, and the most common learned second language. English consists of 26

Roman letters, 5 vowels and 21 consonants. In contrast to the Greek language, most English words are not pronounced as they are written.

The English grammar is not very difficult with a few exceptions of course such as a fair amount of possible tenses which are not very helpful for someone learning English, since many languages do not have continuous forms. An additional difficulty for a learner is the correct choice of modal verbs. Modal verbs are used when one wants to refer to the different shades of meaning in various situations such as obligation, ability, giving permission, etc.

### 1.1.2 PETER NEWMARK

Peter Newmark was born on 12 April 1916 and passed away on 9 July 2011. He was one of the founders of the Translation Studies in the English speaking world during the '80s. He wrote four books about the theory of translation: *A Textbook of Translation* (1988), *Paragraphs on Translation* (1989), *About Translation* (1991), *More Paragraphs on Translation* (1998). He was a professor of translation at the University of Surrey and became chair of the editorial board of the Journal of Specialized Translation he has also served as Vice-President, Council member Editorial Board Member of the Institute of Linguistics. His passion was language and he valued great written texts. By many he was considered very conservative but despite that he could offer the public a vivid and extremely interesting debate. Peter Newmark has placed one the basic milestones in the foundations of the Science of Translation and Theory of Translation.

### 1.1.3 PAUL SAMUELSON

Paul Samuelson was a profound economist and academic who won the Nobel Prize for his book *Economics*, which he co-wrote with William Nordhaus. It was first published in 1948 and it became the bestselling book for economics of all times. It has been published in different versions, and each version has been adapted according to the America's economic problems each time. Samuelson has made major contributions to the fields of trade, macroeconomics, public finances and consumer behaviour. He had a profound love towards mathematics and that is probably the reason why he chose to concentrate mainly on mathematical economics. Due to the

huge discrepancy between the various economic theories and the real world economic systems, he applied mathematical procedures in an attempt to find useful solutions that would actually help improve them. One of his famous quotes is “*Economists are said to disagree too much but in ways that are too much alike: If eight sleep in the same bed, you can be sure that, like Eskimos, when they turn over, they’ll all turn over together.*” Samuelson has published six books, among which is his most famous one *Economics: An Introductory Analysis* which is also the subject of this thesis. Here are the titles of his publications:

- Foundations of Economic Analysis,
- Economics: An Introductory Analysis William D. Nordhaus
- Economic Theory and Mathematics – An Appraisal
- The Pure Theory of Public Expenditure
- Linear Programming and Economic Analysis
- Efficient paths of capital accumulation in terms of the calculus of variations.

#### 1.1.4 WILLIAM NORDHAUS

William Nordhaus is a Yale university graduate and has a PhD in economics from MIT. His fields of interest lie in macroeconomics, environmental economy, and resource economics. Besides being a professor for economics studies he has held different positions such a member of the National Academy of Sciences and the President’s Council of Economic Advisers. He has published many articles and written many books that have influenced the economy. One of his most famous works is *Economics: An Introductory Analysis*, a book he co-wrote with Samuelson. He has paid special attention to economic growth and its resource constraints, as well as national resources and economics of climate change. Some of his publications are described below:

- Invention, Growth, and Welfare: A Theoretical Treatment of Technological Change (1969)
- *Economic Growth*, 50th Anniversary Colloquium (1972)
- The Efficient Use of Energy Resources (1979)
- Managing the Global Commons: The Economics of Climate Change (1994).



### 1.1.5 A Brief Reference to the Great Depression

The Great Depression is considered to be the most devious and severe financial breakdown in the history of the contemporary western world. It all started on October 29, 1929 other known as Black Tuesday, when the stock market crashed down very suddenly and abruptly. It is estimated that Dow Jones during that period of time lost 89% of its value. The crash was not the only reason but one of the main ones. Then, after the stock market crash, bank failures followed. The deposits were uninsured and a lot of people lost their life's savings. The banks that survived became very reluctant in creating new like a program that would probably enable the money flow in order to assist the business world. After the initial crash, the bank failures and an estimated life as if approximately 40 billion dollars, a sudden reduction in purchasing goods across the country occurred. This resulted in a dramatic cut down in the nation's workforce and therefore many Americans lost their jobs. Many of the purchases which were paid for in installments were repossessed. During that period of time the unemployment rated had reached the dramatic number of 25%.

Another reason for the Great Depression was the Smooth-Hanley Tariff in 1930 which was aiming at protecting the American market. This, however, had a negative impact in the American Economy because it caused problems in the relationships between Europe and America. It raised the financial taxes for imported goods which in turn reduced trading deals between USA and other countries, mainly European.

Then, moving on to agriculture an additional cause of the Great Depression even thought it was not a direct cause, was the Drought Conditions. It occurred mainly in the Mississippi Valley where the farmers could no longer afford to meet their obligations and were forced to sell their farms and land to cover their pressing obligations with no profit for them. This situation was also known as the "*Dust Bowl*".

Several steps were taken during Roosevelt's presidency and several rescue planned were introduced, among which was the New Deal. The New Deal was a plan that offered short recovery programs which were similar to the proposals by Hoover (the previous US president at the beginning of the Great Depression). This plan included:

- Financial aid
- Greater Control over businesses
- Prohibition
- Work-assistance program
- End of gold standards

## Steps Taken for Escaping the Great Depression

During the Great Depression, the Second World War was taking place and even though at first America had decided to remain neutral, the circumstances changed and she decided to enter the war. As preparations for the war were being made, the demands for troops and war equipment shot up and therefore thus opened job positions for a fair proportion of the unemployed. However, this was a short term plan that was costly and would produce no results that would last in the years to come and would ensure that such a financial travesty would not occur again. This is when Roosevelt presented his financial rescue plan aka the New Deal.

First the National Resources Planning Board was presented (NRPB) and it followed the ideas which were initially introduced by the economist John Maynard Keynes as they were published in his book "*General Theory of Employment, Interest and Money*". Attention was given to the main sectors that had been negatively affected by the Great Depression, such as unemployment, agriculture, and industry and labor. At first to combat unemployment among young men between the ages 18-25 they formed the Civilian Conservation Corps where the young aspiring worker were taken to different parts of America to do labor. Their salary was an estimated amount of 30 dollars per month. They mainly did tree planting to combat soil erosion, they maintained forests and they built deposits for coal, gas and petroleum.

In agriculture, the Agricultural Adjustment Act (AAA) was a plan that subsidized farmers to compensate them for the raise in crop prices. Up until the middle of 1930s farm income surpassed 50% but due to extremely bad weather conditions known as Dust Bowl where the southern plants were mostly effected. Such conditions were drought, violent winds and dust storms. This, in turn, caused massive internal migration to California.

Finally, to improve industry and labor the National Recovery Administration (NRA) was recommended along with the National Industrial Recovery Act (NIRA) which set codes for fair competitive practice to generate job openings. Despite NRA being proclaimed unconstitutional because the business world was complaining about over regulation, recovery started to take hold.

In conclusion, the decade of the Great Depression was the most bleak economy downturn in American History it as this crisis was recessing, the workers started to share common interests and labor power increased not only in the business circles but also in politics and international relations. Once USA was out of the crisis it developed a very strong economic system and it become one of the richest and most influential countries worldwide.

## 1.2 INTRODUCTION

Translation is the process of transferring the message of one culture to another via language. The words and ideas of a translated text must be as close as possible and relevant to the original text, although, that is not always possible, especially in literature texts. Translation is not just replacing a word with its exact meaning – which is a common misunderstood conception – in the target language but attributing ideas, and knowing how to speak a language does not mean that one is a good translator. A good translated text consists of finding the right word (accuracy), understanding the writer's message (clarity) and searching for the most appropriate word (flexibility).

Ideas and thoughts are translated and not word and fixed phrases. When reading a translated text the reader must have, in the end, the same impression as the reader of the original text. In order to produce a good translation, the translator must take into account the text's purpose and theme, its writer, the reason for translating it, its genre and the readers it refers to, and this is why a translator must not work by himself but he must cooperate with the person or company that asked him to take on the project.

A translator's most important tool is his dictionary but relying simply on a dictionary to produce a target text and knowing well both languages is not enough. Guidelines must be given and techniques must be applied in order to produce a proper translation outcome. Besides linguistic knowledge, a good knowledge of culture is required. Knowing the exact cultural elements and differences helps to convey the meaning of the source text into the meaning of the target text. This knowledge is usually required when translating idioms, cultural elements which do not have equivalents in other languages (ex. national holidays), etc.

He is obliged to recreate the text in the Target Language according to the guidelines provided by the client. The text's purpose determines the framework in which the translator will work. The client determines the purpose of the translation, and he draws the limits in which the translator can move. Once the translator comprehends the meaning of the text and the reason for translating it, he is then ready to begin the translation process by applying several techniques which will enable him to produce a positive and therefore, satisfying translation outcome.

Translation is considered by many as a creative process<sup>1</sup> and according to Graham Wallas in order to complete a creative process several steps must be taken:

1) **Preparation** is the phase where the translator gathers all the necessary information which is required in order to deliver a satisfying translation.

2) **Incubation** is the phase where the translator recognized the problem which remains until the translator is ready to continue to the next phase.

3) **Intimation** is the phase where the translator "senses" that he is on the track for finding a solution to the translation problem,

4) **Illumination/Insight** is when a possible solution results from after a series of syllogisms.

5) **Verification** comes when the initial solution is verified by applying alternative solutions, its credibility is examined; it undergoes the final editing and once it is completed it is applied.

The process described above is usually followed when a problem appears and in this case it is about overcoming any difficulties which occur when doing a translation.

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<sup>1</sup> Taken from «*Μετάφραση και Δημιουργικότητα*» by Stefanos Vlachopoulos, this was published in 2010 by Klidarithmos Publications.

## 1.2.1 Translation Difficulties

The most common translation difficulty is to choose which meaning is the right one since most words have many meanings. The meaning of a word must be chosen according to the context of the text; it all depends on how it is used. This is why it is necessary to know well both languages and have the ability to deal with their different meanings, and also why a translator has to be a native speaker of the language he is translating into. A native speaker can understand the culture that comes along with the languages, and can deal with new situations appropriately.

Take, for example, the Greek phrase: “μισθός δημοσίου υπαλλήλου” which means “*a public servant's salary*”. Before the debt crisis in Greece really kicked in, it was a phrase that was used to describe the huge income one might have from his work, mainly from the public sector, but now, after the crisis it refers to a salary that does not cover the everyday basic needs. This is something only a native speaker of the Greek language would understand or a near-native speaker who has been living in Greece for years.

When translating another fact that must be taken into consideration is: does the text contain general language or specialized terminology? If a text contains general language using different words to translate the same word adds variety to text and makes it more interesting but when translating a text with specialized terminology, it is mandatory to repeat the same term since replacing it with a similar one can have huge consequences, from causing a good laugh to severe injury or even death (when it comes to hard manual labour).

In general, the main translation difficulties are three: 1) Task of distinguishing the use of a word of general language or as a term of specialized terminology, 2) Distinguishing between the different meaning of a word in general language, and 3) the need to be sensitive to the context of the text, including its readers. The meaning of a text is strongly connected to people and their culture.

## 1.2.2 Consequences of a Bad Translation

A bad translation is also known as a mistranslation. This can be very funny yet very dangerous, since a mistranslation can cause great harm to a company's image. Even a misspelled word in a text can cause an enterprise to lose half its clients and most of its potential clients. This, unfortunately, is a common consequence when a company or private individual hires someone who charges very small rates. Cheap translations are often done by inexperienced and unqualified translators. There are also cases where a company or individual does not even bother to hire a translator and prefer to translate their text by using solely machine translation, such as Google Translate.

Fields in which mistranslations can cause harm:

- 1) Marketing texts
- 2) Technical texts (i.e. texts about computers)
- 3) Medical and Pharmaceutical texts
- 4) Legal documents (i.e. wills, courts decisions)
- 5) Any text related to a company's or an organization's public image.

Many enterprises and organizations around the world work hard to build an image and to gain their customers trust, and it takes not just one mistranslation but even one misspelled word can cause great mistrust and therefore, lose half its customers and supporters. When it comes to translating technical texts, such as how to use a compressor, the translation of the booklet must be 100% correct because one mistake can cause a serious accident or even death to the person using it. The same applies to medical and pharmaceutical texts. One mistake in the prescription of the daily dosage and the patient can die. In a court case, a mistranslation can distort the court decision and therefore, cause great injustice.

In conclusion, a translator must not just know both languages fluently but also understand the cultural backgrounds that accompany them. To translate a text means to come up against many difficulties which are solved by applying translation methods and a bad translation can cause at best, a good laugh and at worst severe injury and even death.

## 1.2.3 Methods

To conduct a translation several methods are followed according to each text, its nature and purpose. The most common translation techniques are 1) word-for-word translation, 2) Literal translation, 3) faithful translation, 4) Semantic translation, 5) Adaptation, and 6) Free translation. A translator chooses the appropriate method after having received guidelines and fully understood its meaning. Besides translation methods, there is also translation procedures which derive from the methods mentioned above. This thesis is done in accordance to the translation procedures introduced by Peter Newmark in his book “*A Textbook in Translation*”.

Procedures:

- |                                       |                               |
|---------------------------------------|-------------------------------|
| 1) Word-for-word translation          | 2) Transference               |
| 3) Naturalization                     | 4) Cultural Equivalent        |
| 5) Functional Equivalent              | 6) Descriptive Equivalent     |
| 7) Synonymy                           | 8) Through-translation        |
| 9) Transposition                      | 10) Recognized translation    |
| 11) Omission, Reduction and expansion | 12) Paraphrase                |
| 13) Translation Couplet               | 14) Notes, Additions, Glosses |

1) **Word- for word translation** when the grammar, word order and primary meaning of the Source Text are kept in the Target Text.

i.e. 1) Unacceptable inequalities of income and wealth<sup>2</sup> = *απαράδεκτες ανισότητες εισοδημάτων και πλούτου*

2) Progressive taxation of income and wealth = *Προοδευτική φορολόγηση εισοδημάτων και πλούτου*

3) Slow economic growth = *Αργή οικονομική ανάπτυξη*

2) **Transference**: is a translation procedure where a word in the Source Text is transferred to the Target Language.

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<sup>2</sup> Most examples presented in the Theoretical Part is taken from the texts that are compared in this thesis.



- i.e.
- 1) laissez-fair
  - 2) Golden boys
  - 3) Euro group

3) **Naturalization:** It is a translation procedure which resembles the procedure of transference but the only difference is that it takes the loan word and adapts according to the natural morphology of the Target Language.

- i.e.
- 1) Αραβικό Καλιφάτο
  - 2) Γκοθάς
  - 3) Τροϊκανός

4) **Cultural Equivalence:** This is a procedure where a source text cultural word is replaced by a target text cultural word.

- i.e.
- 1) Ash Wednesday = Καθαρά Δευτέρα
  - 2) April's Fools Day = Πρωταπριλιά
  - 3) Great Depression = Το Μεγάλο Κραχ

5) **Functional Equivalent:** is applied when there is no cultural equivalent in the Target Language, therefore a general word is selected to replace it.

- i.e.
- 1) The stakes are high. To the winners go the profits while the losers lag behind = Το στοίχημα είναι μεγάλο. Οι νικητές θα έχουν κέρδος, οι ηττημένοι θα μένουν πίσω
  - 2) 4<sup>th</sup> July = Εθνική γιορτή της Απελευθέρωσης της Αμερικής
  - 3) Thanks Giving = Αμερικάνικη μέρα αργίας

6) **Descriptive Equivalent:** When a cultural equivalent and a functional equivalent are not available, a descriptive equivalent is usually placed in the place of the word in the Source Text.

- i.e.
- 1) Tsolias = A well built man wearing the Greek traditional outfit guarding the Greek Parliament at Syntagma Square.
  - 2) Kitana = Japanese sword used only by men.
  - 3) Magiritsa = Traditional Greek dish eaten only on Easter Saturday after the Liturgy of the Resurrection.

7) **Synonymy**: is the procedure a translator follows when he wants to replace one word with its near Target Language equivalent because an exact one does not exist. It is mainly used for adverbs and adjectives.

- i.e.
- 1) χανάτσι = tax
  - 2) Τσαρούχι = rustic shoe
  - 3) Troll = στοιχειό

8) **Through-translation**: other known as calque, is a procedure that is applied when we have names organizations, and even fixed phrases.

- i.e.:
- 1) Super market = υπεραγορά
  - 2) Τι είχαμε, τι χάσαμε; = What did we have, what have we lost?
  - 3) Gothic culture = γοτθική κουλτούρα

9) **Transposition**: or else shift, is one of the most common translation procedures which involves changes in the grammar, for example singular to plural, change of the position of the adjective, the word order etc. It is divided into four additional procedures:

- 1) Recategorization
- 2) Denominalization
- 3) Recasting
- 4) Modulation

1) **Recategorization** is used when a translator has to make changes in the grammar from the Source Language to the Target language, such as singular to plural, changing of the position of the adjective, changing the word class or part of speech.

i.e. 1) This knowledge is essential to policymakers who are struggling with the question of how high to set the minimum wage = η γνώση αυτή είναι απαραίτητη στον πολιτικό που καλείται να αντιμετωπίσει το πρόβλημα πόσο ψηλά να ορίσει τα κατώτατα ημερομίσθια και μισθούς → plural to singular

2) The military, the police, the national weather service, and highway construction are all typical areas of government activity = οι ένοπλες δυνάμεις, η αστυνομία, η εθνική μετεωρολογική υπηρεσία και η κατασκευή αυτοκινητόδρομων είναι οι τυπικές περιοχές κρατικής → singular to plural

3) What happens in the bread market? The bad harvest causes bakers to produce less bread at the old price, so quantity demanded exceeds the quantity supplied = Τι θα συμβεί στην αγορά ψωμιού; Η κακή σοδειά αναγκάζει τους αρτοποιούς να παράγουν λιγότερη ποσότητα στην παλαιά τιμή και, έτσι η ζητούμενη ποσότητα ξεπερνά την προσφερόμενη → present to future simple

2) **Denominalization** is used when a noun is transformed into a verb.

- i.e. 1) I have make a payment = πρέπει να πληρώσω  
2) How much is the charge per hour? = πόσο χρεώνετε την ώρα;  
3) Please invoice my company for the charges<sup>3</sup> = Παρακαλώ στείλτε το τιμολόγιο με τα έξοδα στην εταιρία μου.

3) **Recasting** is used when the order of the Source Language's words has to be altered in order to conform to the syntactic constraints of the Target Language.

i.e. 1) Many people are interested in learning about how we can improve our environment or why inequality in the distribution of income in the United States has risen so sharply in recent years = Πολλοί ενδιαφέρονται να μάθουν πως θα μπορούσαμε να βελτιώσουμε το περιβάλλον ή γιατί η ανισότητα στη διανομή του εισοδήματος έχει μεγαλώσει τόσο στις Ηνωμένες Πολιτείες τα τελευταία χρόνια

2) In each case, an activity has helped or hurt people outside the market transaction; that is, there was an economic transaction without an economment = μια δραστηριότητα, λοιπόν, μπορεί να βοηθήσει ή να βλάψει ανθρώπους έξω από τις συναλλαγές της αγοράς. Δηλαδή, υπάρχει οικονομική συναλλαγή χωρίς οικονομική πληρωμή → semi colon replaced b full stop

3) A decrease in demand generally \_\_\_\_\_ price and \_\_\_\_\_ quantity demand = Μια μείωση της ζήτησης....., γενικά την τιμή και..... τη ζητούμενη ποσότητα.

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<sup>3</sup> Example taken from the online dictionary Wordreference database (<http://www.wordreference.com/engr/invoice>)

4) **Modulation** is the variation by changing the viewpoint, the perspective, and quite often the category of thought. This is usually done by providing a clarification with respect to the original form. This procedure is divided into more procedures:

- |                                 |                          |
|---------------------------------|--------------------------|
| a) Positive for double negative | b) Abstract for concrete |
| c) Cause for effect             | d) One part for another  |
| e) Reversal of terms            | f) Active for passive    |

Examples:

- 1) Positive for double negative: The bank did not have neither his ID number nor social security number = Η τράπεζα δεν είχε ούτε τον αριθμό ταυτότητάς του ούτε το ΑΦΜ του.
- 2) Abstract for concrete: sleep in the open = dormir à la belle étoile<sup>4</sup>
- 3) Cause for effect: sleep by the fire = sentarse junto a la chimenea
- 4) One part for another: from the first to the last = από την αρχή έως το τέλος
- 5) Reversal of terms: Market economies = οικονομίες της αγοράς
- 6) Active for passive: I was surprised by the financial outcome = Το οικονομικό αποτέλεσμα με εξέπληξε.

10) **Recognized Translation** is a general accepted translation of word of fixed phrase. This applies mainly to terminologies of various subjects such as financial and economic text, law, computer science, medicine and pharmaceuticals, etc.

- i.e. 1) National Defense = Εθνική Άμυνα  
2) Supply and Demand = ζήτηση  
3) Supply = Προσφορά

11) **Omission, Expansion and Reduction**: when the phrase of the Source Text is completely omitted, expanded or redacted.

i.e. Omission: An important distinction in economics is that between shifts of curves and movement along curves = μια σημαντική διάκριση είναι αυτή των μετατοπίσεων των καμπυλών και των κινήσεων πάνω στις καμπύλες

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<sup>4</sup> This example and the one following it are taken directly from the examples given by Vinay and Darbelnet (<http://www.uv.es/tronch/Tra/TranslationProcedures.pdf>).

Expansion: Does free trade raise or lower wages for most American? = το ελεύθερο εμπόριο οδηγεί σε υψηλότερα ή χαμηλότερα ημερομίσθια και μισθούς για τους περισσότερους Αμερικανούς;

Reduction: οικονομικό τμήμα = finance

12) **Paraphrase** is actually an amplification or explanation of the meaning of the text's segment. It is used mainly when the Source Text is virtually impossible to be translated literally in the Target Text.

i.e. 1) How many children will grow up to play professional sports or to be professional economists or to program computers? = Πόσα παιδιά θα μεγαλώσουν για να γίνουν επαγγελματίες, αθλητές, ή επαγγελματίες οικονομολόγοι ή προγραμματιστές ηλεκτρονικών υπολογιστών

2) This principle holds that, in selfishly pursuing only his or her personal good, every individual is led, as if by an invisible hand, to achieve the best good for all = η αρχή αυτή υποστηρίζει ότι κάθε άτομο, επιδιώκοντας ιδιοτελώς την προαγωγή και μόνο του δικού του συμφέροντος, είναι σαν να καθοδηγείται από ένα αόρατο χέρι για να επιτύχει το καλύτερο αποτέλεσμα για όλους

3) Since World War II, for example, there have been nine recessions in the United States, some putting millions of people out of work = μετά το Β' Παγκόσμιο Πόλεμο, παραδείγματος χάριν, έχουν σημειωθεί εννέα υφέσεις στις Ηνωμένες Πολιτείες, πολλές από τις οποίες έκαναν εκατομμύρια ανθρώπους να χάσουν την δουλειά τους

13) **Translation Couplet** is when more than one translation techniques are used in order to produce good translation.

i.e. 1) Be warned, however, that incomes reflect much more than the rewards for sweaty labor or abstemious saving = δεν πρέπει να λησμονούμε, όμως, ότι τα εισοδήματα εκφράζουν πολύ περισσότερα πράγματα από την αμοιβή κοπιαστικής εργασίας ή την αποταμίευση που γίνεται με θυσίες --> compensation, transposition-modulation: plural to singular, cultural equivalent, componential analysis

2) The bank confiscated their house because they didn't pay their loan = επειδή δεν πλήρωσαν το δάνειο τους, η τράπεζα έδωσε εντολή για κατάσχεση του σπιτιού τους → transposition: deverbilization and transposition – recasting

3) Η εταιρεία απέλυσε αρκετούς εργαζόμενους εξαιτίας της οικονομικής κρίσης = Due to the financial crisis, many worker were laid off by the company → transposition – recasting, and synonymy

14) **Notes, additions, glosses** are added when the Target Text demands additional information in order to help the reader understand the message of the Source Text.

- i.e
- 1) Ηγουμενίτσα = Igoumenitsa, a small city on the North-West coast of Greece, near Albania
  - 2) Καρυάτιδα = Caryatid, a pillar in the shape of a woman
  - 3) Γάλακτομούρεκο = traditional Greek sweet made from pastry and syrup

## PRACTICAL PART

# CHAPTER I

## 2.1.1 Word- for- Word translation

### A. INTRODUCTION

Gradually, poor people in rich countries got access to minimal levels of income, food and health care = προοδευτικά, οι φτωχοί που ζούσαν σε πλούσιες χώρες άρχισαν να αποκτούν πρόσβαση στα κατώτερα επίπεδα εισοδήματος, διατροφής και ιατροφαρμακευτικής περίθαλψης

### FOR WHOM THE BELL TOLLS?

Some people study economics because they hope to make money. Others worry that they will be illiterate if they cannot understand the laws of supply and demand = Ορισμένοι σπουδάζουν οικονομικά επειδή ελπίζουν ότι θα κερδίσουν χρήματα. Άλλοι φοβούνται ότι θα είναι αμόρφωτοι αν δεν μπορούν να κατανοούν τους νόμους της προσφοράς και της ζήτησης

### SCARCITY AND EFFICIENCY:

#### THE TWIN THEMES OF ECONOMICS

Studies show how the prices of labor, capital, and land are set in the economy, and how these prices are used to allocate resources = μελετά πως οι τιμές της εργασίας, του κεφαλαίου και της γης ορίζονται στην οικονομία και πως χρησιμοποιούνται για την κατανομή των παραγωγικών πόρων

Explores the behavior of the financial markets, and analyzes how they allocate capital the rest of the economy = διερευνά την συμπεριφορά των χρηματαγορών και αναλύει πως κατανέμουν το κεφάλαιο στην υπόλοιπη κοινωνία

### MICROECONOMICS AND MACROECONOMICS

Adam Smith is usually considered the founder of the field microeconomics, the branch of economics which today is concerned with the behavior of individual entities such as markets, firms, and households = Ο Άνταμ Σμιθ θεωρείται, συνήθως, ο ιδρυτής του πεδίου της μικροοικονομικής, του κλάδου της οικονομικής που



ασχολείται με την συμπεριφορά ξεχωριστών οντοτήτων της οικονομίας, όπως οι αγορές, οι επιχειρήσεις, και τα νοικοκυριά

### THE LOGIC OF ECONOMICS

Economists have developed a specialized technique known as econometrics which applies the tools of statistics to economic problems = οι οικονομολόγοι έχουν αναπτύξει μια εξειδικευμένη τεχνική που είναι γνωστή ως οικονομετρία, η οποία εφαρμόζει τα εργαλεία της στατιστικής σε οικονομικά προβλήματα

### THE LOGIC OF ECONOMICS

This involves observing economic affairs and drawing upon statistics and the historical record = αυτό σημαίνει ότι παρατηρούν τα οικονομικά φαινόμενα και στηρίζονται σε στατιστικά στοιχεία και ιστορικά δεδομένα --> word for word translation

### INPUTS AND OUTPUTS

Inputs are commodities or services that are used to produce goods and services = εισροές είναι αγαθά ή υπηρεσίες που χρησιμοποιούνται για την παραγωγή άλλων αγαθών και υπηρεσιών

Restating the three economic problems in terms of inputs and outputs, a society must decide (1) *what* outputs to produce, and in what quality, (2) *how* to produce them – that is, by what techniques inputs should be combined to produce the desired outputs; and (3) *for whom* the outputs should be produced and distributed = εκφράζοντας τα τρία οικονομικά προβλήματα σε όρους εισροών και εκροών, μια κοινωνία πρέπει να αποφασίσει (1) *τι* εκροές θα παράγει και σε τι ποσότητες, (2) *πως* θα τις παράγει – δηλαδή, με ποιες τεχνικές θα πρέπει να συνδυαστούν οι εισροές για να παραχθούν οι εκροές και (3) *για ποιον* θα πρέπει να παραχθούν και να κατανεμηθούν οι εκροές

### SUMMARY

The PPF shows how the production of one good (such as guns) is traded off against the production of another good (such as butter) = Το ΟΔΠ δείχνει πως η παραγωγή ενός αγαθού (όπως τα κανόνια) συνδέεται αντιστρόφως με την παραγωγή ενός άλλου αγαθού (όπως το βούτυρο)

3) The relationship between the two variables in a curve is given by its slope = η  
σχέση μεταξύ δύο μεταβλητών σε μια καμπύλη δίνεται από την κλίση της

FIGURE 1-1 p. 10

The production possibilities in a graph = το όριο δυνατοτήτων παραγωγής σε ένα διάγραμμα

FIGURE 1-1 p. 10

The production possibilities in a graph = το όριο δυνατοτήτων παραγωγής σε ένα διάγραμμα

As we go from A to B...to F, we are transferring labor, machines, and land from the gun industry to butter and can thereby increase butter production = προχωρώντας από το A στο B και, διαδοχικά έως το Z, μεταφέρουμε εργασία, μηχανές και γη από την παραγωγή κανονιών στην βιομηχανία βουτύρου και, επομένως, αυξάνουμε την παραγωγή του

## 2.1.2 TRANSPOSITION

### 1) Recasting

#### THE LOGIC OF ECONOMICS

Here are some true statements that might surprise you if you ignore the fallacy of composition = ιδού μερικές αληθείς προτάσεις που, αν αγνοούσατε το σφάλμα της σύνθεσης, πιθανότατα θα σας εξέπλητταν

#### UNEMPLOYMENT RESOURCES AND INEFFICIENCY

To understand how the powerful ideas of economics apply to the central issues of human societies – ultimately, this is why we study economics = τελικά, ο λόγος για τον οποίο μελετούμε τα οικονομικά είναι να κατανοήσουμε τη συσχέτιση των δυναμικών ιδεών τους με τα κεντρικά ζητήματα των ανθρώπινων κοινωνιών

### 2) Reversal of Terms

#### THE LOGIC OF ECONOMICS

2<sup>nd</sup> paragraph

For complex phenomena like the impacts of budgets deficits or the causes of inflation, historical research has provided a rich mine of insight = για σύνθετα φαινόμενα, όπως οι επιπτώσεις των ελλειμμάτων του προϋπολογισμού και τα αίτια του πληθωρισμού, η ιστορική έρευνα έχει αποδειχθεί χρυσωρυχείο ιδεών

#### THE THREE PROBLEMS OF ECONOMIC ORGANIZATION

Should unemployment be raised to ensure that the price inflation does not become too rapid = θα πρέπει να αυξηθεί η ανεργία για να εξασφαλιστεί ότι δεν θα είναι πολύ γρήγορος ο πληθωρισμός των τιμών;

#### UNEMPLOYMENT RESOURCES AND INEFFICIENCY

The economy can move from U to D, producing more butter and more guns and improving the economy's efficiency = η κοινωνία θα μπορέσει να κινηθεί από το U σε Δ παράγοντας περισσότερο βούτυρο και περισσότερα κανόνια. Έτσι, βελτιώνεται η αποτελεσματικότητα της οικονομίας

Command economy = οικονομία των εντολών

Market economy = οικονομία της αγοράς

### 3) Recategorization

Incomes = εθνικό εισόδημα → plural to singular

## MICROECONOMICS AND MACROECONOMICS

In the Wealth of Nations, Smith considered how individual prices are set, studied the determination of prices of land, labor, and capital, and inquired into the strengths and weaknesses of the market mechanism = Στον Πλούτο των Εθνών, ο Σμιθ μελετά το καθορισμό των τιμών της γης, της εργασίας και του κεφαλαίου και διερευνά τα ισχυρά και αδύνατα σημεία του μηχανισμού της αγοράς → change of grammar

FIGURE 1A-7 p. 22

Shift of curves versus movement along curves = μετατόπιση καμπύλης έναντι κινήσεων πάνω στην καμπύλη → singular to plural and vice versa

### 4) Modulation

FOR WHOM THE BELL TOLLS?

All these reasons and many more, make good sense. Still, we have come to realize there is one overriding reason for learning economics: All your life - from cradle to grave and beyond- you will run up against the brutal truths of economics. As a voter you will make decisions on issues - on the government deficit, on taxes, on free trade, on inflation and unemployment - that cannot be understood until you have mastered the rudiments of this chapter Όλοι αυτοί οι λόγοι – και πολλοί περισσότεροι – είναι απολύτως κατανοητοί. Ωστόσο πρέπει να καταλάβουμε ότι υπάρχει ένας συντριπτικός λόγος για τον οποίο σπουδάζουμε οικονομικά: ολόκληρη τη ζωή μας – από το λίκνο έως το τάφο, και πέραν αυτού – θα περιστρέφεται γύρω από τις ωμές αλήθειες της οικονομική. Ως ψηφοφόροι θα πρέπει να αποφασίζουμε για ζητήματα – όπως τα δημόσια ελλείμματα, οι φόροι, το ελεύθερο εμπόριο – τα οποία δεν θα μπορούμε να κατανοήσουμε αν δεν έχουμε κάνει κτήμα μας τους ακρογωνιαίους λίθους αυτής της επιστήμης → one part for another

## SCARCITY AND EFFICIENCY:

### THE TWIN THEMES OF ECONOMICS

You will quickly find that there are simply not enough goods and services to satisfy even a small fraction of every one's consumption desires = θα διαπιστώσουμε γρήγορα ότι τα αγαθά και οι υπηρεσίες που υπάρχουν φθάνουν για να καλυφθεί μόνο ένα κλάσμα των καταναλωτικών αναγκών όλων μας → one part for another

### PUTTING THE PPF TO WORK

The more we choose to consume food, the less we can consume of clothing = όσα περισσότερα τρόφιμα επιλέγει να καταναλώσει κανείς τόσο λιγότερα ρούχα μπορεί να καταναλώσει → one part for another

## Other transpositions

### SCARCITY AND EFFICIENCY

### THE TWIN THEMES OF ECONOMICS

If infinite quantities of every good could be produced or if human desires could be fully satisfied = αν μπορούσαμε να παράγουμε άπειρες ποσότητες από κάθε αγαθό ή αν ήταν δυνατόν να ικανοποιούμε πλήρως όλες τις επιθυμίες των ανθρώπων → transposition - modulation: active to passive

### INPUTS AND OUTPUTS

Outputs are the various useful goods or services that result from the production process and are either consumed or employed in further production = εκροές είναι τα διάφορα χρήσιμα αγαθά ή υπηρεσίες που είναι αποτελέσματα της παραγωγικής διαδικασίας και είτε καταναλώνονται είτε χρησιμοποιούνται ξανά στην παραγωγή → transposition - nominalization

### OPPORTUNITY COSTS

Resources are scarce = οι παραγωγικοί πόροι είναι σε στενότητα → transposition  
denominalization: adjective to noun

### SCARCITY AND EFFICIENCY

### THE TWIN THEMES OF ECONOMICS

Our national output would have to be many times larger before the average American could live at the level of doctor or lawyer = η παραγωγή των Ηνωμένων Πολιτειών θα έπρεπε να είναι πολλαπλάσια για να γίνει δυνατό να ζει ο μέσος Αμερικανός σε ένα βιοτικό επίπεδο ανάλογο με αυτό του μέσου ιατρού ή του μέσου δικηγόρου → Modulation – abstract for concrete.

## 2.1.3 RECOGNIZED TRANSLATION

It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest = Δεν περιμένουμε το γεύμα μας από την καλοσύνη του κρεοπώλη, του ζυθοποιού ή του αρτοποιού, αλλά από την φροντίδα τους για το δικό τους συμφέρον<sup>5</sup>

### INTRODUCTION

The same year was marked by the **American Declaration of Independence** = Το ίδιο έτος σημαδεύτηκε από τη Διακήρυξη της **Αμερικάνικης Ανεξαρτησίας**

### FOR WHOM THE BELL TOLLS?

For whom the bell tolls<sup>6</sup> = Για ποιον χτυπά η καμπάνα

Scarcity στενότητα (ή σπανιότητα)

Economic goods = οικονομικά αγαθά

Interest rates = επιτόκια

The post hoc fallacy = το σφάλμα post hoc

Great Depression = Μεγάλη Κρίση

Fallacy of composition = το σφάλμα της σύνθεσης

Mixed economy = μικτή οικονομία

### INPUTS AND OUTPUTS

These can be classified into three broad categories: **land, labor, and capital** = οι συντελεστές παραγωγής, μπορούν να ταξινομηθούν σε τρεις γενικές κατηγορίες: **γη, εργασία και κεφάλαιο**

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<sup>5</sup> A known extract from “*The Wealth of Nations*” by Adam Smith.

<sup>6</sup> This is a phrase taken from a poem written by John Donne, and it is also the title of one of Hemingway’s most famous books. In the 17<sup>th</sup> century, and in the contemporary 21<sup>st</sup> century (mainly in the Easter Church), when the bells of a church tolled it summoned the people to get together for some reason, and it were not for Sunday Mass, it would be for funeral. In this case, the bell tolling is about summoning the congregation to attend a funeral, and according to John Donne when someone of our community passes away, a small part of us dies with him as well. Hemingway spotted that and emphasized it in his novel based on the Spanish War.

3<sup>rd</sup> dot

**Capital resources** from the **durable goods** of an economy, produced in order to produce yet other goods = **το κεφάλαιο (ή κεφαλαιακοί πόροι)** αποτελείται από τα **διαρκή αγαθά** μίας οικονομίας που έχουν παραχθεί για να χρησιμοποιηθούν στην παραγωγή και άλλων αγαθών

#### THE PRODUCTION-POSSIBILITY FRONTIER

If we fill in all intermediate positions with new rust-colored points representing all the different combinations of guns and butter, we have the continuous rust curve shown as the **production-possibility frontier**, or **PPF**, in Figure 1-2 = αν συμπληρώσουμε όλες τις ενδιάμεσες θέσεις με νέα σημεία χρώματος σκούρου καφέ, που αντιπροσωπεύουν τους διάφορους συνδυασμούς κανονιών και βουτύρου, παίρνουμε μία συνεχή, χρώματος σκούρου καφέ γραμμή. Η οποία παρουσιάζεται ως **όριο δυνατοτήτων παραγωγής** ή **ΟΔΠ**, στο Σχήμα 1.2

Dollar cost = χρηματικό κόστος

Productive efficiency = παραγωγική αποτελεσματικότητα

Let's see why **productive efficiency** requires being on the **PPF** = ας δούμε τώρα γιατί η **παραγωγική αποτελεσματικότητα** απαιτεί να βρίσκεται η οικονομία επί του **ΟΔΠ**

Frontier = όριο δυνατοτήτων παραγωγής

#### UNEMPLOYMENT RESOURCES AND INEFFICIENCY

From 1929 to 1933, in the **Great Depression**, the total output produced in the United States declined by almost 25 percent = από το 1929 έως το 1933, στην διάρκεια της **Μεγάλης Κρίσης**, το συνολικό προϊόν της αμερικανικής οικονομίας μειώθηκε σχεδόν κατά 25%

Remember to keep other things constant<sup>7</sup> = μην ξεχνάτε να κρατάτε τους λοιπούς παράγοντες σταθερούς

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<sup>7</sup> Ceteris Sparibus



## CONCEPTS FOR REVIEW

Scarcity and efficiency = σπανιότητα και αποτελεσματικότητα

Macroeconomics and microeconomics = μακροοικονομική και μικροοικονομική

Fallacy of composition = κανονιστική έναντι θετικής οικονομικής

Post hoc fallacy = σφάλμα σύνθεση, σφάλμα Post hoc

### Question 3

PPF = ΟΔΠ

Inputs = εισροές

Outputs = εκροές

A picture is worth a thousand words – Chinese proverb = μία εικόνα αξίζει όσο χίλιες λέξεις – κινέζικη παροιμία

Horizontal axis = οριζόντιος άξονας

X axis = άξονας των X

Vertical axis = κατακόρυφος άξονας

Y axis = άξονας των Y

Slope = μεταβολή

Run = Διανυόμενο διάστημα

Scatter diagrams = στικτά ή διαγράμματα σχεδιασμού

Consumption function = συνάρτηση κατανάλωσης

National income and output = εθνικό εισόδημα και παραγωγή

Multicurve graphs = διαγράμματα πολλών καμπυλών

## 2.1.4 COMPOTENTIAL ANALYSIS

### INTRODUCTION

In the United States and other high-income countries, most people today can afford to buy far more than the bare necessities of food, clothing, and shelter = Στις Ηνωμένες Πολιτείες και στις άλλες χώρες υψηλού εισοδηματικού επιπέδου, οι περισσότεροι άνθρωποι έχουν τα μέσα να αγοράζουν πολύ περισσότερα αγαθά και όχι απλώς τα απολύτως απαραίτητα είδη διατροφής, ένδυσης και στέγης

### THE LOGIC OF ECONOMICS

When teachers grade on a curve, grades are “zero-sum game”: if one student performs well, he will raise his grade; if all students perform well, the average grade is unchanged = όταν οι καθηγητές βαθμολογούν σύμφωνα με την κλίμακα επίδοσης της τάξης (grade on a curve), οι βαθμοί είναι ένα παίγνιο μηδενικού αθροίσματος». Αν ένας σπουδαστής έχει καλές επιδόσεις, θα αυξήσει την βαθμολογία του. Αν όμως όλοι οι σπουδαστές έχουν καλές επιδόσεις, η μέση βαθμολογία θα μείνει αμετάβλητη.

### INPUTS AND OUTPUTS

Labor consists of the human time spent in production – working in automobile factories, tilling the land, teaching school, or baking pizzas = η εργασία αποτελείται από τον χρόνο που ο άνθρωπος δαπανά στην παραγωγή – εργαζόμενος σε αυτοκινητοβιομηχανίες, οργώνοντας την γη, διδάσκοντας στα σχολεία ή ψήνοντας πίτσες

### PUTTING THE PPF TO WORK

Substitution is the law of life in a full-employment economy, and the production-possibility frontier depicts the menu of society’s choices = η υποκατάσταση είναι νόμος της ζωής σε μια οικονομία που λειτουργεί απασχολώντας πλήρως τους παραγωγικούς πόρους της και το όριο δυνατοτήτων παραγωγής δείχνει τον «κατάλογο» των επιλογών της κοινωνίας

### UNEMPLOYMENT RESOURCES AND INEFFICIENCY

An economy might suffer from inefficiency or dislocations because of strikes, political changes, or revolution = μια οικονομία μπορεί να εμφανίζει

αναποτελεσματικότητα ή εσφαλμένη κατανομή των παραγωγικών πόρων της εξαιτίας των απεργιών, πολιτικών μεταβολών ή επαναστάσεων

#### SLOPES AND LINES

The two step movement brings us from one point to another on a straight line = η κίνηση αυτή, που συντελείται από δύο στάδια, μας μετακινεί από ένα σημείο σε ένα άλλο πάνω στην γραμμή

#### FIGURE 1-5 p.13

Country 3 sacrifices a great deal of current consumption and invests heavily = η χώρα 3 θυσιάζει μεγάλο μέρος της τρέχουσας κατανάλωσης και επενδύει μεγάλο μέρος του γενικού εισοδήματός της

#### FIGURE 1A-4 p. 21 (p. 105)

Note that even though (a) looks steeper than (b), they display the same relationship = σημειώστε πως μολονότι η καμπύλη στο (α) φαίνεται να κλίνει πιο απότομα από ό,τι στο (β), και οι δυο καμπύλες εκφράζουν την ίδια σχέση

## 2.1.5 Omission, Reduction and Expansion

### Expansion

Higher minimum wage = υψηλότερων ημερομισθίων και μισθών

#### COOL HEADS AT THE SERVICE OF WARM HEARTS

As incomes rise further, nations can afford deep scientific inquiries into biology and discover yet other vaccines against yet other deceases = καθώς αυξάνονται κατά πολύ περισσότερο τα εισοδήματα, τα κράτη μπορούν να διαθέτουν τους πόρους για την διεξαγωγή βαθύτερων επιστημονικών ερευνών στην βιολογία και να ανακαλύπτουν νέα εμβόλια κατά των νόσων

#### EFFICIENCY

Being on the PPF means that producing one of more good inevitably requires sacrificing other goods = η λειτουργία της οικονομίας επί του ορίου των δυνατοτήτων παραγωγής σημαίνει ότι η παραγωγή μεγαλύτερης ποσότητας από ένα αγαθό προϋποθέτει, αναπόφευκτα, την παραγωγή μικρότερης ποσότητας από ένα άλλο

#### Question 4

In deciding how to spend your scarce time and income, determine what the opportunity cost would be for you of going to a movie before your economics exam = όσον αφορά στο πώς θα χρησιμοποιήσετε το σπανίζοντα χρόνο σας και το περιορισμένο εισόδημά σας, προσδιορίστε ποιο είναι το κόστος ευκαιρίας της απόφασής σας να πάτε σινεμά και να δείτε μια ταινία πριν από τις εξετάσεις στην Οικονομική

#### DIAGRAMS WITH MORE THAN ONE CURVE

Often it is useful to put two curves in the same graph, thus obtaining a “multicurve diagram” = συχνά είναι χρήσιμο να βάλουμε δύο μεταβλητές στο ίδιο διάγραμμα, σχεδιάζοντας έτσι ένα «διάγραμμα πολλών καμπυλών» → expansion

## Omission

### UNEMPLOMENT RESOURCES AND INEFFICIENCY

Similar forces were at work in much of the industrial world between 1990 and 1996 as macroeconomic factors pushed Europe and Japan inside their PPFs = ανάλογες δυνάμεις ενεργοποιήθηκαν στο μεγαλύτερο μέρος του βιομηχανικού κόσμου μεταξύ 1990 και 1996, ωθώντας την Ευρώπη και την Ιαπωνία εντός των ορίων των παραγωγικών τους δυνατοτήτων

## Reduction

FIGURE 1-2 p.11

Points outside the frontier (such as point I) are infeasible or unattainable = τα σημεία που βρίσκονται έξω από το όριο (όπως το σημείο I) είναι ανέφικτα

## 2.1.6 Paraphrase

### INTRODUCTION

For most human history, people who experienced economic misfortunes = παρατηρώντας την ιστορία του ανθρώπου διαπιστώνουμε ότι – μεγαλύτερο τμήμα της – εκείνοι που δέχονταν το χτύπημα της οικονομικής κακοτυχίας

But no society has reached an utopia of limitless possibilities = ωστόσο, καμία κοινωνία δεν έχει κατορθώσει να επιτύχει την ουτοπία των απεριόριστων δυνατοτήτων

### COOL HEADS AT THE SERVICE OF WARM HEARTS

Under its spreading branches we find explanations of the gains from international trade, advice on how to reduce unemployment and inflation, formulas for investing your retirement funds, and even proposals for selling the rights to pollute = κάτω από τα απλωμένα κλαδιά της βρίσκουμε ερμηνείες για τα οφέλη από το διεθνές εμπόριο, συμβουλές για το πώς να μειώσουμε την ανεργία και τον πληθωρισμό, τύπους σχετικά με το πώς να επενδύσουμε τα χρήματά που αποταμιεύουμε για τα γηρατειά μας, ακόμη και προτάσεις για την πώληση του δικαιώματός μας να ρυπαίνουμε

Determining the best route to economic progress requires cool heads, ones that objectively weigh the costs and benefits of different approaches, trying as hard as humanly possible to keep the analysis free from the taint of wishful thinking = ο προσδιορισμός του καλύτερου δρόμου για την οικονομική πρόοδο χρειάζεται ψυχρόνους – την ψυχρή λογική που θα σταθμίσει αντικειμενικά το κόστος και το όφελος των διάφορων προσεγγίσεων και θα προσπαθήσει όσο το δυνατόν σκληρά είναι δυνατόν να προστατεύσει την ανάλυση από τον κίνδυνο να υπαισέλθουν στοιχεία ευσεβών πόθων

If they begin to believe that the government owes them a living, this may dull the sharp edge of enterprise = και αν όλοι αρχίσουν να πιστεύουν πως το κράτος οφείλει να τους συντηρεί, θα δεχτεί σοβαρό πλήγμα το τρομερό

## MARKET, COMMAND AND MIXED ECONOMIES

It also owns and directs the operation of enterprises in most industries = στην κυριότητά του, επίσης, βρίσκονταν και οι επιχειρήσεις των περισσότερων κλάδων, τις οποίες το ίδιο διοικούσε

## SOCIETY'S TECHNOLOGICAL POSSIBILITIES

Faced with the undeniable fact that goods are scarce relative to wants, an economy must decide how to cope with limited resources = όταν έρχεται αντιμέτωπη με την αδιαμφισβήτητη πραγματικότητα ότι τα αγαθά βρίσκονται σε στενότητα σε σχέση με τις ανάγκες, μια οικονομία πρέπει να αποφασίσει πως θα χρησιμοποιήσει τους περιορισμένους πόρους της

It must choose among different potential bundles of goods (the *what*), select from different techniques of production (the *how*), and decide in the end who will consume the goods (the *for whom*) = πρέπει να επιλέξει ανάμεσα σε διάφορες δέσμες αγαθών που μπορούν να παραχθούν (το *τι*), να καταλήξει σε συγκεκριμένες τεχνικές παραγωγής (το *πώς*) και να αποφασίζει, τέλος, ποιος θα καταναλώσει τα αγαθά και τις υπηρεσίες που θα παραχθούν (το *για ποιον*)

## UNEMPLOYMENT RESOURCES AND INEFFICIENCY

This occurred not because the PPF shifted in but because various shocks reduced spending and pushed the economy inside its PPF = η μείωση αυτή δεν οφειλόταν σε μετατόπιση του ορίου των δυνατοτήτων παραγωγής αλλά σε διάφορες διαταραχές που μείωσαν την δαπάνη και ώθησαν την οικονομία εντός του ορίου των δυνατοτήτων παραγωγής

Business-cycle depression are not the only reason why an economy might be inside its PPF = οι οικονομικές υφέσεις δεν είναι ο μόνος λόγος για τον οποίον η οικονομία μπορεί να βρεθεί εντός των ορίων των παραγωγικών δυνατοτήτων της

## 2.1.7 Notes, Addition, Glosses

### THE TWIN THEMES OF ECONOMICS

Businesses would not need to fret over the cost of labour or health care = οι επιχειρήσεις δεν θα χρειαζόταν να ανησυχούν για το κόστος εργασίας ή για τις εισφορές στα ταμεία κοινωνικής ασφάλισης

### THE LOGIC OF ECONOMICS

From this, they concluded that the appropriate remedy for depression was to raise wages and prices = ξεκινώντας από την διαπίστωση αυτή, συμπέραναν ότι το κατάλληλο φάρμακο για την θεραπεία της οικονομικής ύφεσης είναι η άνοδος των ημερομισθίων και των τιμών

### THE PRODUCTION-POSSIBILITY FRONTIER

A schedule of possibilities is given in Table 1-1 = στον Πίνακα 1-1 παρουσιάζονται ορισμένες δυνατότητες παραγωγής συνδυασμών βουτύρου και κανονιών

Similarly E is obtained by going 4 butter units to the right and going up 5 gun units = ομοίως, σημειώνουμε το E, το οποίο βρίσκουμε μετρώντας 4 μονάδες βουτύρου προς τα δεξιά, στον οριζόντιο άξονα, και 5 μονάδες κανονιών προς τα πάνω, στον κατακόρυφο άξονα

### PUTTING THE PPF TO WORK

The PPF was drawn for guns and butter, but the same analysis any choice of goods = το ΟΔΠ στον Σχήμα 1.2<sup>8</sup> χαράχθηκε για κανόνια και βούτυρο, αλλά η ίδια ανάλυση ισχύει και για κάθε επιλογή ανάμεσα σε αγαθά

## APPENDIX 1

### HOW TO READ GRAPHS

Figure 1A-1 displays in a graph the relationship between the food and machines outputs shown in Table 1A-1 = το Σχήμα 1A.1 παρουσιάζει σε μορφή διαγράμματος

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<sup>8</sup> Here we have a word-to-word translation expect for an addition which actually can be considered as additions, notes, glosses.



τη σχέση ανάμεσα στις παραγόμενες ποσότητες τροφίμων και στις παραγόμενες ποσότητες μηχανών που περιέχονται στον Πίνακα 1Α.1

3<sup>rd</sup> paragraph

In Figure 1A.1, it measures the number of machines produced = στο Σχήμα 1Α.1, στον κατακόρυφο άξονα μετριέται ο αριθμός των μηχανών που παράγονται

### SLOPES AND LINES

First comes a horizontal movement from B to C indicating a 1-unit increase in the X value (with no change in Y) = πρώτα πραγματοποιείται η κίνηση από το Α σε Β, εκφράζοντας μια αύξηση της τιμής του X κατά 1 μονάδα (χωρίς καμιά μεταβολή στο Y)

### FIGURES, TABLES AND DIAGRAMS

b) thus thrifty country 3 has shifted its PPF far out, while Country 1's PPF has not moved at all = έτσι, η χώρα 3, που ήταν κατά το παρελθόν φειδωλή, μετατόπισε το ΟΔΠ της προς τα έξω, ενώ το ΟΔΠ της χώρας 1 δεν μετακινήθηκε καθόλου

### FIGURE 1-5 p.13

Country 3 sacrifices a great deal of current consumption and invests heavily = η χώρα 3 θυσιάζει μεγάλο μέρος της τρέχουσας κατανάλωσης και επενδύει μεγάλο μέρος του γενικού εισοδήματός της

b) thus thrifty country 3 has shifted its PPF far out, while Country 1's PPF has not moved at all = έτσι, η χώρα 3, που ήταν κατά το παρελθόν φειδωλή, μετατόπισε το ΟΔΠ της προς τα έξω, ενώ το ΟΔΠ της χώρας 1 δεν μετακινήθηκε καθόλου

## 2.1.8 Translation Errors

### INTRODUCTION

About 4% of households designated as poor, and the number is almost 50 percent among households headed by black females= το 14% των νοικοκυρών θεωρούνται φτωχά, και το ποσοστό αυτό ανέρχεται σχεδόν 50% των νοικοκυριών με αρχηγό μαύρο άνδρα<sup>9</sup>

### SCARCITY AND EFFICIENCY:

#### THE TWIN THEMES OF ECONOMICS

All goods would be free = όλα τα αγαθά θα ήταν ελεύθερα<sup>10</sup>

#### THE THREE PROBLEMS OF ECONOMIC ORGANIZATION

Why do doctors earn more than janitors? = γιατί οι γιατροί κερδίζουν περισσότερα χρήματα από τους θυρωρούς<sup>11</sup>

#### THE PRODUCTION-POSSIBILITY FRONTIER

In between – at F, D, C and B – increasing amounts of butter are given up in return for more guns = στον ενδιάμεσο – στους συνδυασμούς Β, Γ, Δ και Ε<sup>12</sup> –

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<sup>9</sup> The original meaning has changed; it could have been translated as “περίπου το 14% των νοικοκυριών θεωρούνται φτωχά”. Here is a mistake of the translators that provided wrong information. In the ST it refers to black females while in the TT it is translated as black males. This mistake has completely distorted the meaning of the TT. According to the research we did on the internet, black women are mainly the leaders of the most indigent families in America and not the black men.

<sup>10</sup> Here is a translation error. “Free” has been translated as “ελεύθερα” instead of “δωρεάν”; “Ελεύθερα αγαθά” are the goods that are limitless such as the air we breathe, the water we drink etc. “Free goods” in this case are “δωρεάν αγαθά”.

<sup>11</sup> Here we have a failed cultural equivalent. “Janitors” has been translated as “θυρωροί” instead of “καθαρίστριες” which is more appropriate. A janitorial is one of the most underestimated and underpaid jobs in America, and in Greece the equivalent is a female cleaner.

παραιτούμαστε από αυξανόμενες ποσότητες βουτύρου ώστε να παράγουμε περισσότερα κανόνια

Loud music = μουσική σε υψηλή ένταση<sup>13</sup>

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<sup>12</sup> In the Target Text the letters F, D, C and B are written from the beginning to the end. This caused great confusion when the texts were being compared.

<sup>13</sup> There is a translation error which could have been easily avoided since there is an equivalent, namely “δυνατή μουσική”.

## 2.1.9 Other techniques

### Compensation

Look, for example, at the graphs on the inside front cover of this text. The left hand graph shows a time series, since the American Revolution, of a significant macroeconomic variable, the ratio of the federal government debt to total gross domestic product, or GDP – this ratio is the debt-GDP ratio = ένα διάγραμμα χρονολογικής σειράς μπορεί να δείχνει, στον κατακόρυφο άξονα, μια σημαντική μακροοικονομική μεταβλητή, όπως πχ ο λόγος του ομοσπονδιακού δημόσιου χρέους προς το συνολικό ακαθάριστο εγχώριο προϊόν δηλαδή το λόγο χρέους-ΑΕΠ, και στον οριζόντιο άξονα τη χρονική περίοδο στη διάρκεια της οποίας παρακολουθείται η εξέλιξη του μεγέθους αυτού

### Functional Equivalent

FIGURE 1-4 p. 13 (p. 89)

a) a poor frontier society lives from hand to mouth, with little left over for public goods like superhighways or public health = μια φτωχή οριακή κοινωνία ζει καταναλώνοντας σχεδόν όλα όσα παράγει. Έτσι, δεν μένουν παρά ελάχιστα για δημόσια αγαθά, όπως είναι οι αυτοκινητόδρομοι ή η δημόσια υγεία

### Cultural Equivalent

As much as we pleased = όσα θα επιθυμούσε η ψυχή μας

Cool heads, warm hearts = ψυχρή λογική και ευαισθησία

### THE THREE PROBLEMS OF ECONOMIC ORGANIZATION

Who gets to eat the fruit of economic activity? = ποιος απολαμβάνει τους καρπούς της οικονομικής δραστηριότητας;

## QUESTIONS FOR DISCUSSION

Questions for discussion = θέματα προς εξέταση

### Naturalization

#### Question 5

Assume that Econoland produces haircuts and shirts with inputs of labor = υποθέστε ότι η Οικονολάνδη παράγει κουρέματα και πουκάμισα

If Diligent increases study inputs from 10 hours to 15 hours? = αν ο Φιλοπονίδης αυξήσει τις ώρες μελέτης από 10 σε 15;

### Synonymy

#### INTRODUCTION

Pause for a moment to consider the paradoxical words above, penned in by Adam Smith, the founder of economics = Ας σταθούμε λίγο και ας στοχαστούμε τα παράδοξα αυτά λόγια που έγραψε ο Άνταμ Σμιθ, ο ιδρυτής της σύγχρονης οικονομικής επιστήμης

Just as the American revolutionaries were proclaiming freedom from tyranny, Adam Smith was preaching a revolutionary doctrine emancipating trade and industry from the shackles of a feudal aristocrats= Όπως ακριβώς οι Αμερικανοί επαναστάτες διακήρυτταν την ανεξαρτησία τους από την τυραννία, ο Άνταμ Σμιθ κήρυττε ένα επαναστατικό δόγμα απελευθέρωσης του εμπορίου και της βιοτεχνίας από τα δεσμά της φεουδαρχικής αριστοκρατίας

At the other extreme, imagine that all the resources are instead devoted to the production of guns = στο άλλο άκρο, ας φανταστούμε ότι όλοι οι παραγωγικοί πόροι διατίθενται για την παραγωγή κανονιών

## THE THREE PROBLEMS OF ECONOMIC ORGANIZATION

All societies have different combinations of command and market all societies are mixed societies = όλες οι κοινωνίες έχουν, σε ποικίλους βαθμούς, στοιχεία εντολών και αγοράς' όλες οι οικονομίες είναι μικτές οικονομίες

### Through- translation

#### INTRODUCTION

In earlier times we did business with people down the street or in the next town, and we bought mainly local goods. Today we ride the "word car"<sup>14</sup> = Σε παλαιότερες εποχές, είχαμε συναλλαγές με ανθρώπους της γειτονιάς μας η της κοντινής πόλης και αγοράζαμε κυρίως εγχώρια αγαθά. Σήμερα, οδηγούμε το "παγκόσμιο αυτοκίνητο"

### Transference

#### MICROECONOMICS AND MACROECONOMICS

Macroeconomics did not even exist in its modern form until 1935, when John Meynard Keynes published his revolutionary *General Theory of Employment, Interest and Money* = η μακροοικονομική δεν υπήρχε στην σύγχρονη μορφή της πριν από το 1935, όταν ο Τζον Μέυναρτ Κέυνς δημοσίευσε το επαναστατικό έργο του *Γενική Θεωρία της Απασχόλησης, του Τόκου και του Χρήματος*

#### MARKET, COMMAND, MIXED ECONOMIERS

The extreme case of a market economy, in which the government keeps its hands off economic decisions, is called a<sup>15</sup> economy = η ακραία περίπτωση της οικονομίας της αγοράς, όπου το κράτος δεν παρεμβαίνει στις οικονομικές αποφάσεις, ονομάζεται οικονομία laissez-faire

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<sup>14</sup> In English this phrase refers to the car that each contemporary member of society must drive but in Greek there is not something equivalent so the translator chose to translate as it was, word-for- word, but this was a wrong choice because the Greek reader does not quite grasp the meaning of "world car" whether if it were translated it as "όλοι τώρα οδηγούν τουλάχιστον ένα σύγχρονο αυτοκίνητο", the meaning would have been attributed perfectly.

<sup>15</sup> "Laissez-faire" besides being a through-translation, it is also a recognized translation; since it is a term that means that an economic transactions of private parties are free from government intervention.

## OPPORTUNITY COSTS

Or consider the real-world example of the cost of opening a gold mine near Yellowstone National Park = ας δούμε ένα παράδειγμα από τον πραγματικό κόσμο:  
το κόστος της δημιουργίας ενός χρυσορυχείου στο εθνικό δρυμό του Γέλοουστοουν

## CHAPTER II

### 2.2.1 Word – for – Word Translation

#### MONARCHS OF THE MARKET PLACE

Rather, it is profits which server as the rewards and penalties for businesses and guides the market mechanism = τα κέρδη είναι εκείνα που λειτουργούν ως ανταμοιβή ή ποινή για τις επιχειρήσεις και καθοδηγούν το μηχανισμό αγοράς

#### A PICTURE OF PRICES AND MARKETS

Further, see how decisions are made by two different entities, households and businesses = ακόμη, μπορούμε να δούμε πώς λαμβάνουν τις αποφάσεις τους οι δύο διαφορετικές οντότητες: τα νοικοκυριά και οι επιχειρήσεις

#### TRADE, SPECIALIZATION, AND DIVISION OF LABOR

Western economies have enjoyed rapid economic growth as increasing specialization has allowed workers to become highly productive in particular occupations and to trade their output for the commodities they need = οι δυτικές οικονομίες έχουν να επιδείξουν γρήγορη οικονομική ανάπτυξη, καθώς η αυξημένη εξειδίκευση έχει επιτρέψει στους εργάτες να γίνουν εξαιρετικά παραγωγικοί σε συγκεκριμένες απασχολήσεις και να ανταλλάσσουν το προϊόν τους με αγαθά τα οποία χρειάζονται

Different people or countries tend to specialize in certain areas and then in engage in the voluntary exchange of what they produce for what they need = διάφοροι άνθρωποι ή χώρες τείνουν να εξειδικεύονται σε ορισμένες περιοχές και, κατόπιν, να εμπλέκονται στην εκούσια ανταλλαγή των προϊόντων που παράγουν με αγαθά τα οποία χρειάζονται

#### CAPITAL AND PRIVATE PROPERTY

However, while our society is one built on private property, property rights are limited = ωστόσο, ενώ η κοινωνία μας είναι θεμελιωμένη πάνω στην ατομική ιδιοκτησία, τα δικαιώματα ιδιοκτησίας υπόκεινται σε ορισμένους περιορισμούς



Specialization, trade, money, and capital form the key to the productiveness of an advanced economy = η εξειδίκευση, το εμπόριο, το χρήμα και το κεφάλαιο αποτελούν το κλειδί της παραγωγικότητας σε μια ανεπτυγμένη οικονομία

Specialization creates enormous *efficiencies*, while increased production makes trade possible = η εξειδίκευση δημιουργεί τρομερές *δυνατότητες*, ενώ η αυξημένη καθιστά δυνατό το εμπόριο

#### THE ECONOMIC ROLE OF GOVERNMENT

These functions are increasing efficiency, promoting equity, and fostering macroeconomic stability and growth = οι λειτουργίες αυτές αυξάνουν την αποτελεσματικότητα, προάγουν την ισότητα και ενισχύουν τη μακροοικονομική σταθερότητα και ανάπτυξη

#### IMPERFECT COMPETITION

One serious deviation from an efficient market comes from imperfect efficient or monopoly elements = μια σοβαρή απόκλιση από την αποτελεσματική αγορά προέρχεται από στοιχεία ατελούς ανταγωνισμού ή μονοπωλίου

In addition, government *antitrust laws* prohibit actions such as price fixing or agreeing to divide up markets = επιπλέον, η πολιτεία ψηφίζει *αντιμονοπωλιακούς νόμους* που υπαγορεύουν ενέργειες όπως ο καθορισμός της τιμής ή συμφωνίες διανομής της αγοράς

#### SUMMARY

And while markets are far from perfect, they have proved remarkably effective at solving the problems *of how, what and for whom* = και ενώ οι αγορές κάθε άλλο παρά τέλειες είναι, έχουν αποδείξει ότι είναι εξαιρετικά αποτελεσματικές στη λύση των προβλημάτων *πώς, τι και για ποιον*

6) capital goods – produced inputs such as machinery ,structures, and inventories of goods in process – permit roundabout methods of production that add much to a nation's output = τα κεφαλαιουχικά αγαθά – παραγόμενες εισροές, όπως μηχανές,

κτήρια και αποθέματα αγαθών υπό κατεργασία – επιτρέπουν έμμεσες μεθόδους παραγωγής που αυξάνουν το εθνικό προϊόν μιας χώρας

These roundabout methods take time and resources to get started and therefore require a temporary sacrifice of present consumption in order to increase future consumption = οι έμμεσες αυτές μεθόδους παραγωγής χρειάζονται χρόνο και πόρους για να αρχίσουν και, επομένως, απαιτούν προσωρινά κάποια θυσία της παρούσας κατανάλωσης για να αυξηθεί η μελλοντική κατανάλωση

The rules that define how capital and other assets can be bought, sold, and used are the system of property rights = οι κανόνες που ορίζουν πώς το κεφάλαιο και άλλα περιουσιακά στοιχεία μπορούν να αγοραστούν, να πωληθούν και να χρησιμοποιηθούν αποτελούν το σύστημα των δικαιωμάτων ιδιοκτησίας

Government's role in a modern economy is to ensure efficiency, to correct an unfair distribution of income, and to promote economic growth and stability = ο ρόλος του κράτους σε μια σύγχρονη οικονομία είναι να εξασφαλίζει την αποτελεσματικότητα, να διορθώνει μια άδικη αναδιανομή του εισοδήματος και να δίνει ώθηση στην οικονομική ανάπτυξη και σταθερότητα

#### TABLE 2-1. Government Can Remedy the Shortcomings of the Markets

Current examples of government policies = σημερινά παραδείγματα κρατικής πολιτικής

Unacceptable inequalities of income and wealth = απαράδεκτες ανισότητες εισοδημάτων και πλούτου

Progressive taxation of income and wealth = προοδευτική φορολόγηση εισοδημάτων και πλούτου

Slow economic growth = αργή οικονομική ανάπτυξη

## 2.2.2 TRANSPOSITION

### 1) Recasting

#### CAPITAL AND PRIVATE PROPERTY

Without the facility for trade and exchange that money provides, an elaborate division of labor would not be possible = χωρίς την διευκόλυνση αυτή του εμπορίου και των συναλλαγών που προσφέρει το χρήμα δεν θα ήταν δυνατή η τόσο ανεπτυγμένη εξειδίκευση της εργασίας

#### SUMMARY

Under perfect competition, a business must find the cheapest method of production, efficiently using labor, land and other factors;<sup>16</sup> otherwise, it will incur losses and be eliminated from the market = σε συνθήκες τέλειου ανταγωνισμού, μια επιχείρηση πρέπει να βρει την πιο φθηνή μέθοδο παραγωγής, χρησιμοποιώντας αποτελεσματικά την εργασία, το έδαφος και τους άλλους συντελεστές της παραγωγής. Διαφορετικά θα έχει ζημιά και θα εκτοπιστεί από την αγορά

### 2) Recategorization

#### MONEY THE LUBRICANT OF EXCHANGE

Money is the means of payment or exchange – that is, the currency and checks that we use when we buy things = Χρήμα είναι το μέσο πληρωμών ή ανταλλαγών – δηλαδή το νόμισμα και οι επιταγές που χρησιμοποιούνται για την πληρωμή πραγμάτων τα οποία αγοράζουμε → deverbilization

#### CAPITAL AND PRIVATE PROPERTY

These capital goods also have market values, and people can buy and sell the capital goods for whatever price the goods will fetch = τα κεφαλαιουχικά αυτά αγαθά έχουν επίσης μια αγοραία αξία, και οι άνθρωποι μπορούν να αγοράζουν ή να πωλούν

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<sup>16</sup> Semi-colon replaced by full stop; therefore the sentence is divided into two separate ones.

κεφαλαιουχικά αγαθά στις τιμές που διαμορφώνονται στην αγορά → plural to singular

## PUBLIC GOODS

Everyone is subject to the tax laws; we are all obligated to pay for our share of cost of public goods = όλοι υπόκεινται στην φορολογική νομοθεσία' όλοι είναι υποχρεωμένοι από το νόμο να πληρώνουν φόρους για το μερίδιό τους στο κόστος των δημόσιων αγαθών → change of part of speech: direct to indirect speech

## MACROECONOMIC GROWTH AND ABILITY

The fiscal policies of government are the power to tax and the power to spend = η νομισματική πολιτική του κράτους είναι η εξουσία του να φορολογεί και να πραγματοποιεί δαπάνες → plural to singular

In all advanced industrial societies we find a mixed economy in which the market determines output and prices in most individual sectors while government steers the overall economy with programs of taxation, spending, and monetary regulation = όλες οι ανεπτυγμένες βιομηχανικές χώρες είναι μικτές οικονομίες, στις οποίες η αγορά καθορίζει την παραγωγή και τις τιμές στους περισσότερους τομείς της οικονομίας, ενώ το κράτος καθοδηγεί την οικονομία μέσω της φορολογίας, των δαπανών και των νομισματικών ρυθμίσεων → change of part of speech & singular to plural, omission

## SUMMARY

Adam Smith proclaimed that *the invisible hand* of markets would lead to the optimal economic outcome as individuals pursue their own self-interest = ο Άνταμ Σμιθ υποστήριξε ότι *το αόρατο χέρι* των αγορών θα οδηγεί σε άριστα οικονομικά αποτελέσματα καθώς τα άτομα θα επιδιώκουν το δικός τους συμφέρον transposition-recategorization: singular to plural

### 3) Modulation

## THE SHIFTING BOUNDARY BETWEEN MARKETS AND GOVERNMENT

Economic activity = οικονομικές δραστηριότητες → plural to singular

Market mechanism = μηχανισμό της αγοράς → reversal of terms

## PICTURE OF PRICES AND MARKETS

Prices in goods markets are set to balance consumer demand with business supply; prices in factor markets are set to balance household supply with business demand = οι τιμές στις αγορές αγαθών ορίζονται έτσι ώστε να εξισορροπείται η ζήτηση των καταναλωτών με την προσφορά των επιχειρήσεων. Οι τιμές στις αγορές των συντελεστών παραγωγής ορίζονται έτσι ώστε να εξισορροπείται η προσφορά των νοικοκυριών με τη ζήτηση των επιχειρήσεων → reversal of terms

## THE SHIFTY BOUNDARY BETWEEN MARKETS AND GOVERNMENT

Particularly influential was the “Regan revolution”, which changed public attitudes about taxes and government and reversed the trends in the U.S federal spending on civilian programs = ιδιαίτερα σημαντική υπήρξε η «επανάσταση του Ρίγκαν», που μετέβαλε τις απόψεις των ανθρώπων για τους φόρους και τον ρόλο του κράτους και αντέστρεψε τις τάσεις των ομοσπονδιακών δαπανών των ΗΠΑ για τα προγράμματα ενίσχυσης ατόμων → reversal of terms

## EQUITY

People may examine the distribution of income and decide it is unfair = οι άνθρωποι μπορούν να εξετάσουν την διανομή του εισοδήματος και να κρίνουν αν είναι δίκαιη → one part for another

## FOOTNOTE

Government programs have increased literacy and life expectancy = τα κρατικά προγράμματα έχουν μειώσει τον αναλφαβητισμό και έχουν αυξήσει σημαντικά τη μέση διάρκεια της ζωής → one part for another

## CONCEPTS FOR REVIEW = ΑΝΑΠΤΥΞΤΕ ΤΙΣ ΕΝΝΟΙΕΣ

The Market Mechanism = Ο μηχανισμός της αγοράς → reversal of terms

Market, market mechanism = αγορά, μηχανισμός της αγοράς → transposition modulation: reversal of terms

Market equilibrium = ισορροπία της αγοράς → reversal of terms

FIGURE 2-1,

Dollar votes of households interact with business supply in the product market at top, helping to determine what is produced = οι ψήφοι σε χρηματικές μονάδες των νοικοκυριών αλληλεπιδρούν με την προσφορά των επιχειρήσεων στην αγορά προϊόντων στην κορυφή, βοηθώντας να καθοριστεί το τι θα παραχθεί → reversal of terms

TABLE 2-1

Income- support programs (e.g., food stamps ) = προγράμματα στήριξης εισοδήματος (π.χ. κουπόνια τροφίμων) → reversal of terms

## 2.2.3 Recognized Translation

Competitive capitalism = ανταγωνιστικός καπιταλισμός

Governments assumed a steadily expanding economic role, regulating monopolies, collecting income taxes, and taking on such tasks as providing support for the elderly (social security) = τα κράτη αναλάμβαναν έναν συνεχώς αυξανόμενο οικονομικό ρόλο, ελέγχοντας την δράση των μονοπωλίων, εισπράττοντας φόρους εισοδήματος και φροντίζοντας για θέματα, όπως η στήριξη ηλικιωμένων (κοινωνική ασφάλιση)

Chicago Board of Trade = Εμπορικό Επιμελητήριο του Σικάγου

New York Mercantile Exchange = Χρηματιστήριο Εμπορευμάτων της Νέας Υόρκης

### HOW MARKETS SOLVE THE THREE ECONOMIC PROBLEMS 3)

Factor markets = αγορές συντελεστών

Wage rates = ημερομίσθια και μισθοί

Land rents = προσόδους γης

Interest rates = επιτόκια

Profits = κέρδη

Factor prices = τιμές συντελεστών

### MONARCHS OF THE MARKETPLACE

Consumer demand has to dovetail with business supply of goods = η καταναλωτική ζήτηση, λοιπόν, συναρθρώνεται με την προσφορά αγαθών από τις επιχειρήσεις

### A PICTURE OF PRICES AND MARKETS

Circular flow = διάγραμμα κυκλικής ροής recognized translation

### THE INVISIBLE HAND AND “PERFECT COMPETITION”

The wealth of Nations<sup>17</sup> = Ο Πλούτος των Εθνών (The Wealth of Nations, 1<sup>η</sup> έκδοση, 1776)

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<sup>17</sup> The title of Adam Smith's most famous book.

A second failure of the invisible hand comes when there are spillovers or externalities outside the marketplace – positive externalities such as scientific discoveries and negative spillovers such as pollution = μια δεύτερη κατηγορία αποτυχιών του αόρατου χεριού προέρχεται από εξωτερικές αντιδράσεις (ή εξωτερικότητες) που διαχέονται εκτός της αγοράς – θετικές εξωτερικές επιδράσεις όπως οι επιστημονικές ανακαλύψεις, και αρνητικές εξωτερικές επιδράσεις, όπως η ρύπανση

## EQUITY

Transfer payments = μεταβιβαστικές πληρωμές

Unemployment insurance = επιδόματα ανεργίας

Subsidized medical care = επιδοτούμενη ιατροφαρμακευτική περίθαλψη

B. Trade, Money, and Capital = Εμπόριο, χρήμα και κεφάλαιο

## SUMMARY

Factors of production (land, labor, and capital) = συντελεστές παραγωγής (έδαφος, εργασία, κεφάλαιο)

Capital, private property, and property rights = κεφάλαιο, ιδιωτική ιδιοκτησία και δικαιώματα ιδιοκτησίας

Efficiency, equity, stability = αποτελεσματικότητα, ισότητα και σταθερότητα

Inefficiencies: monopoly and externalities = Αναποτελεσματικότητες: μονοπώλιο και εξωτερικότητες

Macroeconomic policies: fiscal and monetary policies, stabilization and growth = μακροοικονομικές πολιτικές: δημοσιονομική και νομισματική πολιτική σταθεροποίησης και ανάπτυξη

Product markets = αγορές προϊόντων

Prices on product markets = τιμές στις αγορές προϊόντων

Supply = προσφορά

Shoes = παπούτσια

Housing = κατοικίες

## BUSINESSES = ΕΠΙΧΕΙΡΗΣΕΙΣ ()

Demand = ζήτηση



Supply = προσφορά

Labor = εργασία

Land = γη

Capital goods = κεφαλαιουχικά αγαθά

Factor markets = αγορές συντελεστών

Prices on factor markets (wages, rent, interest) = τιμές σε συντελεστές της αγοράς  
(ημερομίσθια και μισθοί, πρόσοδοι, τόκοι)

Ownership of outputs = ιδιοκτησία εισροών

#### TABLE 2-1

Government intervention = κρατική παρέμβαση

Inefficiency = αναποτελεσματικότητα

Monopoly = μονοπώλιο

Antitrust laws, deregulation = αντιμονοπωλιακή νομοθεσία

Externalities = εξωτερικότητες

Antipollution laws, antismoking ordinances = νομοθεσία κατά της ρύπανσης του περιβάλλοντος, διατάξεις κατά της εκπομπής καυσαερίων

Public goods = δημόσια αγαθά

Inequality = Ανισότητα

Redistribute income = αναδιανομή εισοδήματος

## 2.2.4 Expansion, Reduction, and Omission

### Expansion

#### THE MARKET MECHANISM

Outputs = παραγόμενες ποσότητες

#### HOW MARKETS SOLVE THE THREE ECONOMIC PROBLEMS

If one film makes huge profits – say, a film about a **cute dinosaur** and an evil scientist – other studios will rush to produce imitations = αν μια ταινία σπάσει τα ταμιά και δώσει μεγάλα κέρδη – ας πούμε, μια ταινία για ένα **νοστιμούλη δεινόσαυρο** και έναν κακό επιστήμονα – θα σπεύσουν, και άλλες κινηματογραφικές εταιρίες να γυρίσουν απομιμήσεις τις επιτυχημένης ταινίας

Computers = ηλεκτρονικός υπολογιστής

Piece of property = ακίνητο (reduction)

amounts of factors = ποσοτήτων των συντελεστών παραγωγής

Owned = που διαθέτει ένα άτομο

PPF = όριο των δυνατοτήτων παραγωγής (ΟΔΠ)

#### CAPITAL AND PRIVATE PROPERTY

Money and capital are related because the funds for buying capital goods are funneled through financial markets, where people's savings can be transformed into other people's capital = το χρήμα και το κεφάλαιο συνδέονται μεταξύ τους, επειδή τα χρηματικά κεφάλαια που χρησιμοποιούνται για την αγορά κεφαλαιουχικών αγαθών συγκεντρώνονται μέσω των χρηματοπιστωτικών αγορών, όπου οι αποταμιεύσεις ιδιωτών μπορούν να μετατραπούν σε κεφάλαιο άλλων ιδιωτών

Externalities = εξωτερικές επιδράσεις

## EFFICIENCY

The three most important involve imperfect competition, such as monopolies; externalities, such as pollution; and public goods such as national defense and highways = οι τρεις πιο σημαντικούς από τους τρόπους αυτούς είναι ο ατελής ανταγωνισμός, όπως τα μονοπώλια, οι εξωτερικές επιδράσεις (εξωτερικότητες), όπως η ρύπανση του περιβάλλοντος, και τα δημόσια αγαθά, όπως η άμυνα και οι αυτοκινητόδρομοι

## SUMMARY

The distribution of income is determined by the ownership of factors of production (land, labor, and capital) and by factor prices = η διανομή του εισοδήματος καθορίζεται από την ιδιοκτησία των συντελεστών παραγωγής (έδαφος, εργασία και κεφάλαιο) και από τις τιμές των συντελεστών παραγωγής

## Omission

## HOW MARKETS SOLVE THE THREE ECONOMIC PROBLEMS

what goods and services will be produced is determined by the dollar votes of consumers – not every 2 or 4 years at the polls, but in their daily purchase decisions = το τι αγαθά θα παραχθούν καθορίζεται από τις χρηματικές ψήφους των καταναλωτών – όχι με κάποια δημοσκόπηση που γίνεται κάθε 2 ή 4 χρόνια, αλλά με τις καθημερινές αποφάσεις τους για την πραγματοποίηση των αγορών τους

## EXTERNALITIES

A second type of inefficiency arises when there are spillovers or externalities which involve involuntary imposition of costs of benefits = ένας δεύτερος τύπος αποτελεσματικότητας ανακύπτει όταν υπάρχουν εξωτερικές επιδράσεις που συνεπάγονται ακούσιο κόστος ή όφελος

## Reduction

### THE ECONOMIC ROLE OF GOVERNMENT

Governments promote equity by using tax and expenditure programs to redistribute income toward particular groups = το κράτος προάγει την ισότητα χρησιμοποιώντας τη φορολογία και τις δαπάνες για να αναδιανείμει εισόδημα προς τις ασθενέστερες τάξεις

## 2.2.5 Paraphrase

### A. WHAT IS A MARKET

#### NOT CHAOS BUT ECONOMIC ORDER

You pay your bill, pop the food in the your mouth, and have juicy meal = πληρώνετε στο ταμείο, παρασκευάζετε με αυτά ένα εύγεστο γεύμα και το απολαμβάνετε όποτε θέλετε

#### THE MARKET MECHANISM

Originally, the market was an actual place where buyers and sellers could engage in face-to-face bargaining = αρχικά, η αγορά ήταν τόπος όπου μαζεύονταν άνθρωποι για να πραγματοποιήσουν κάποια συναλλαγή, ερχόμενοι επαφή πρόσωπο με πρόσωπο

At the lower price, more consumers will want cars, and producers will want to make fewer cars = όταν οι τιμές είναι χαμηλότερες, περισσότεροι καταναλωτές θα θέλουν να αγοράσουν αυτοκίνητο, ενώ οι παραγωγοί θα θέλουν να παρασκευάσουν λιγότερα αυτοκίνητα

#### HOW MARKETS SOLVE THE THREE ECONOMIC PROBLEMS

We have just described how prices help balance consumption and production (or demand and supply) in an individual market = περιγράψαμε μόλις πιο πάνω τον τρόπο με τον οποίον οι τιμές βοηθούν να εξισορροπήσει η κατανάλωση και η παραγωγή (η ζήτηση και η προσφορά) στις μεμονωμένες αγορές

Sometimes change is incremental and consists of little more than tinkering with the machinery or adjusting the input mix to gain a cost advantage, which can be very important in a competitive market = μερικές φορές, οι πρόοδος αυτή πραγματοποιείται με μικρά βήματα και συνιστάται σε μικροδιορθώσεις των μηχανημάτων ή σε προσαρμογές του μείγματος των εισροών που χρησιμοποιούνται στην παραγωγή για να αποκτηθεί ένα πλεονέκτημα κόστους, που μπορεί να αποδειχθεί πολύ σημαντικό στην ανταγωνιστική αγορά

## GROWTH FROM THE SACRIFICE OF CURRENT CONSUMPTION

Investing resources to give every worker an advanced degree, to remove 99.9 percent of pollution, and to build a dense subway system under every city would certainly increase productivity = αν επενδύαμε πόρους επαρκείς για να αποκτήσει κάθε εργάτης γνώσεις πανεπιστημιακού επιπέδου, για να εξαλειφθεί η ρύπανση μέχρι ποσοστού 99,9 τοις εκατό και για αποκτήσουν όλες οι πόλεις πυκνό υπόγειο σιδηροδρομικό δίκτυο τότε ασφαλώς η παραγωγικότητα θα αυξανόταν σημαντικά

## IMPERFECT COMPETITION

Imperfect competition leads to prices that rise above cost and consumer purchases that are reduced below efficient levels = ο ατελής ανταγωνισμός οδηγεί σε τιμές που είναι κάτω από το κόστος και σε καταναλωτικές αγορές που υπολείπονται του αποτελεσματικού επιπέδου

## EXTERNALITIES

While airports produce a lot of noise, they generally do not compensate the people living around the airport for disturbing their peace = ενώ τα αεροδρόμια προκαλούν σοβαρό θόρυβο, δεν αποζημιώνουν τους ανθρώπους που κατοικούν στις γύρω περιοχές και ενοχλούνται από την κίνηση του αεροδρομίου

## MACROECONOMIC GROWTH AND ABILITY

(economic growth denotes growth in a nation's total output, while productivity represents the output per unit input or the efficiency with which resources are used) = (οικονομική μεγέθυνση είναι η αύξηση του εθνικού προϊόντος μιας χώρας, ενώ η παραγωγικότητα εκφράζει το παραγόμενο προϊόν ανά μονάδα εισροής ή την αποτελεσματικότητα με την οποία χρησιμοποιούνται οι παραγωγικοί πόροι)

## THE ECONOMIC ROLE OF GOVERNMENT

Although the market mechanism is an admirable way of producing and allocating goods, sometimes market failures lead to deficiencies in the economic outcomes = μονολότι ο μηχανισμός της αγοράς είναι ένας θαυμάσιος τρόπος παραγωγής και κατανομής των αγαθών, μερικές φορές οι αποτυχίες της αγοράς οδηγούν σε οικονομικά αποτελέσματα που δεν είναι αποδεκτά

8) markets fail to provide an efficient allocation of resources in the presence of imperfect competition or externalities = οι αγορές αποτυγχάνουν να διασφαλίζουν την αποτελεσματική κατανομή των παραγωγικών πόρων όταν ο ανταγωνισμός είναι ατελής ή όταν υπάρχουν εξωτερικές επιδράσεις

#### FIGURE AND NOTES

Business competition to buy factor inputs and sell goods most cheaply determines how goods are produced = ο ανταγωνισμός των επιχειρήσεων για την αγορά εισροών συντελεστών και την πώληση αγαθών στην πιο φθηνή τιμή καθορίζει το πώς θα παραχθούν τα αγαθά

## 2.2.6 Additions, notes, glosses

### THE MARKET MECHANISM

During that decade the growth in the health-care sector led an enormous expansion of nursing jobs with far few trained nurses to fill them = στην διάρκεια της δεκαετίας εκείνης η επέκταση στον τομέα της υγείας οδήγησε σε μια μεγάλη αύξηση των θέσεων εργασίας για νοσηλευτικό προσωπικό, η οποία ξεπερνούσε κατά πολύ τον αριθμό του ειδικευμένου νοσηλευτικού προσωπικού που θα μπορούσε να καλύψει τις θέσεις αυτές

### MONEY THE LUBRICANT OF EXCHANGE

Just imagine how complicated economic life would be if you had to barter goods for goods every time you wanted to buy a pizza or go to a concert = φανταστείτε πόσο δύσκολη θα ήταν η οικονομική ζωή, αν έπρεπε να ανταλλάζετε αγαθά με αγαθά (αντιπραγματισμός) κάθε φορά που θα θέλατε να αγοράσετε μια πίτσα ή να παρακολουθήσετε μια συναυλία

### PUBLIC GOODS

While negative externalities like pollution or global warming command most of the headlines, positive externalities may well be economically more significant = ενώ οι αρνητικές εξωτερικές επιδράσεις, όπως η ρύπανση ή η παγκόσμια υπερθέρμανση (η άνοδος της μέσης θερμοκρασίας των κατώτερων στρωμάτων της ατμόσφαιρας), είναι σήμερα θέματα που προβάλλονται με μεγάλους τίτλους από τις πρώτες σελίδες εφημερίδων, οι θετικές εξωτερικές επιδράσεις μπορεί κάλλιστα, από οικονομική άποψη, να είναι πιο σημαντικές

### EQUITY

The federal income and inheritance taxes are examples of such redistributive progressive taxation = ο ομοσπονδιακός φόρος και ο φόρος κληρονομιάς στην Αμερική είναι παραδείγματα προοδευτικής φορολογίας που αποσκοπεί στην αναδιανομή του εισοδήματος



Economics as a science cannot answer such formative questions as how much of our market incomes – if any – should be transferred to poor families. This is a political question that can be answered only at the ballot box = Η οικονομική ως επιστήμη δεν μπορεί να απαντήσει σε κανονιστικές ερωτήσεις τύπου: θα πρέπει να μεταβιβάζεται κάποιο μέρος από τα εισοδήματά μας που προκύπτουν από την αγορά σε φτωχές οικογένειες; Και αν ναι, πόσο πρέπει να είναι το μέρος αυτό; Στο ζήτημα αυτό, που είναι καθαρά πολιτικό, την απάντηση δίνουν οι κάλπες

#### SUMMARY

Imperfection, such as monopoly, produces high prices and low levels of output = ο ατελής ανταγωνισμός, όπως είναι παραδείγματος χάριν, το μονοπώλιο, οδηγεί σε υψηλές τιμές και χαμηλά επίπεδα παραγωγής

## 2.2.7 Translation Couplets

### EFFICIENCY

For example, if the telephone company or a labor union is large enough to influence the price of phone service or labor, respectively, some degree of imperfect competition has set in = παραδείγματος χάριν, αν μια τηλεφωνική εταιρεία ή ένα εργατικό συνδικάτο είναι αρκετά μεγάλα ώστε να μπορούν να επηρεάσουν την τιμή της τηλεφωνικής υπηρεσίας, αντιστοίχως, τότε υπάρχει κάποιος βαθμός ατελούς ανταγωνισμού → recognized translation, omission, synonymy and transposition-recasting

### TWILIGHT OF THE WELFARE STATE

Critics of government say that the state is overly intrusive; governments create monopoly; government failures are just as pervasive as market failures; high taxes distort the allocation of resources; social security reduces saving; environmental regulation dulls the spirit of enterprise; government attempts to stabilize the economy must fail at best and increase inflation at worst; and inflation chokes off investment; in short, for some, government is the problem rather than the solution = οι σκεπτικιστές υποστηρίζουν ότι το ίδιο το κράτος είναι, σε μεγάλο βαθμό, πηγή προβλημάτων; το κράτος δημιουργεί μονοπώλια' οι αποτυχίες είναι εξίσου σοβαρές με τις αποτυχίες της αγοράς' οι υψηλοί φόροι στρεβλώνουν την κατανομή των παραγωγικών πόρων' η κοινωνική ασφάλιση μειώνει τις αποταμιεύσεις' οι ρυθμιστικές παρεμβάσεις για την προστασία του περιβάλλοντος αμβλύνουν το επιχειρηματικό πνεύμα' οι προσπάθειες του να σταθεροποιήσει την οικονομία μπορεί, στην καλύτερη περίπτωση, να αποτύχουν και, στη χειρότερη, να οδηγήσουν σε πληθωρισμό' και ο πληθωρισμός είναι εμπόδιο στις επενδύσεις. Με άλλα λόγια, το κράτος είναι μάλλον πρόβλημα παρά ή λύση → paraphrase, componential analysis, synonymy

Figure 2-1,

Further, business demand for inputs meets the public's supply of labor and other inputs in the factor markets below to determine wage, rent, and interest payments, incomes thus influence for whom goods are delivered = κατόπιν η ζήτηση των

επιχειρήσεων για εισροές ικανοποιεί την προσφορά εργασίας από το κοινό και τις άλλες εισροές στις αγορές συντελεστών της παραγωγής στο κάτω μέρος του διαγράμματος, και βοηθάει να καθοριστούν τα ημερομίσθια και οι μισθοί, και οι πρόσοδοι και οι πληρωμές τόκων. Τα εισοδήματα, λοιπόν, καθορίζουν για ποιον παράγονται τα αγαθά → transpositions modulation: reversal of terms, expansion, additions, notes, glosses, expansion

## 2.2.8 Translation Errors

### MONARCHS OF THE MARKETPLACE

Like a farmer using a carrot and a stick to coax a donkey forward, the market system deals out profits and losses to induce firms to produce desired goods efficiently = όπως ένας αγρότης χρησιμοποιεί καρότο και μαστίγιο για να «πείσει» το γάιδαρό του να προχωρήσει μπροστά<sup>18</sup>, το σύστημα της αγοράς πραγματεύεται τα κέρδη και τις ζημιές για να πείσει τις επιχειρήσεις για να παράγουν αποτελεσματικά τα επιθυμητά αγαθά

Interesting enough, the most valuable economic resource, labor, cannot be turned into a commodity that is bought and sold as private property = εξαιρετικά ενδιαφέρον, όμως, είναι ότι ο πιο πολύτιμος οικονομικός πόρος, η εργασία, δεν μπορεί να μετατραπεί σε εμπόρευμα που θα αγοράζεται και θα πωλείται ως ατομική εργασία<sup>19</sup>

### EQUITY

But over the last two decades, changes in family structure and declining wages of the less skilled and less educated<sup>20</sup> have reserved the trend = κατά τις δυο τελευταίες δεκαετίες, όμως, οι αλλαγές στην οικογενειακή δομή και η πτωτική τάση των ημερομισθίων, ιδίως για την ανειδίκευτη εργασία, έχουν αντιστρέψει την τάση

### SUMMARY

It is used to pay for everything from apple tarts to zebra skins = Χρησιμοποιείται για την αγορά κάθε αγαθού, από τάρτες μήλου έως δέρματα ζέβρας<sup>21</sup>

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<sup>18</sup> Here we have a serious translation error: The translation should not have been so literal but rather more functional equivalent. i.e. “Σαν τον αγρότη που χρησιμοποιεί το καμουτσίκι του για να πείσει τον γάιδαρο του να προχωρήσει μπροστά”.

<sup>19</sup> *Private property* has been translated as *ατομική εργασία* which actually means individual labor. This is major translation faux paux because the original meaning is distorted.

<sup>20</sup> “*Less educated*” has been omitted completely and as a result the meaning of the Target Text is slightly distorted.

<sup>21</sup> This phrase was translated literally but a more paraphrased one would have produced a better translation outcome, for example: “από τσίχλες μέχρι χρυσά δόντια”.

## 2.2.9 OTHER TECHNIQUES

### Componential Analysis

#### THE INVISIBLE HAND AND “PERFECT COMPETITION”

Under perfect competition and with no market failures, markets will squeeze as many useful goods and services out of the available resources as is possible = σε συνθήκες τέλει ανταγωνισμού και χωρίς αποτυχίες της αγοράς, οι αγορές θα προσπαθούν να παράγουν όσο το δυνατόν περισσότερα χρήσιμα αγαθά και υπηρεσίες από τους διαθέσιμους παραγωγικούς πόρους

#### CAPITAL

Most of us do not realize how much our daily activities rely, directly or indirectly, on capital, including our houses, the highways we drive on, and the wires that bring electricity and cable TV to our homes = οι περισσότεροι δεν αντιλαμβανόμαστε πόσο πολύ οι καθημερινές μας δραστηριότητες στηρίζονται, άμεσα ή έμμεσα, στο κεφάλαιο, στο οποίο περιλαμβάνονται μεταξύ άλλων, οι κατοικίες μας, οι δρόμοι στους οποίους κινούμαστε με τα αυτοκίνητά μας, τα σύρματα και οι καλωδιώσεις που μας φέρνουν ηλεκτρισμό και την καλωδιακή τηλεόραση στο σπίτι μας

#### IMPERFECT COMPETITION

The extreme case of imperfect competition is the monopolist – a single supplier who alone determines the price of a particular good or service = η ακραία περίπτωση ακραίου ανταγωνισμού είναι ο μονοπωλητής – ένας μοναδικός πωλητής ενός αγαθού, ο οποίος μπορεί μόνος του να καθορίσει την τιμή ενός αγαθού ή της υπηρεσίας που προσφέρει

#### MACROECONOMIC GROWTH AND ABILITY

Monetary policy involves determining the supply of money and interest rates; these affect investment in capital goods and other interest-rate sensitive spending = η νομισματική πολιτική αφορά στον καθορισμό της προσφοράς χρήματος και των επιτοκίων' η πολιτική αυτή επηρεάζει τις επενδύσεις σε κεφαλαιουχικά αγαθά και άλλες δαπάνες που είναι ευαίσθητες στις μεταβολές του επιτοκίου

## FOOTNOTE

Operating a modern economy without both is like trying to clap with one hand = Λειτουργία της σύγχρονης οικονομίας με το ένα μόνο από τα δύο αυτά στοιχεία μοιάζει με την προσπάθεια να χειροκροτήσουμε με το ένα χέρι

## Functional Equivalent

### THE SHIFTING BOUNDARY BETWEEN MARKETS AND GOVERNMENT

This capsule history of the shifting balance between state and market naturally raise many questions = η σύντομη αυτή ιστορία της μεταβαλλόμενη ισορροπίας μεταξύ κράτους και αγοράς είναι φυσικό να γεννά πολλά ερωτήματα

### HOW MARKETS SOLVE THE THREE ECONOMIC PROBLEMS

When we see someone on the unemployment line, we might say "There, but for the grace of supply and demand, go I" = όταν λοιπόν βλέπουμε κάποιον στις τάξεις των ανέργων, θα μπορούσαμε να πούμε: «Εκεί θα βρισκόμασταν και εμείς, αν δεν είχαμε την εύνοια της προσφοράς και της ζήτησης».

White-collar workers = εργασίες γραφείου

### EXTERNALITIES

In many ways governments are like parents always saying no: Thou shalt<sup>22</sup> not expose thy workers to conditions = οι κυβερνήσεις μοιάζουν, από πολλές πλευρές, με τους γονείς που λένε πάντοτε όχι: δεν πρέπει να εκθέτεις τους εργάτες σου σε επικίνδυνες συνθήκες --> functional equivalent: in the ST the phrase

Thou shalt not pour out poisonous smoke from factory chimney = δεν πρέπει να εκλύεις τον επικίνδυνο καπνό του εργοστασίου σου στην ατμόσφαιρα

Thou shalt not sell dangerous drugs = δεν πρέπει να πωλείς επικίνδυνα φάρμακα

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<sup>22</sup> "*Thou shalt not expose thy workers to conditions*" is inspired by the ten commandment s which derive from the Christian faith, the start with the word "Thou shalt not" but in the Greek language the equivalent us "ΟΥ" but since it does not fit the context of the sentence, the translators just translated in a more general way.

Thou shalt not drive without wearing your seatbelt = δεν πρέπει να οδηγείς χωρίς να φοράς ζώνη ασφαλείας κ.ο.κ.

Final paragraph

Dollar votes = χρηματικά ποσά

EQUITY

That is the way the cookie crumbles under laissez-faire capitalism = και όμως, αυτός είναι ο τρόπος που προχωρεί η ζωή στον καπιταλισμό του laissez-faire

### Rearrangement/Improvement

CAPITAL

The total *net amount* of capital stock in the economy is almost \$18.5 trillion – including government owned, business, and residential capital = η συνολική *καθαρή αξία* του πάγιου κεφαλαίου στην οικονομία των ΗΠΑ είναι σχεδόν 28,5 τρισεκατομμύρια δολάρια – συμπεριλαμβανομένου του κρατικού κεφαλαίου, του επιχειρηματικού κεφαλαίου και των κατοικιών

IMPERFECT COMPETITION

Governments sometimes regulate the prices and profits of monopolies such as local water, telephone, and electric utilities = μερικές φορές, το κράτος ρυθμίζει τις τιμές και τα κέρδη μονοπωλίων, όπως οι τοπικές εταιρίες ύδρευσης, οι τηλεφωνικές εταιρίες<sup>23</sup> και οι υπηρεσίες ηλεκτρισμού

EQUITY

Economics cannot answer questions of how much poverty is acceptable and fair, but it can help design more effective programs to increase the incomes of the poor = οι οικονομολόγοι δεν μπορούν να απαντήσουν σε ερωτήματα πόση φτώχεια είναι αποδεκτή και δίκαιη, αλλά μπορούν να βοηθήσουν στην εκπόνηση αποτελεσματικών προγραμμάτων για την αύξηση των εισοδημάτων των φτωχών

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<sup>23</sup> The translators added the word "*companies*" in order to specify the words "*local water and telephone*".

## Synonymy

### THE INVISIBLE HAND AND “IMPERFECT” COMPETITION

Smith’s insight about the functioning of the market mechanism has inspired modern economists – both admirers and the critics of capitalism = η διδασδυτική ματιά του Σμιθ στην λειτουργία του μηχανισμού της αγοράς είναι πηγή έμπνευσης για τους σύγχρονους οικονομολόγους – τόσο για τους θαυμαστές όσο και για τους πολέμιους του καπιταλισμού

### THE ECONOMIC ROLE OF GOVERNMENT

For that reason, no government anywhere in the world, no matter how conservative, keeps its hands off the economy = για το λόγο αυτόν, δεν υπάρχει κυβέρνηση στο κόσμο, όσο συντηρητική και αν είναι, που να μην παρεμβαίνει στην οικονομία

### MACROECONOMIC GROWTH AND ABILITY

Since its origins, capitalism has been plagued by periodic bouts of inflation (rising prices) and recession (high unemployment) = από την γέννηση του, ο καπιταλισμός μαστιζόταν από περιοδικά ξεσπάσματα πληθωρισμού (ανόδου των τιμών) και υφέσεων (υψηλής ανεργίας)

### QUESTIONS FOR DISCUSSION

7) “Lincoln freed the slaves. With one pen stroke he destroyed much of the capital the South had accumulated over the years”. Comment = «Ο Λίνκολν απελευθέρωσε τους δούλους. Με μια μονοκονδυλιά, κατέστρεψε το κεφάλαιο που ο Νότος συσσώρευσε επί πολλά χρόνια». Σχολιάστε την άποψη αυτή



## Transference

### MONARCH OF THE MARKETPLACE

Do giant companies like General Motors and A&T call the tune? = Δίνουν, άραγε, τον τόνο οι γιγαντιαίες εταιρίες, όπως η General Motors και η A&T; --> transference

### MACROECONOMIC GROWTH AND ABILITY

Today, thanks to the intellectual contribution of John Maynard Keynes and his followers, we know how to control the worst excesses of the business cycle = σήμερα, χάρη στην θεωρητική συνεισφορά του Τζον Μέιναρντ Κέινς και των μαθητών του, γνωρίζουμε πώς να θέτουμε υπό έλεγχο τις ακραίες εκδηλώσεις του οικονομικού κύκλου --> transference, expansion, synonymy

### TWILIGHT OF THE WELFARE STATE

In 1942, the great Austrian-born Harvard economist Joseph Schumpeter that the United States was "capitalism living in an oxygen tent" on its march to socialism = το 1942, ο αυστριακής καταγωγής οικονομολόγος του Χάρβαρντ, Joseph Schumpeter, υποστήριξε ότι οι Ηνωμένες Πολιτείες ήταν «καπιταλισμός που ζει υπό καλύπτρα με παροχή οξυγόνο» καθώς οδεύει προς τον σοσιαλισμό --> componential analysis, omission, transference,

### FOOTNOTE

The tools of economics are indispensable to help societies find the **golden mean** between laissez faire markets mechanisms and democratic rules of the road: the good **Mixed Economy** is, perforce, the **Limited Mixed Economy** = τα εργαλεία της οικονομικής είναι απολύτως αναγκαία για την εύρεση της **χρυσής τομής** ανάμεσα στους μηχανισμούς της αγοράς laissez faire και στους δημοκρατικούς κανόνες της καθημερινής ζωής: καλή **Μικτή Οικονομία** είναι, κατ'ανάγκη, η **Περιορισμένη Μικτή Οικονομία** --> cultural equivalent OR recognized translation, transference,

### NOTE

An eloquent introduction to the lives of the great economists can be found in Robert L. Heilbroner, The Worldly Philosophers (Simon and Schuster, New York, 1980) =

μια γλαφυρή παρουσίαση του βίου των μεγάλων οικονομολόγων βρίσκουμε στον in  
Robert L. Heilbroner, The Worldly Philosophers (Simon and Schuster, New York,  
1980)

## CHAPTER III

### 2.3.1 TRANSPOSITION

#### 1) Recasting

##### BASIC ELEMENTS OF SUPPLY AND DEMAND

Using these basic tools, we will see how the market price is determined (or reaches its competitive equilibrium) where these two curves intersect – where the forces of demand and supply are just in balance = χρησιμοποιώντας τα βασικά αυτά εργαλεία θα δούμε πως η τιμή της αγοράς προσδιορίζεται από το σημείο όπου τέμνονται οι δύο αυτές καμπύλες (ή πώς φθάνει σε ανταγωνιστική ισορροπία στο συγκεκριμένο σημείο) – στο σημείο δηλαδή όπου οι δυνάμεις της προσφοράς και της ζήτησης βρίσκονται σε τέλεια ισορροπία

##### EQUILIBRIUM WITH SUPPLY AND DEMAND CURVES

There are no shortages or surpluses at the equilibrium price = Στην τιμή ισορροπίας δεν υπάρχουν ελλείμματα ή πλεονάσματα

##### EQUILIBRIUM OF SUPPLY AND DEMAND

8. To use supply-and-demand analysis correctly, we must (a) distinguish a change in demand or supply (which produces a shift in a curve) from a change in the quantity demanded or supplied (which represents a movement along the curve); (b) hold other things constant, which requires distinguishing the impact of changes in other influences; and (c) look always for the supply-and-demand equilibrium, which comes at the point where forces acting on price and quantity are in balance = Για να χρησιμοποιήσουμε σωστά την ανάλυση της προσφοράς και της ζήτησης, πρέπει: (α) Να διακρίνουμε μια μεταβολή της ζήτησης ή της προσφοράς (που επιφέρει μετατόπιση της καμπύλης) από μια μεταβολή στη ζητούμενη ή προσφερόμενη ποσότητα (που απεικονίζεται με ναι μετακίνηση επί της καμπύλης). (β) Να κρατούμε τους λοιπούς παράγοντες σταθερούς, πράγμα που σημαίνει ότι πρέπει να διακρίνουμε την επίπτωση μιας μεταβολής στην τιμή από την επίπτωση μεταβολών σε άλλους παράγοντες που επηρεάζουν τη ζήτηση ή την πρόσφορα. Και (γ) να αναζητούμε

πάντοτε την ισορροπία της προσφοράς και της ζήτησης, που επιτυγχάνεται στο σημείο όπου οι δυνάμεις που επιδρούν στην τιμή και στην ποσότητα έχουν εξισορροπήσει

#### QUESTIONS FOR DISCUSSION

- c. An increase in supply generally lowers price and raises quantity demanded.
- d. A decrease in supply generally \_\_\_\_\_ price and \_\_\_\_\_ quantity demanded. =
- β. γ. Μια αύξηση της προσφοράς χαμηλώνει, γενικά, την τιμή και αυξάνει τη ζητούμενη ποσότητα.
- δ. Μια μείωση της προσφοράς....., γενικά, την τιμή και.....τη ζητούμενη ποσότητα

#### TABLE 3-6

The Effect on Price and Quantity of Different Demand and Supply Shifts =  
Μετατοπίσεις των καμπυλών ζήτησης και προσφοράς και επίδραση στην τιμή και στην ποσότητα

### 2) Recategorization

#### VOLATILE MARKETS

The essential tool for understanding the movement of prices and outputs in individual markets is called the analysis of supply and demand = το βασικό εργαλείο για να κατανοήσουμε τις κινήσεις των τιμών και της παραγωγής σε κάθε αγορά ονομάζεται ανάλυση προσφοράς και ζήτησης → singular to plural

This theory shows how consumer preferences determine **consumer demand for commodities**, while business costs are the foundation for the supply of commodities = η θεωρία αυτή δείχνει πώς οι προτιμήσεις του καταναλωτή καθορίζουν την **καταναλωτική ζήτηση αγαθών**, ενώ το κόστος των επιχειρήσεων είναι η βάση της προσφοράς αγαθών → transposition-recategorization: change of word class (noun for adjective), plural to singular & transposition modulation: reversal of terms,

## BEHIND THE DEMAND CURVE

They may contain a large element of tradition or religion (eating beef is popular in America but taboo in India, while curried jellyfish is a delicacy in Japan but would make an American gag) = μπορεί, επίσης, να περιλαμβάνουν ένα μεγάλο στοιχείο παράδοσης ή θρησκείας (η βρώση βοδινού αρέσει πολύ στους Αμερικανούς, ενώ για τους Ινδούς αποτελεί ταμπού, ενώ οι μαγειρευμένες μέδουσες είναι λιχουδιά για τους Ιάπωνες, αλλά σε πολλούς Αμερικανούς προκαλούν αηδία) → recasting, recategorization: singular to plural, & change of point of view.

## THE SUPPLY SCHEDULE = Ο ΠΙΝΑΚΑΣ ΠΡΟΣΦΟΡΑΣ

The supply side of a market typically involves the terms on which businesses produce and sell their products = η πλευρά της προσφοράς της αγοράς συνήθως αφορά τους όρους με τους οποίους μια επιχείρηση παράγει και πωλεί τα προϊόντα της → plural to singular

The **supply schedule** (or **supply curve**) for a commodity shows the relationship between its market price and the amounts of that commodity that producers are willing to produce and sell, other things held constant = ο **πίνακας προσφοράς** (ή η **καμπύλη προσφοράς**) ενός αγαθού δείχνει την σχέση ανάμεσα στην τιμή αγοράς και την ποσότητα του αγαθού αυτού που οι παραγωγοί είναι πρόθυμοι να παράγουν και να πωλούν, όταν οι λοιποί παράγοντας μένουν αμετάβλητοι → recategorization: plural to singular

## BEHIND THE SUPPLY SCHEDULE

When production costs are high relative to price, firms produce little, switch to the production of other products, or may simply go out of business = όταν το κόστος παραγωγής είναι υψηλό σε σχέση με την τιμή, οι επιχειρήσεις θα παράγουν λίγη ποσότητα και θα στρέφονται στην παραγωγή άλλων προϊόντων ή, απλώς, θα εγκαταλείπουν τη συγκεκριμένη αγοράς → change of word class (present to future)

## EQUILIBRIUM WITH SUPPLY AND DEMAND CURVES

At point C, where the price is \$3 per box and the quantity is 12 units, the quantities demanded and supplied are equal: there are no shortages or surpluses; there is no

tendency for price to rise or fall = Στο σημείο Γ, όπου η τιμή είναι 3 δολάρια το κουτί και η ποσότητα 12 μονάδες, η ζητούμενη και η προσφερόμενη ποσότητα είναι ίσες: δεν υπάρχουν ελλείμματα ή πλεονάσματα και, επομένως, δεν υπάρχει τάση να αυξηθεί ή να μειωθεί η τιμή → plural to singular,

### SUPPLY, DEMAND, AND IMMIGRATION

This would leave the supply curve for labor in its original position and leave the wages unchanged = Έτσι, η καμπύλη προσφοράς εργασίας δεν θα μετατοπιστεί από την αρχική της θέση και τα ημερομίσθια θα παραμείνουν αμετάβλητα --> transposition-modulation: change of view point

### SUMMARY

A market blends together demands, coming from consumers who are spreading their incomes among available goods and services, with supplies such as those provided by business interested in maximizing their profits = Μια αγορά αναμιγνύει τη ζήτηση που προέρχεται από καταναλωτές, οι οποίοι δαπανούν τα εισοδήματά τους μεταξύ των διαθέσιμων αγαθών και υπηρεσιών, με την προσφορά, όπως αυτή που → plural to singular

Such a demand schedule, depicted graphically by a demand curve, holds constant other things like family incomes, tastes, and the prices of other goods = Ένας τέτοιος πίνακας ζήτησης, που γραφική απεικόνιση είναι η καμπύλη ζήτησης, διατηρεί σταθερούς άλλους παράγοντες, όπως τα οικογενειακά εισοδήματα, τις προτιμήσεις των καταναλωτών και τις τιμές άλλων αγαθών → devarbalization

### 3) Modulation

#### MARKET DEMAND

The market demand is what is observable in the real world = η ζήτηση της αγοράς είναι αυτή την οποία παρατηρούμε στον πραγματικό κόσμο → passive for active

In addition, a price reduction will induce extra purchases of goods by existing consumers, through both the income and substitution effects = επιπλέον, η μείωση της τιμής θα παρακινήσει τους παλαιούς καταναλωτές να αυξήσουν την ποσότητα που

αγοράζουν, τόσο μέσω του εισοδηματικού αποτελέσματος όσο και μέσω του αποτελέσματος αποκατάστασης → reversal of terms, paraphrase

THE SUPPLY SCHEDULE = Ο ΠΙΝΑΚΑΣ ΠΡΟΣΦΟΡΑΣ → reversal of terms

#### THE SUPPLY SCHEDULE

More precisely, the supply schedule relates the quantity supplied of a good to its market price, other things constant = πιο συγκεκριμένα, ο πίνακας της προσφοράς συνδέει την προσφερόμενη ποσότητα ενός αγαθού στην τιμή αγοράς του, όταν οι λοιποί παράγοντες μένουν αμετάβλητοι → reversal of terms

#### FIGURE 3-7

Shift in Supply or Demand Change Equilibrium Price and Quantity = Μετατόπιση της καμπύλης ζήτησης ή προσφοράς μεταβάλλει την τιμή και την ποσότητα → reversal of terms

#### TABLE 3-2

As incomes rise, people increase car purchases = Καθώς αυξάνεται το εισόδημα, οι άνθρωποι αγοράζουν περισσότερα αυτοκίνητα → plural to singular

A growth in population increases car purchases = Η αύξηση του πληθυσμού αυξάνει τις αγορές αυτοκινήτων → transposition – modulation: reversal of terms

Lower gasoline prices raise demand for cars = Η χαμηλότερη τιμή της βενζίνης αυξάνει τη ζήτηση για αυτοκίνητα → transposition: modulation: reversal of terms and recategorization: plural to singular

## 2.3.2 Recognized Translation

### THE DEMAND SCHEDULE

This relationship between price and quantity bought is called the demand schedule, or the demand curve = η σχέση ανάμεσα στην τιμή και την ζητούμενη ποσότητα ονομάζεται πίνακας ζήτησης ή καμπύλη ζήτησης

### THE DEMAND CURVE

This important property is called the law of downward-sloping demand = η σημαντική αυτή ιδιότητα ονομάζεται νόμος της κατερχόμενης καμπύλης ζήτησης

### EQUILIBRIUM OF SUPPLY AND DEMAND

The equilibrium price is also called market-clearing price = Η τιμή ισορροπίας ονομάζεται επίσης, τιμή εκκαθάρισης της αγοράς

### CONCEPTS FOR REVIEW

Supply-and demand analysis = Ανάλυση της προσφοράς και της ζήτησης

Demand schedule or curve, DD = Πίνακας ζήτησης ή καμπύλη ζήτησης, DD

Law of downward-sloping demand = Νόμος της κατερχόμενης καμπύλης ζήτησης

Influences affecting demand curve = Παράγοντες που επηρεάζουν την καμπύλη ζήτησης

Supply schedule or curve, SS = Πίνακας ζήτησης ή καμπύλη ζήτησης, SS

Equilibrium price and quantity = Τιμή και ποσότητα ισορροπίας

Shifts in supply and demand curves = Μετατοπίσεις των καμπυλών προσφοράς και ζήτησης

Il other things held constant = Οι λοιποί παράγοντες μένουν αμετάβλητοι<sup>24</sup>

Rationing by prices = Επιμερισμός μέσω των τιμών

### TABLE -5

Surplus = Πλεόνασμα

Downward = Πτωτική

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<sup>24</sup> Ceteris Sparibus



Equilibrium = Ισορροπία

Upward = Ανοδική

Shortage = Έλλειψη

### 2.3.3 Paraphrase

#### BASIC ELEMENTS OF SUPPLY AND DEMAND

It is the movement of prices, the price mechanism, which brings supply and demand into balance or equilibrium = εκείνο που οδηγεί σε ισορροπία την προσφορά και τη ζήτηση είναι η κίνηση των τιμών, δηλαδή ο μηχανισμός των τιμών

#### THE DEMAND SCHEDULE

There exists a definite relationship between the market price of a good, other things held constant = η τιμή αγοράς ενός αγαθού και η ζητούμενη ποσότητα από το αγαθό αυτό συνδέονται με μια ορισμένη σχέση, όταν οι λοιποί παράγοντες μένουν αμετάβλητοι

#### THE SUPPLY CURVE

At ever-higher cornflakes prices, cereal makers will find it profitable to add more workers and to buy more **automated** cornflakes-stuffing machines and even more cornflakes factories = όταν η τιμή των κόρνφλεϊκς συνεχίζει να ανεβαίνει, οι παραγωγοί δημητριακών θα κρίνουν ότι είναι κερδοφόρο να προσλάβουν και άλλους εργάτες και να αγοράσουν ακόμη περισσότερα μηχανήματα παραγωγής κόρνφλεϊκς, ακόμη και να αναγείρουν και νέα εργοστάσια

For instance, when a free-trade agreement opens up the U.S market to Mexican goods, the supply of Mexican goods increases = όταν, λόγω χάριν, η κυβέρνηση συνάπτει συμφωνία ελεύθερου εμπορίου με την οποία τα προϊόντα της μεξικανικής οικονομίας αποκτούν ελεύθερη πρόσβαση στην αγορά των Ηνωμένων Πολιτειών, είναι προφανές ότι η παραγωγή των μεξικανικών προϊόντων θα αυξηθεί

## 2.3.4 Expansion, Reduction, and Omission

### BEHIND THE DEMAND CURVE

4<sup>th</sup> dot

Tastes represent a variety of cultural and historical influences = οι καταναλωτικές προτιμήσεις εκφράζουν μια ποικιλία πολιτισμικών και ιστορικών επιρροών

### EQUILIBRIUM WITH SUPPLY AND DEMAND CURVES

The equilibrium price comes at the intersection of the supply and demand curves, at point C = Η τιμή ισορροπίας επιτυγχάνεται στο σημείο τομής των καμπυλών προσφοράς και ζήτησης. Και το σημείο αυτό είναι το Γ

At a low price of \$2 per box, the market shows a shortage, or excess of quantity demanded over quantity supplied, here shown by the black line labeled “Shortage” = Στην χαμηλή τιμή των 2 δολαρίων ανά κουτί, η αγορά εμφανίζει έλλειμμα αγοράς ή πλεόνασμα της ζητούμενης ποσότητας έναντι της προσφερόμενης ποσότητας, το οποίο σημειώνεται στο σχήμα με τη μαύρη γραμμή που ονομάζεται «έλλειμμα»

## 2.3.5 Other techniques

### Word-for-Word Translation

THE DEMAND CURVE = Η ΚΑΜΠΥΛΗ ΖΗΤΗΣΗΣ

We show the demand curve in Figure 3-2, which graphs the quantity of cornflakes demanded on the horizontal axis and the price of cornflakes on the vertical axis =  
δείχνουμε την καμπύλη ζήτησης στο Σχήμα 3.2, που απεικονίζει τη ζητούμενη ποσότητα των κόρνφλεϊκς στον οριζόντιο άξονα και την τιμή κόρνφλεϊκς στον κατακόρυφο άξονα

TABLE 3-2

Example for automobiles = Παράδειγμα αυτοκινήτων

FIGURE 3-4

Supply Curve Relates Quantity Supplied to Price = Η καμπύλη προσφοράς συνδέει την προσφερόμενη ποσότητα με την τιμή

Factors affecting the supply curve = Παράγοντες που επηρεάζουν την καμπύλη προσφοράς

Removing quotas and tariffs in imported automobiles increases automobile supply =  
Η κατάργηση των ποσοστώσεων και των δασμών στα εισαγόμενα αυτοκίνητα αυξάνει την προσφορά αυτοκινήτων

### Synonymy

The price needed to coax out additional wine output is therefore higher = η τιμή που απαιτείται για να εξασφαλίσουμε μια πρόσθετη μονάδα κρασιού είναι, επομένως, υψηλότερη

SHIFTS IN SUPPLY

In terms of a supply curve, we say that supply increases (or decreases) when the amount supplied increases (or decreases) at each market price = με άξονα αναφοράς

την καμπύλη προσφοράς, λέμε ότι η προσφορά αυξάνεται (ή μειώνεται) όταν η προσφερόμενη ποσότητα αυξάνεται (ή μειώνεται) σε κάθε τιμή αγοράς

### Componential Analysis

#### VOLATILE MARKETS

Next, in the 1970s, supply restrictions, wars among producers, and revolution reduced production, with the consequent price spikes seen after 1973 and 1979 = κατόπιν, στη δεκαετία του '70, οι περιορισμοί στην προσφορά, οι πόλεμοι και οι επαναστάσεις σε πετρελαιοπαραγωγές χώρες μείωσαν την παραγωγή αργού, με αποτέλεσμα τις απότομες αυξήσεις της τιμής του αργού μετά το 1973 και το 1979

### Functional Equivalent

#### A CHANGE IN DEMAND

What happens to the demand for a college education if wages are falling for blue-collar jobs which don't require a college degree? = τι θα συμβεί στη ζήτηση για πανεπιστημιακή εκπαίδευση αν οι μισθοί μειώνονται για θέσεις εργασίας που καταλαμβάνονται από εργάτες και τεχνίτες που δεν χρειάζονται πτυχίο ανώτατης σχολής;

### Additions, Notes, Glosses

#### THE DEMAND SCHEDULE

Many influences lie behind the demand schedule for the market as a whole: average family income, population, and the prices of related goods, tastes, and special influences. This law is represented by a downwards sloping demand = Στο υπόβαθρο του πίνακα ζήτησης βρίσκονται πολλοί παράγοντες που επηρεάζουν την αγορά ως σύνολο: τα μέσα οικογενειακά εισοδήματα, ο πληθυσμός, οι τιμές των συγγενών προϊόντων, οι προτιμήσεις των καταναλωτών, αλλά και ειδικοί παράγοντες. Όταν αυτοί οι παράγοντες αλλάζουν, η καμπύλη ζήτησης μετατοπίζεται

## Transference

FIGURE 3-1

+Source: U.S. Departments of Energy and Labor. The price of gasoline has been converted into 1996 prices using the consumer price index) = (Πηγή: U.S. Departments of Energy and Labor. Η τιμή της βενζίνης έχει μετατραπεί σε τιμές 1996 με τη χρησιμοποίηση του δείκτη τιμών καταναλωτή)

# Bibliography

## English Bibliography

Newmark, Peter. *A Textbook on Translation*, Shanghai Foreign Language Education Press, 1988

Samuelson, Paul Anthony & Nordhaus, William. *Economic, Sixteenth Edition*, Irvin/McGraw-Hill, 1998, part 1.

## Greek Bibliography

Samuelson, Paul Anthony & Nordhaus, William. *Οικονομική*, εκδόσεις Παπαζήση, 2000, μέρος 1<sup>ο</sup>.

Βλαχόπουλος, Στέφανος. *Μετάφραση και Δημιουργικότητα*, εκδόσεις Κλειδάριθμος, 2010, p. 47 – 49.

## Reference Sources

### ON-LINE DICTIONARIES

*IATE – The EU's Multilingual Term Base*, [Accessed: 20<sup>th</sup> November, 2015]

<https://www.google.gr/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=iate+europa+.com>

*The Word Reference Dictionary*, [Accessed: 20<sup>th</sup> November, 2015]

<http://www.wordreference.com/>

*Translation Procedures*, [Accessed: 22<sup>th</sup> November, 2015]

<http://www.uv.es/tronch/Tra/TranslationProcedures.pdf>

## ON-LINE SOURCES

*An Analysis of Translation Procedures in Non-Literary and Literary Text Corpus*,  
[Accessed 30<sup>th</sup> November, 2015]

[http://www.pulib.sk/elpub2/FF/Gibova1/pdf\\_doc/3.pdf](http://www.pulib.sk/elpub2/FF/Gibova1/pdf_doc/3.pdf)

Transparent Language (2015) *Overview of the Greek Language*, [Accessed 30<sup>th</sup>  
November, 2015] <http://www.transparent.com/learn-greek/overview.html>

Lingua Press (2009) *A Short History of the English Language*, [Accessed 30<sup>th</sup>  
November, 2015] <http://linguapress.com/grammar/english.htm>

History.com Staff (2009) *The Great Depression*, [Accessed 30<sup>th</sup> November, 2015]  
<http://www.history.com/topics/great-depression>

Modern American Poetry (1994) *The Depression in the United States – An Overview*,  
[Accessed 5<sup>th</sup> December, 2015]  
<http://www.english.illinois.edu/maps/depression/overview.htm>

Modern American Poetry (1994) *About the Great Depression*, [Accessed 5<sup>th</sup>  
December, 2015] <http://www.english.illinois.edu/maps/depression/about.htm>

Theory, Translation and Technology (1999) *Barker Lecture, Some Difficulties in  
Translation*, [Accessed 5<sup>th</sup> December, 2015]  
<http://www.ttt.org/theory/difficulties.html>

Leatus in Praesens (1986) *Difficulties in the Transfer of Information between  
Languages*, [Accessed 6<sup>th</sup> December, 2015]  
<https://www.laetusinpraesens.org/docs/lingcul2.php>

Intellogist Wordpress (2012) *The Consequences of One Bad Document Translation*,  
[Accessed 6<sup>th</sup> December, 2015]  
<https://intellogist.wordpress.com/2012/12/06/the-consequences-of-one-bad-document-translation/>



REV *Consequences of Document Mistranslation* [Accessed 5<sup>th</sup> December, 2015]  
<http://blog.rev.com/articles/translation/consequences-of-document-mistranslation/>

#### **ON-LINE ARTICLES**

The Guardian (2011) *Peter Newmark Obituary* [Accessed 15<sup>th</sup> September, 2015]  
<http://www.theguardian.com/education/2011/sep/28/peter-newmark-obituary>

European Society for Translation Studies (2011) [Accessed 15<sup>th</sup> September, 2015]  
[http://www.est-translationstudies.org/news/2011\\_newmark.html](http://www.est-translationstudies.org/news/2011_newmark.html)

Biography (n/a) *Paul Samuelson Biography* [Accessed 6<sup>th</sup> December, 2015]  
<http://www.biography.com/people/paul-samuelson-39034>

Nobelprize (1992) *Paul A. Samuelson* [Accessed 6<sup>th</sup> December, 2015]  
[http://www.nobelprize.org/nobel\\_prizes/economic-sciences/laureates/1970/samuelson-bio.html](http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/1970/samuelson-bio.html)

Yale University, Department of Economics (n/a) *Yale University, Department of Economics, William D. Nordhaus* [Accessed 15<sup>th</sup> September, 2015]  
<http://economics.yale.edu/people/william-d-nordhaus>

# APPENDIX

# ECONOMICS

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# CHAPTER 1

## THE FUNDAMENTALS OF ECONOMICS

It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest.

*Adam Smith, The Wealth of Nations (1776)*

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### A. INTRODUCTION

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Pause for a moment to consider the paradoxical words above, penned in 1776 by Adam Smith, the founder of modern economics. That same year was also marked by the American Declaration of Independence. It is no coincidence that both ideas appeared at the same time. Just as the American revolutionaries were proclaiming freedom from tyranny, Adam Smith was preaching a revolutionary doctrine emancipating trade and industry from the shackles of a feudal aristocracy.

In the last two centuries, most of the world has experienced an era of unimagined prosperity. In the United States and other high-income countries, most people today can afford to buy far more than the bare necessities of food, clothing, and shelter. Superfast personal computers, high-tech home entertainment centers, and fast air transportation to any part of the globe are examples of an astonishing range of goods and services that have become part of everyday life. Developing countries have also seen their standards of living rise rapidly in recent years.

But widespread prosperity has not brought economic security. In an average year, 10 million Americans lose their jobs and almost 100,000 businesses go bankrupt. About 14 percent of households are

designated as poor, and the number is almost 50 percent among households headed by black females. Many families worry about the catastrophic financial consequence of illness because they have no health insurance. The affluent society is an anxious society.

For most of human history, people who experienced economic misfortunes lived on the mercy of their families or friends. Starting about a century ago, governments introduced the "welfare state," which provided social insurance and income support to needy people. Gradually, poor people in rich countries got access to minimal levels of income, food, and health care. But rising taxes and growing government spending on health care and public pensions have produced a revolt of the middle class, which is the taxed class. In 1996, the United States removed its guarantee of income support for poor families. Everywhere, countries are rethinking the boundaries between state and market, trying to balance the growing need for providing public services with the increasing clamor for cutting taxes and shrinking government.

This is the age of the global marketplace. Today, money, goods, and information cross national borders more readily than ever before. In earlier times,

we did business with people down the street or in the next town, and we bought mainly local goods. Today, we ride in the "world car." Look at this world car or at a fast computer. It incorporates materials, labor, capital, and innovations from around the world. The rise of the global marketplace raises new challenges. Who can best adapt to increased foreign competition? Who can quickly adapt to the information age? The stakes are high. To the winners go the profits, while the losers lag behind.

#### For Whom the Bell Tolls

As you begin your studies, you are probably wondering, Why study economics? Understanding the role of government and the challenges of the global marketplace are only two reasons why people study economics today.

Some people study economics because they hope to make money. Others worry that they will be illiterate if they cannot understand the laws of supply and demand. Many people are interested in learning about how we can improve our environment or why inequality in the distribution of income in the United States has risen so sharply in recent years.

All these reasons, and many more, make good sense. Still, we have come to realize, there is one overriding reason for learning the basic lessons of economics: All your life—from cradle to grave and beyond—you will run up against the brutal truths of economics. As a voter, you will make decisions on issues—on the government deficit, on taxes, on free trade, on inflation and unemployment—that cannot be understood until you have mastered the rudiments of this subject.

Choosing your life's occupation is the most important economic decision you will make. Your future depends not only on your own abilities but also on how economic forces beyond your control affect your wages. Also, economics may help you invest the nest egg you save from your earnings. Of course, studying economics cannot make you a genius. But without economics the dice of life are loaded against you.

There is no need to belabor the point. We hope you will find that, in addition to being useful, economics is a fascinating field in its own right. Generations of students, often to their surprise, have discovered how stimulating economics can be.

### SCARCITY AND EFFICIENCY: THE TWIN THEMES OF ECONOMICS

What, then, is economics? Over the last 30 years the study of economics has expanded to include a vast range of topics. What are the major definitions of this growing subject? The important ones are that economics<sup>1</sup>

- studies how the prices of labor, capital, and land are set in the economy, and how these prices are used to allocate resources.
- explores the behavior of the financial markets, and analyzes how they allocate capital to the rest of the economy.
- examines the distribution of income, and suggests ways that the poor can be helped without harming the performance of the economy.
- looks at the impact of government spending, taxes, and budget deficits on growth.
- studies the swings in unemployment and production that make up the business cycle, and develops government policies for improving economic growth.
- examines the patterns of trade among nations, and analyzes the impact of trade barriers.
- looks at growth in developing countries, and proposes ways to encourage the efficient use of resources.

This list is a good one, yet you could extend it many times over. But if we boil down all these definitions, we find one common theme:

Economics is the study of how societies use scarce resources to produce valuable commodities and distribute them among different people.

Behind this definition are two key ideas in economics: that goods are scarce and that society must use its resources efficiently. Indeed, economics is an important subject because of the fact of scarcity and the desire for efficiency.

Take scarcity first. If infinite quantities of every good could be produced or if human desires were

<sup>1</sup> This list contains several specialized terms from economics, and to master the subject, you will need to understand its vocabulary. If you are not familiar with a particular word or phrase, you should consult the Glossary at the back of this book. The Glossary contains most of the major technical economic terms used in this book. All terms printed in boldface are defined in the Glossary.

fully satisfied, what would be the consequences? People would not worry about stretching out their limited incomes, because they could have everything they wanted; businesses would not need to fret over the cost of labor or health care; governments would not need to struggle over taxes or spending, because nobody would care. Moreover, since all of us could have as much as we pleased, no one would be concerned about the distribution of incomes among different people or classes.

In such an Eden of affluence, there would be no economic goods, that is, goods that are scarce or limited in supply. All goods would be free, like sand in the desert or seawater at the beach. Prices and markets would be irrelevant. Indeed, economics would no longer be a useful subject.

But no society has reached a utopia of limitless possibilities. Goods are limited, while wants seem limitless. Even after two centuries of rapid economic growth, production in the United States is simply not high enough to meet everyone's desires. If you add up all the wants, you quickly find that there are simply not enough goods and services to satisfy even a small fraction of everyone's consumption desires. Our national output would have to be many times larger before the average American could live at the level of the average doctor or lawyer. And outside the United States, particularly in Africa and Asia, hundreds of millions of people suffer from hunger and material deprivation.

Given unlimited wants, it is important that an economy make the best use of its limited resources. That brings us to the critical notion of **efficiency**. Efficiency denotes the most effective use of a society's resources in satisfying people's wants and needs.

More specifically, the economy is producing efficiently when it cannot increase the economic welfare of anyone without making someone else worse off.

The essence of economics is to acknowledge the reality of scarcity and then figure out how to organize society in a way which produces the most efficient use of resources. That is where economics makes its unique contribution.

#### Microeconomics and Macroeconomics

Adam Smith is usually considered the founder of the field of **microeconomics**, the branch of economics which today is concerned with the behavior of

individual entities such as markets, firms, and households. In *The Wealth of Nations*, Smith considered how individual prices are set, studied the determination of prices of land, labor, and capital, and inquired into the strengths and weaknesses of the market mechanism. Most important, he identified the remarkable efficiency properties of markets and saw that economic benefit comes from the self-interested actions of individuals. All these are still important issues today, and while the study of microeconomics has surely advanced greatly since Smith's day, he is still cited by politicians and economists alike.

The other major branch of our subject is **macroeconomics**, which is concerned with the overall performance of the economy. Macroeconomics did not even exist in its modern form until 1935, when John Maynard Keynes published his revolutionary *General Theory of Employment, Interest and Money*. At the time, England and the United States were still stuck in the Great Depression of the 1930s, and over one-quarter of the American labor force was unemployed. In his new theory Keynes developed an analysis of what causes unemployment and economic downturns, how investment and consumption are determined, how central banks manage money and interest rates, and why some nations thrive while others stagnate. Keynes also argued that governments had an important role in smoothing out the ups and downs of business cycles. Although macroeconomics has progressed far since his first insights, the issues addressed by Keynes still define the study of macroeconomics today.

The two branches—microeconomics and macroeconomics—converge to form modern economics. At one time the boundary between the two areas was quite distinct; more recently, the two subdisciplines have merged as economists have applied the tools of microeconomics to such topics as unemployment and inflation.

### THE LOGIC OF ECONOMICS

Economic life is an enormously complicated hive of activity, with people buying, selling, bargaining, investing, persuading, and threatening. The ultimate purpose of economic science and of this text is to understand this complex undertaking. How do economists go about their task?

Economists use the *scientific approach* to understand economic life. This involves observing economic affairs and drawing upon statistics and the historical record. For complex phenomena like the impacts of budget deficits or the causes of inflation, historical research has provided a rich mine of insights. Often, economics relies upon analyses and theories. Theoretical approaches allow economists to make broad generalizations, such as those concerning the advantages of international trade and specialization or the disadvantages of tariffs and quotas.

A final approach is the use of statistical analyses. Economists have developed a specialized technique known as *econometrics*, which applies the tools of statistics to economic problems. Using econometrics, economists can sift through mountains of data to extract simple relationships. For example, in recent years people have argued about the impact of a higher minimum wage on employment. From dozens of studies, economists have concluded that it is *likely* that raising the minimum wage will reduce employment of low-wage workers. This knowledge is essential to policymakers who are struggling with the question of how high to set the minimum wage.

Budding economists must also be alert to common fallacies in economic reasoning. Because economic relationships are often complex, involving many different variables, it is easy to become confused about the exact reason behind events or the impact of policies on the economy. The following are some of the common fallacies encountered in economic reasoning:

- *The post hoc fallacy.* The first fallacy involves the inference of causality. *The post hoc fallacy occurs when we assume that, because one event occurred before another event, the first event caused the second event.*<sup>2</sup> An example of this syndrome occurred in the Great Depression of the 1930s in the United States. Some people had observed that periods of business expansions were preceded or accompanied by rising prices. From this, they concluded that the appropriate remedy for depres-

sion was to raise wages and prices. This idea led to a host of legislation and regulations to prop up wages and prices in an inefficient manner. Did these measures promote economic recovery? Almost surely not. Indeed, they probably slowed recovery, which did not occur until total spending began to rise as the government increased military spending in preparation for World War II.

- *Failure to hold other things constant.* A second pitfall is failure to hold other things constant when thinking about an issue. For example, we might want to know whether raising tax rates will raise or lower tax revenues. Some people have put forth the seductive argument that we can eat our cake and have it too. They argue that cutting tax rates will at the same time raise government revenues and lower the budget deficit. They point to the Kennedy-Johnson tax cuts of 1964, which lowered tax rates sharply and were followed by an increase in government revenues in 1965. Ergo, they argue, lower tax rates produce higher revenues.

What is wrong with this reasoning? This argument overlooks the fact that the economy grew from 1964 to 1965. Because people's incomes grew during that period, government revenues also grew, even though tax rates were lower. Careful studies indicate that revenues would have been even higher in 1965 had tax rates not been lowered in 1964. Hence, this analysis fails to hold other things (namely, total incomes) constant.

*Remember to hold other things constant when you are analyzing the impact of a variable on the economic system.*

- *The fallacy of composition.* Sometimes we assume that what holds true for part of a system also holds true for the whole. In economics, however, we often find that the whole is different from the sum of the parts. *When you assume that what is true for the part is also true for the whole, you are committing the fallacy of composition.*

Here are some true statements that might surprise you if you ignore the fallacy of composition: (1) If one farmer has a bumper crop, she has a higher income; if all farmers produce a record crop, farm incomes will fall. (2) If one

person receives a great deal more money, that person will be better off; if everyone receives a great deal more money, the society is likely to be worse off. (3) If a high tariff is put on the product of a particular industry, the producers in that industry are likely to profit; if high tariffs are put on all industries, most producers and consumers will be worse off. (4) When teachers grade on a curve, grades are a "zero-sum game": if one student performs well, he will raise his grade; if all students perform well, the average grade is unchanged.

These examples contain no tricks or magic. Rather, they are the results of systems of interacting individuals. When individuals interact, often the behavior of the aggregate looks very different from the behavior of individual people.

We mention these fallacies only briefly in this introduction. Later, as we introduce the tools of economics, we will reinforce this discussion and provide examples of how inattention to the logic of economics can lead you to false and sometimes costly errors. When you reach the end of this book, you can look back to see why each of these paradoxical examples is true.

## COOL HEADS AT THE SERVICE OF WARM HEARTS

Since the time of Adam Smith, economics has grown from a tiny acorn into a mighty oak. Under its spreading branches we find explanations of the gains from international trade, advice on how to reduce unemployment and inflation, formulas for investing your retirement funds, and even proposals for selling the rights to pollute. Throughout the world, economists are laboring to collect data and improve our understanding of economic trends.

You might well ask, What is the purpose of this army of economists measuring, analyzing, and calculating? The ultimate goal of economic science is to improve the living conditions of people in their everyday lives. Increasing the gross domestic product is not just a numbers game. Higher incomes mean good food, warm houses, and hot water. They mean safe drinking water and inoculations against the perennial plagues of humanity.

They mean even more. Higher incomes allow governments to build schools so that young people can learn to read and develop the skills necessary to operate complex technologies. As incomes rise further, nations can afford deeper scientific inquiries into biology and discover yet other vaccines against yet other diseases. With the resources freed up by economic growth, talented artists have the opportunity to write poetry and compose music, while others have the leisure time to read, to listen, and to perform. Although there is no single pattern of economic development, and the evolution of culture will differ around the world, freedom from hunger, disease, and the elements is a universal human aspiration.

But centuries of human history also show that warm hearts alone will not feed the hungry or heal the sick. Determining the best route to economic progress requires cool heads, ones that objectively weigh the costs and benefits of different approaches, trying as hard as humanly possible to keep the analysis free from the taint of wishful thinking. Sometimes, economic progress will require shutting down an outmoded factory. Sometimes, as when the formerly socialist countries adopted market principles, things get worse before they get better. Choices are particularly difficult in the field of health care, where limited resources literally involve life and death.

You may have heard the saying, "From each according to his ability, to each according to his need." Governments have learned that no society can long operate solely on this utopian principle. To maintain a healthy economy, governments must preserve incentives for people to work and to save. Societies can shelter for a while those who become unemployed, but if social insurance becomes too generous, people come to depend upon the government. If they begin to believe that the government owes them a living, this may dull the sharp edge of enterprise. Just because government programs derive from lofty purposes does not mean that they should be pursued without care and efficiency.

Society must find the right balance between the discipline of the market and the generosity of the welfare state. By using cool heads to inform our warm hearts, economic science can do its part in ensuring a prosperous and just society.

<sup>2</sup> Post hoc is shorthand for *post hoc, ergo propter hoc*. Translated from the Latin, the full expression means "after this, therefore necessarily because of this."

## B. THE THREE PROBLEMS OF ECONOMIC ORGANIZATION

Every human society—whether it is an advanced industrial nation, a centrally planned economy, or an isolated tribal nation—must confront and resolve three fundamental economic problems. Every society must have a way of determining *what* commodities are produced, *how* these goods are made, and *for whom* they are produced.

Indeed, these three fundamental questions of economic organization—*what, how, and for whom*—are as crucial today as they were at the dawn of human civilization. Let's look more closely at them:

- *What* commodities are produced and in what quantities? A society must determine how much of each of the many possible goods and services it will make, and when they will be produced. Will we produce pizzas or shirts today? A few high-quality shirts or many cheap shirts? Will we use scarce resources to produce many consumption goods (like pizzas)? Or will we produce fewer consumption goods and more investment goods (like pizza-making machines), which will boost production and consumption tomorrow.
- *How* are goods produced? A society must determine who will do the production, with what resources, and what production techniques they will use. Who farms and who teaches? Is electricity generated from oil, from coal, or from the sun? With much air pollution or with little?
- *For whom* are goods produced? Who gets to eat the fruit of economic activity? Or, to put it formally, how is the national product divided among different households? Are many people poor and a few rich? Do high incomes go to managers or athletes or workers or landlords? Will society provide minimal consumption to the poor, or must they work if they are to survive?



**Warning:** In thinking about economic questions, we must distinguish questions of fact from questions of fairness. Positive economics describes the facts of an economy, while normative economics involves value judgments.

**Positive economics** deals with questions such as: Why do doctors earn more than janitors? Does free trade raise or lower wages for most Americans? What is the economic impact of raising taxes? Although these are difficult questions to answer, they can all be resolved by reference to analysis and empirical evidence. That puts them in the realm of positive economics.

**Normative economics** involves ethical precepts and norms of fairness. Should poor people be required to work if they are to get government assistance? Should unemployment be raised to ensure that price inflation does not become too rapid? Should the United States penalize China because it is pirating U. S. books and CDs? There are no right or wrong answers to these questions because they involve ethics and values rather than facts. They can be resolved only by political debate and decisions, not by economic analysis alone.

### MARKET, COMMAND, AND MIXED ECONOMIES

What are the different ways that a society can answer the questions of *what, how, and for whom*? Different societies are organized through *alternative economic systems*, and economics studies the various mechanisms that a society can use to allocate its scarce resources.

We generally distinguish two fundamentally different ways of organizing an economy. At one extreme, government makes most economic decisions, with those on top of the hierarchy giving economic commands to those further down the ladder. At the other extreme, decisions are made in markets, where individuals or enterprises voluntarily agree to exchange goods and services, usually through payments of money. Let's briefly examine each of these two forms of economic organization.

In the United States and most democratic countries, most economic questions are solved by the market. Hence their economic systems are called market economies. A **market economy** is one in

which individuals and private firms make the major decisions about production and consumption. A system of prices, of markets, of profits and losses, of incentives and rewards determines *what, how, and for whom*. Firms produce the commodities that yield the highest profits (the *what*) by the techniques of production that are least costly (the *how*). Consumption is determined by individuals' decisions about how to spend the wages and property incomes generated by their labor and property ownership (the *for whom*). The extreme case of a market economy, in which the government keeps its hands off economic decisions, is called a *laissez-faire* economy.

By contrast, a **command economy** is one in which the government makes all important decisions about production and distribution. In a command economy, such as the one which operated in the Soviet Union during most of this century, the government owns most of the means of production (land and capital); it also owns and directs the operations of enterprises in most industries; it is the employer of

most workers and tells them how to do their jobs; and it decides how the output of the society is to be divided among different goods and services. In short, in a command economy, the government answers the major economic questions through its ownership of resources and its power to enforce decisions.

No contemporary society falls completely into either of these polar categories. Rather, all societies are **mixed economies**, with elements of market and command. There has never been a 100 percent market economy (although nineteenth-century England came close).

Today most decisions in the United States are made in the marketplace. But the government plays an important role in overseeing the functioning of the market; governments pass laws that regulate economic life, produce educational and police services, and control pollution. Most societies today operate mixed economies.

## C. SOCIETY'S TECHNOLOGICAL POSSIBILITIES

Every gun that is made, every warship launched, every rocket fired signifies, in the final sense, a theft from those who hunger and are not fed.

President Dwight D. Eisenhower

*what*), select from different techniques of production (the *how*), and decide in the end who will consume the goods (the *for whom*).

### INPUTS AND OUTPUTS

To answer these three questions, every society must make choices about the economy's inputs and outputs. **Inputs** are commodities or services that are used to produce goods and services. An economy uses its existing *technology* to combine inputs to produce outputs. **Outputs** are the various useful goods or services that result from the production process and are either consumed or employed in further production. Consider the "production" of pizza. We



say that the eggs, flour, heat, pizza oven, and chef's skilled labor are the inputs. The tasty pizza is the output. In education, the inputs are the time of the faculty, the laboratories and classrooms, the textbooks, and so on, while the outputs are educated and informed citizens.

Another term for inputs is **factors of production**. These can be classified into three broad categories: land, labor, and capital.

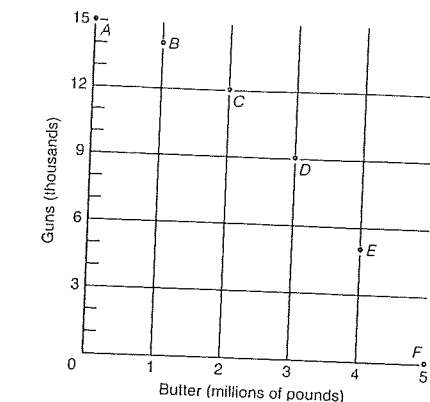
- **Land**—or, more generally, natural resources—represents the gift of nature to our productive processes. It consists of the land used for farming or for underpinning houses, factories, and roads; the energy resources that fuel our cars and heat our homes; and the nonenergy resources like copper and iron ore and sand. In today's congested world, we must broaden the scope of natural resources to include our environmental resources, such as clean air and drinkable water.
- **Labor** consists of the human time spent in production—working in automobile factories, tilling the land, teaching school, or baking pizzas. Thousands of occupations and tasks, at all skill levels, are performed by labor. It is at once the most familiar and the most crucial input for an advanced industrial economy.
- **Capital** resources form the durable goods of an economy, produced in order to produce yet other goods. Capital goods include machines, roads, computers, hammers, trucks, steel mills, automobiles, washing machines, and buildings. As we will later see, the accumulation of specialized capital goods is essential to the task of economic development.

Restating the three economic problems in terms of inputs and outputs, a society must decide (1) *what* outputs to produce, and in what quantity; (2) *how* to produce them—that is, by what techniques inputs should be combined to produce the desired outputs; and (3) *for whom* the outputs should be produced and distributed.

### THE PRODUCTION-POSSIBILITY FRONTIER

Societies cannot have everything they want. They are limited by the resources and the technology available to them. Take defense spending as an example.

Countries are always being forced to decide how much of their limited resources goes to their military and how much goes into other activities (such as new factories or education). Some countries, like Japan, allocate about 1 percent of their national output to their military. The United States spends 5 percent of its national output on defense, while a fortress economy like North Korea spends up to 20 percent of its national output on the military. The more output that goes for defense, the less there is available for consumption and investment.



**FIGURE 1-1.** The Production Possibilities in a Graph  
This figure displays the alternative combinations of production pairs from Table 1-1.

Alternative Production Possibilities		
Possibilities	Butter (millions of pounds)	Guns (thousands)
A	0	15
B	1	14
C	2	12
D	3	9
E	4	5
F	5	0

**TABLE 1-1.** Limitation of Scarce Resources Implies the Guns-Butter Tradeoff

Scarce inputs and technology imply that the production of guns and butter is limited. As we go from A to B . . . to F, we are transferring labor, machines, and land from the gun industry to butter and can thereby increase butter production.

Let us dramatize this choice by considering an economy which produces only two economic goods, guns and butter. The guns, of course, represent military spending, and the butter stands for civilian spending. Suppose that our economy decides to throw all its energy into producing the civilian good, butter. There is a maximum amount of butter that can be produced per year. The maximal amount of butter depends on the quantity and quality of the economy's resources and the productive efficiency with which they are used. Suppose 5 million pounds of butter is the maximum amount that can be produced with the existing technology and resources.

At the other extreme, imagine that all resources are instead devoted to the production of guns. Again, because of resource limitations, the economy can produce only a limited quantity of guns. For this example, assume that the economy can produce 15,000 guns of a certain kind if no butter is produced.

These are two extreme possibilities. In between are many others. If we are willing to give up some butter, we can have some guns. If we are willing to give up still more butter, we can have still more guns.

A schedule of possibilities is given in Table 1-1. Combination F shows the extreme where all butter and no guns are produced, while A depicts the opposite extreme where all resources go into guns. In between—at E, D, C, and B—increasing amounts of butter are given up in return for more guns.

How, you might well ask, can a nation turn butter into guns? Butter is transformed into guns not physically but by the alchemy of diverting the economy's resources from one use to the other.

We can represent our economy's production possibilities more vividly in the diagram shown in Figure 1-1. This diagram measures butter along the horizontal axis and guns along the vertical one. (If you are unsure about the different kinds of graphs or about how to turn a table into a graph, consult the appendix to this chapter.) We plot point F in Figure 1-1 from the data in Table 1-1 by counting over 5 butter units to the right on the horizontal axis and going up 0 gun units on the vertical axis; similarly, E is obtained by going 4 butter units to the right and going up 5 gun units; and finally, we get A by going over 0 butter units and up 15 gun units.

If we fill in all intermediate positions with new rust-colored points representing all the different combinations of guns and butter, we have the con-

tinuous rust curve shown as the *production-possibility frontier*, or *PPF*, in Figure 1-2.

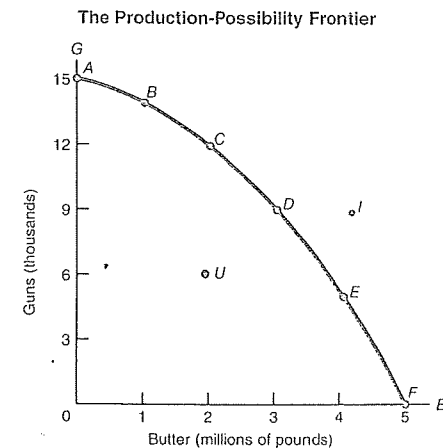
The production-possibility frontier (or *PPF*) shows the maximum amounts of production that can be obtained by an economy, given its technological knowledge and quantity of inputs available. The *PPF* represents the menu of goods and services available to society.

### Putting the PPF to Work

The *PPF* in Figure 1-2 was drawn for guns and butter, but the same analysis applies to any choice of goods. Thus the more resources the government uses to build public goods like highways, the less will be left to produce private goods like houses; the more we choose to consume of food, the less we can consume of clothing; the more society decides to consume today, the less can be its production of capital goods to turn out more consumption goods in the future.

**FIGURE 1-2.** A Smooth Curve Connects the Plotted Points of the Numerical Production Possibilities

This frontier shows the schedule along which society can choose to substitute guns for butter. It assumes a given state of technology and a given quantity of inputs. Points outside the frontier (such as point I) are infeasible or unattainable. Any point inside the curve, such as U, indicates that the economy has not attained productive efficiency, as occurs when unemployment is high during severe business cycles.



The graphs of Figures 1-3 to 1-5 present some important applications of *PPFs*. Figure 1-3 shows the effect of economic growth on a country's production possibilities. An increase in inputs, or improved technological knowledge, enables a country to produce more of all goods and services, thus shifting out the *PPF*. The figure also illustrates that poor countries must devote most of their resources to food production while rich countries can afford more luxuries as productive potential increases.

Figure 1-4 depicts the electorate's choice between private goods (bought at a price) and public goods (paid for by taxes). Poor countries can afford little of public goods like public health and scientific research. But with economic growth, public goods as well as environmental quality take a larger share of output.

Figure 1-5 portrays an economy's choice between (a) current-consumption goods and (b) investment or capital goods (machines, factories, etc.). By sacrificing current consumption and producing more capital goods, a nation's economy can grow more

rapidly, making possible more of *both* goods (consumption and capital) in the future.

The production-possibility frontier can also show the crucial economic notion of tradeoffs. To take one important case, time is scarce. People have limited time available to pursue different activities. For example, as a student, you might have 10 hours to study for upcoming tests in economics and history. If you study only history, you will get a high grade there and do poorly in economics, and vice versa. Treating the grades on the two tests as the "output" of your studying, sketch out the *PPF* for grades, given your limited time resources. Alternatively, if the two student commodities are "grades" and "fun," how would you draw this *PPF*? Where are you on this frontier? Where are your lazy friends?

**Opportunity Costs**

Life is full of choices. Because resources are scarce, we must always consider how to spend our limited incomes or time. When you decide whether

FIGURE 1-3. Economic Growth Shifts the *PPF* Outward

(a) Before development, the nation is poor. It must devote almost all its resources to food and enjoys few comforts. (b) Growth of inputs and technological change shift out the *PPF*. With economic growth, a nation moves from *A* to *B*, expanding its food consumption little compared with its increased consumption of luxuries. It can increase its consumption of both goods if it desires.

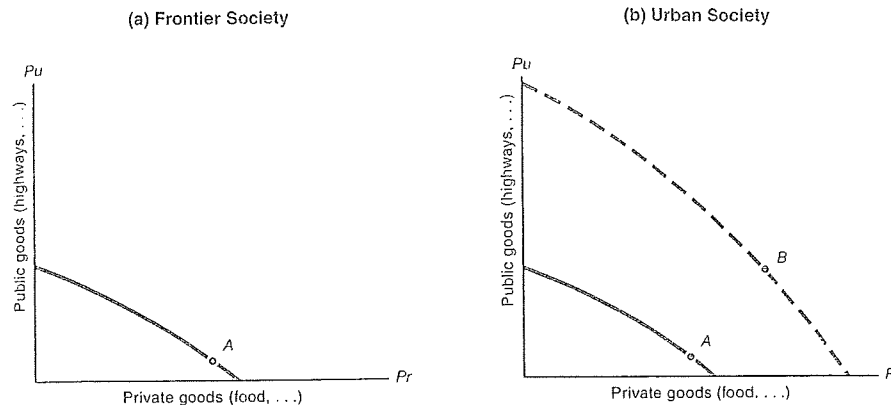
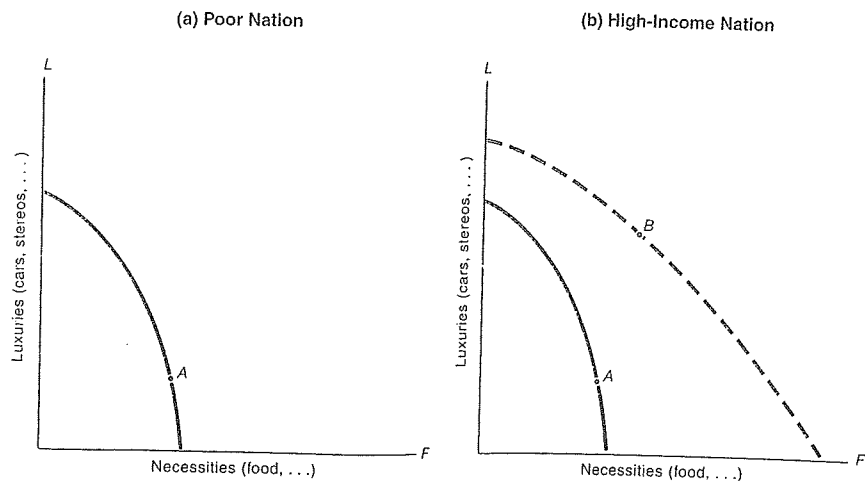


FIGURE 1-4. Economies Must Choose Between Public Goods and Private Goods

(a) A poor frontier society lives from hand to mouth, with little left over for public goods like superhighways or public health. (b) A modern urbanized economy is more prosperous and chooses to spend more of its higher income on public goods and government services (roads, environmental protection, and education).

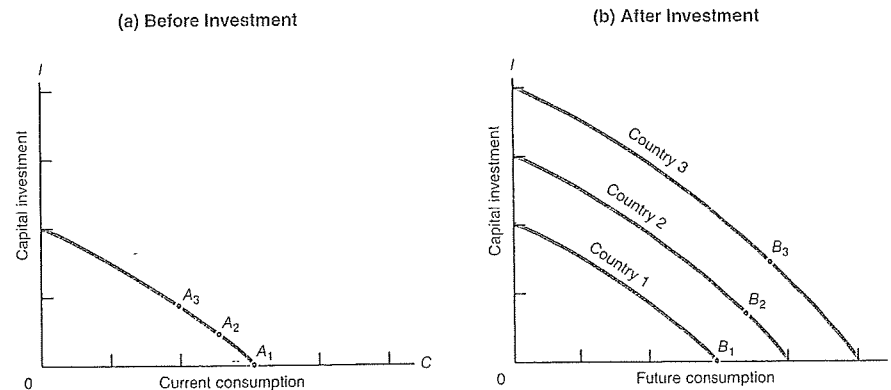


FIGURE 1-5. Investment for Future Consumption Requires Sacrificing Current Consumption

A nation can produce either current-consumption goods (pizzas and concerts) or investment goods (pizza ovens and concert halls). (a) Three countries start out even. They have the same *PPF*, shown in the panel on the left, but they have different investment rates. Country 1 does no investment for the future and remains at *A*<sub>1</sub> (merely replacing machines). Country 2 abstains modestly from consumption and invests at *A*<sub>2</sub>. Country 3 sacrifices a great deal of current consumption and invests heavily. (b) In the following years, countries that invest more heavily forge ahead. Thus thrifty Country 3 has shifted its *PPF* far out, while Country 1's *PPF* has not moved at all. Countries that invest heavily have higher investment and consumption in the future.

to study economics, buy a car, or go to college, in each case you must consider how much the decision will cost in terms of forgone opportunities. The cost of the forgone alternative is the *opportunity cost* of the decision.

The concept of opportunity cost can be illustrated using the *PPF*. Examine the frontier in Figure 1-2, which shows the tradeoff between guns and butter. Suppose the country decides to increase its gun purchases from 9000 guns at *D* to 12,000 units at *C*. What is the opportunity cost of this decision? You might calculate the cost in dollar terms. But in economics we always need to "pierce the veil" of money to examine the *real* impacts of alternative decisions. On the most fundamental level, the opportunity cost of moving from *D* to *C* is the butter that must be given up to produce the extra guns. In this example, the opportunity cost of the 3000 extra guns is 1 million pounds of butter forgone.

Or consider the real-world example of the cost of opening a gold mine near Yellowstone National Park. The developer argues that the mine will have but a small cost because the fees for Yellowstone will hardly be affected. But an economist would answer that the dollar receipts are too narrow a measure of cost. We should ask whether the unique and precious qualities of Yellowstone might be degraded if a gold mine were to operate, with the accompanying noise, water and air pollution, and degradation of amenity value for visitors. While the dollar cost might be small, the opportunity cost in lost wilderness values might be large indeed.

In a world of scarcity, choosing one thing means giving up something else. The opportunity cost of a decision is the value of the good or service forgone.

### Efficiency

All of our explanations up to now have implicitly assumed that the economy is producing efficiently—that is, it is on, rather than inside, the production-possibility frontier. Remember that efficiency means that the economy's resources are being used as effectively as possible to satisfy people's needs and desires. One important aspect of overall economic efficiency is *productive efficiency*. Productive efficiency occurs when an economy cannot produce more of one good without producing less of another good; this implies that the economy is on its production-possibility frontier.

Let's see why productive efficiency requires being on the *PPF*. Start in the situation shown by point *D* in Figure 1-2. Say the market calls for another million pounds of butter. If we ignored the constraint shown by the *PPF*, we might think it possible to produce more butter without reducing gun production, say, by moving to point *I*, to the right of point *D*. But point *I* is outside the frontier, in the "infeasible" region. Starting from *D*, we cannot get more butter without giving up some guns. Hence point *D* displays productive efficiency, while point *I* is infeasible.

Productive efficiency occurs when society cannot increase the output of one good without cutting back on another good. Productive efficiency means that an economy is on its production-possibility frontier.

One further point about productive efficiency can be illustrated using the *PPF*: Being on the *PPF* means that producing more of one good inevitably requires sacrificing other goods. When we produce more guns, we are substituting guns for butter. Substitution is the law of life in a full-employment economy, and the production-possibility frontier depicts the menu of society's choices.

### Unemployed Resources and Inefficiency

Even casual observers of modern life know that society has unemployed resources in the form of idle workers, idle factories, and idled land. When there are unemployed resources, the economy is not on its production-possibility frontier at all but, rather, somewhere *inside* it. In Figure 1-2, point *U* represents a point inside the *PPF*; at *U*, society is producing only 2 units of butter and 6 units of guns. Some resources are unemployed, and by putting them to work, we can increase our output of all goods; the economy can move from *U* to *D*, producing more butter and more guns and improving the economy's efficiency. We can have our guns and eat more butter too.

One source of inefficiency occurs during business cycles. From 1929 to 1933, in the Great Depression, the total output produced in the United States declined by almost 25 percent. This occurred not because the *PPF* shifted in but because various shocks reduced spending and pushed the economy inside its *PPF*. Then the buildup for World War II expanded demand, and output grew rapidly as the economy pushed back to the *PPF*. Similar forces were at work in much of the industrial world between 1990 and 1996 as macroeconomic factors pushed Europe and Japan inside their *PPFs*.

Business-cycle depressions are not the only reason why an economy might be inside its *PPF*. An economy might suffer from inefficiency or dislocations because of strikes, political changes, or revolution. Such a case occurred during the early 1990s in countries that threw off their socialist planning systems and adopted free markets. Because of the disruptive changes, output fell and unemployment rose as firms responded to changing markets and the new rules of capitalism. No period of history saw such sustained declines in output as the economies in transition experienced after 1990.

However, economists expect that this "real business cycle" will be but a temporary setback. Already, those economies that have made the most thorough reforms—such as Poland or the Czech Republic—have turned the corner and are beginning to recover. Their *PPFs* are once again shifting outward, and their incomes are likely to surpass the incomes of countries like Ukraine or Belarus, which have been reluctant reformers.

As we close this introductory chapter, let us return briefly to our opening theme, Why study economics? Perhaps the best answer to the question is a

famous one given by Keynes in the final lines of *The General Theory of Employment, Interest and Money*:

The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back. I am sure that the power of vested interests is vastly exaggerated compared with the gradual encroachment of ideas. Not, indeed, immediately, but after a certain interval; for in the field of economic and political philosophy there are not many who are influenced by new theories after they are twenty-five or thirty years of age, so that the ideas which civil servants and politicians and even agitators apply to current events are not likely to be the newest. But, soon or late, it is ideas, not vested interests, which are dangerous for good or evil.

To understand how the powerful ideas of economics apply to the central issues of human societies—ultimately, this is why we study economics.

## SUMMARY

### A. Introduction

1. What is economics? Economics is the study of how societies choose to use scarce productive resources that have alternative uses, to produce commodities of various kinds, and to distribute them among different groups. We study economics to understand not only the world we live in but also the many potential worlds that reformers are constantly proposing to us.
2. Goods are scarce because people desire much more than the economy can produce. Economic goods are scarce, not free, and society must choose among the limited goods that can be produced with its available resources.
3. Microeconomics is concerned with the behavior of individual entities such as markets, firms, and households. Macroeconomics views the performance of the economy as a whole. Through all economics, beware of the fallacy of composition and the post hoc fallacy, and remember to keep other things constant.

### B. The Three Problems of Economic Organization

4. Every society must answer three fundamental questions: *what, how, and for whom?* What kinds and quantities are produced among the wide range of all possible goods and services? *How* are resources used in producing these goods? And *for whom* are the goods produced (that is, what is the distribution of income and consumption among different individuals and classes)?
5. Societies answer these questions in different ways. The most important forms of economic organization today are *command* and *market*. The command economy is directed by centralized government control; a market economy is guided by an informal system of prices and profits in which most decisions are made by private individuals and firms. All societies have different combinations of command and market; all societies are mixed economies.

## C. Society's Technological Possibilities

6. With given resources and technology, the production choices between two goods such as butter and guns can be summarized in the *production-possibility frontier (PPF)*. The *PPF* shows how the production of one good (such as guns) is traded off against the production of another good (such as butter). In a world of scarcity, choosing one thing means giving up something else. The value of the good or service forgone is its opportunity cost.
7. Productive efficiency occurs when production of one good cannot be increased without curtailing production of another good. This is illustrated by the *PPF*. When an economy is on its *PPF*, it can produce more of one good only by producing less of another good.
8. Production-possibility frontiers illustrate many basic economic processes: how economic growth pushes out the frontier; how a nation chooses relatively less food and other necessities as it develops, how a country chooses between private goods and public goods, and how societies choose between consumption goods and capital goods that enhance future consumption.
9. Societies are sometimes inside their production-possibility frontier. When unemployment is high or when revolution or inefficient government regulations hamper economic activity, the economy is inefficient and operates inside its *PPF*.

## CONCEPTS FOR REVIEW

Fundamental Concepts	Key Problems of Economic Organization	Choice Among Production Possibilities
scarcity and efficiency	<i>what, how, and for whom</i>	inputs and outputs
free goods vs. economic goods	alternative economic systems: command vs. market	production-possibility frontier ( <i>PPF</i> )
macroeconomics and microeconomics	laissez-faire	productive efficiency and inefficiency
normative vs. positive economics	mixed economies	opportunity cost
fallacy of composition, post hoc fallacy		
"keep other things constant"		
cool heads, warm hearts		

## QUESTIONS FOR DISCUSSION

1. The great English economist Alfred Marshall (1842-1924) invented many of the tools of modern economics, but he was most concerned with the application of these tools to the problems of society. In his inaugural lecture, Marshall wrote:
 

It will be my most cherished ambition to increase the numbers who Cambridge University sends out into the world with cool heads but warm hearts, willing to give some of their best powers to grappling with the social suffering around them; resolved not to rest content till they have opened up to all the material means of a refined and noble life. (*Memorials of Alfred Marshall*, A. C. Pigou, ed. (MacMillan and Co., London, 1925), p. 174 with minor edits.)

Explain how the cool head might provide the essential positive economic analysis to implement the normative value judgments of the warm heart. Do you agree with Marshall's view of the role of the teacher? Do you accept his challenge?
2. The late George Stigler, an eminent conservative Chicago economist, wrote as follows:
 

No thoroughly egalitarian society has ever been able to construct or maintain an efficient and progressive economic system. It has been universal experience that some system of differential rewards is necessary to stimulate workers. [*The Theory of Price*, 3d ed. (Macmillan, New York, 1966), p. 19.]

Are these statements positive or normative economics? Discuss Stigler's view in light of Alfred Marshall's quote in Question 1. Is there a conflict?
3. Define each of the following terms carefully and give examples: *PPF*, scarcity, productive efficiency, inputs, outputs.
4. In deciding how to use your scarce time and income, determine what the opportunity cost would be for you of going to a movie before your economics exam. What is the opportunity cost of buying a car?

5. Assume that Econoland produces haircuts and shirts with inputs of labor. Econoland has 1000 hours of labor available. A haircut requires  $\frac{1}{2}$  hour of labor, while a shirt requires 5 hours of labor. Construct Econoland's production-possibility frontier.
6. Assume that scientific inventions have doubled the productivity of society's resources in butter production without altering the productivity of gun manufacture. Redraw society's production-possibility frontier in Figure 1-2 to illustrate the new trade-off.
7. Many scientists believe that we are rapidly depleting our natural resources. Assume that there are only two inputs (labor and natural resources) producing two goods (concerts and gasoline) with no improvement in society's technology over time. Show what would happen to the *PPF* over time as natural resources are exhausted. How would invention and technological improvement modify your answer? On the basis of this example, explain why it is said that "economic growth is a race between depletion and invention."
8. Say that Diligent has 10 hours to study for upcoming tests in economics and history. Draw a *PPF* for grades, given Diligent's limited time resources. If Diligent studies inefficiently by listening to loud music and chatting with friends, where will Diligent's grade "output" be relative to the *PPF*? What will happen to the grade *PPF* if Diligent increases study inputs from 10 hours to 15 hours?

# APPENDIX 1

## HOW TO READ GRAPHS

A picture is worth a thousand words.

Chinese Proverb

Before you can master economics, you must have a working knowledge of graphs. They are as indispensable to the economist as a hammer is to a carpenter. So if you are not familiar with the use of diagrams, invest some time in learning how to read them—it will be time well spent.

What is a *graph*? It is a diagram showing how two or more sets of data or variables are related to one another. Graphs are essential in economics because, among other reasons, they allow us to analyze economic concepts and examine historical trends.

You will encounter many different kinds of graphs in this book. Some graphs show how variables change over time (see, for example, the inside of the front cover); other graphs show the relationship between different variables (such as the example we will turn to in a moment). Each graph in the book will help you understand an important economic law or trend.

### THE PRODUCTION-POSSIBILITY FRONTIER

The first graph that you encountered in this text was the production-possibility frontier. As we showed in the body of this chapter, the production-possibility frontier, or *PPF*, represents the maximum amounts of a pair of goods or services that can both be produced with an economy's given resources assuming that all resources are fully employed.

Let's follow up an important application, that of choosing between food and machines. The essential data for the *PPF* are shown in Table 1A-1, which is very much like the example in Table 1-1. Recall that each of the possibilities gives one level of food production and one level of machine production. As the quantity of food produced increases, the production of machines falls. Thus, if the economy produced 10 units of food, it could produce a maximum of 140 machines, but when the output of food is 20 units, only 120 machines can be manufactured.

### Production-Possibility Graph

The data shown in Table 1A-1 can also be presented as a graph. To construct the graph, we represent each of the table's pairs of data by a single point on a two-dimensional plane. Figure 1A-1 displays in a graph the relationship between the food and machines outputs shown in Table 1A-1. Each pair of numbers is represented by a single point in the graph. Thus the row labeled "A" in Table 1A-1 is graphed as point A in Figure 1A-1, and similarly for points B, C, and so on.

In Figure 1A-1, the vertical line at left and the horizontal line at bottom correspond to the two variables—food and machines. A variable is an item of interest that can be defined and measured and that takes on different values at different times or places. Important variables studied in economics are prices,

Alternative Production Possibilities		
Possibilities	Food	Machines
A	0	150
B	10	140
C	20	120
D	30	90
E	40	50
F	50	0

TABLE 1A-1. The Pairs of Possible Outputs of Food and Machines

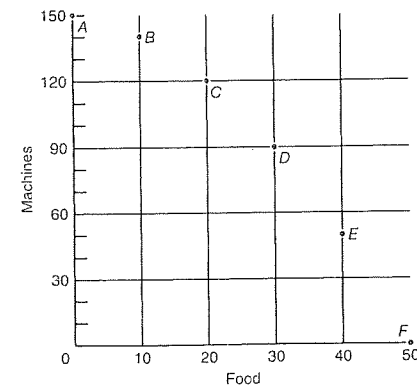
The table shows six potential pairs of outputs that can be produced with the given resources of a country. The country can choose one of the six possible combinations.

quantities, hours of work, acres of land, dollars of income, and so forth.

The horizontal line on a graph is referred to as the *horizontal axis*, or sometimes the *X axis*. In Figure 1A-1, food output is measured on the black horizontal axis. The vertical line is known as the *vertical axis*, or *Y axis*. In Figure 1A-1, it measures the number of machines produced. Point A on the vertical axis stands for 150 machines. The lower left-hand corner where the two axes meet is called the *origin*. It signifies 0 food and 0 machines in Figure 1A-1.

FIGURE 1A-1. Six Possible Pairs of Food-Machines Production Levels

This figure shows the data of Table 1A-1 in graphical form. The data are exactly the same, but the visual display presents the data more vividly.



*A Smooth Curve.* In most economic relationships, variables can change by small amounts as well as by the large increments shown in Figure 1A-1. We therefore generally draw economic relationships as continuous curves. Figure 1A-2 shows the *PPF* as a smooth curve in which the points from A to F have been connected.

By comparing Table 1A-1 and Figure 1A-2, we can see why graphs are so often used in economics. The smooth *PPF* reflects the menu of choice for the economy. It is a visual device for showing what types of goods are available in what quantities. Your eye can see at a glance the relationship between machine and food production.

### Slopes and Lines

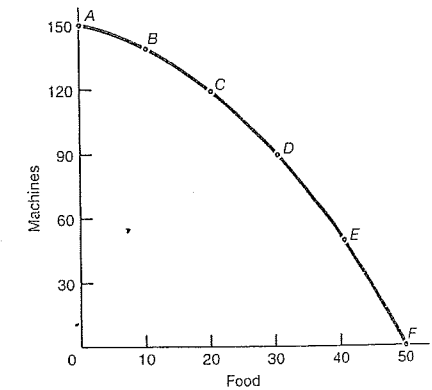
Figure 1A-2 depicts the relationship between maximum food and machine production. One important way to describe the relationship between two variables is by the slope of the graph line.

The *slope* of a line represents the change in one variable that occurs when another variable changes. More precisely, it is the change in the variable Y on the vertical axis per unit change in the variable X on the horizontal axis. For example, in Figure 1A-2,

FIGURE 1A-2.

A smooth curve fills in between the plotted pairs of points, creating the production-possibility frontier.

### The Production-Possibility Frontier



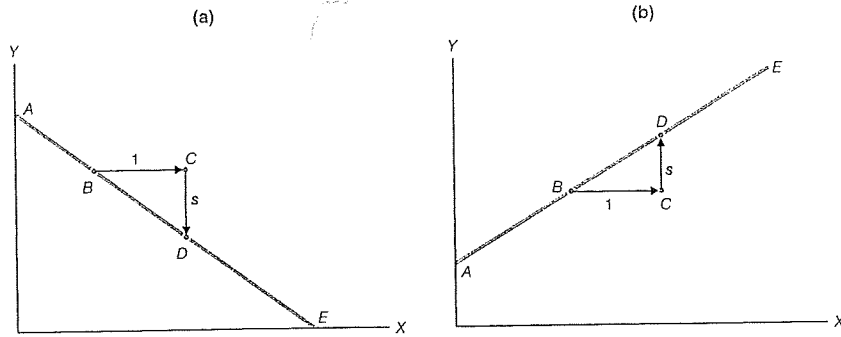


FIGURE 1A-3. Calculation of Slope for Straight Lines

It is easy to calculate slopes for straight lines as "rise over run." Thus in both (a) and (b), the numerical value of the slope is rise/run =  $CD/BC = s/1 = s$ . Note that in (a),  $CD$  is negative, indicating a negative slope, or an inverse relationship between  $X$  and  $Y$ .

say that food production rose from 25 to 26 units. The slope of the curve in Figure 1A-2 tells us the precise change in machinery production that would take place. *Slope is an exact numerical measure of the relationship between the change in  $Y$  and the change in  $X$ .*

We can use Figure 1A-3 to show how to measure the slope of a straight line, say, the slope of the line between points  $B$  and  $D$ . Think of the movement from  $B$  to  $D$  as occurring in two stages. First comes a horizontal movement from  $B$  to  $C$  indicating a 1-unit increase in the  $X$  value (with no change in  $Y$ ). Second comes a compensating vertical movement up or down, shown as  $s$  in Figure 1A-3. (The movement of 1 horizontal unit is purely for convenience. The formula holds for movements of any size.) The two-step movement brings us from one point to another on the straight line.

Because the  $BC$  movement is a 1-unit increase in  $X$ , the length of  $CD$  (shown as  $s$  in Figure 1A-3) indicates the change in  $Y$  per unit change in  $X$ . On a graph, this change is called the *slope* of the line  $ABDE$ .

Often slope is defined as "the rise over the run." The *rise* is the vertical distance; in Figure 1A-3, the rise is the distance from  $C$  to  $D$ . The *run* is the horizontal distance; it is  $BC$  in Figure 1A-3. The rise over the run in this instance would be  $CD$  over  $BC$ . Thus the slope of  $BD$  is  $CD/BC$ .

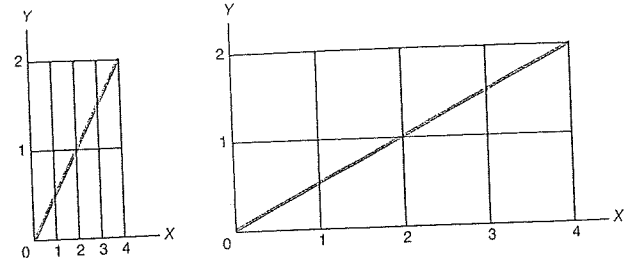
The key points to understand about slopes are the following:

1. The slope can be expressed as a number. It measures the change in  $Y$  per unit change in  $X$ , or "the rise over the run."
2. If the line is straight, its slope is constant everywhere.
3. The slope of the line indicates whether the relationship between  $X$  and  $Y$  is direct or inverse. *Direct relationships* occur when variables move in the same direction (that is, they increase or decrease together); *inverse relationships* occur when the variables move in opposite directions (that is, one increases as the other decreases).

Thus a negative slope indicates the  $X$ - $Y$  relation is inverse, as it is in Figure 1A-3(a). Why? Because an increase in  $X$  calls for a decrease in  $Y$ .

People sometimes confuse slope with the appearance of steepness. This conclusion is often valid—but not always. The steepness depends on the scale of the graph. Panels (a) and (b) in Figure 1A-4 both portray exactly the same relationship. But in (b), the horizontal scale has been stretched out compared with (a). If you calculate carefully, you will see that the slopes are exactly the same (and are equal to  $1/2$ ).

FIGURE 1A-4. Steepness Is Not the Same as Slope  
Note that even though (a) looks steeper than (b), they display the same relationship. Both have slope of  $1/2$ , but the  $X$  axis has been stretched out in (b).



**Slope of a Curved Line.** A curved or nonlinear line is one whose slope changes. Sometimes we want to know the slope *at a given point*, such as point  $B$  in Figure 1A-5. We see that the slope at point  $B$  is positive, but it is not obvious exactly how to calculate the slope.

To find the slope of a smooth curved line at a point, we calculate the slope of the straight line that just touches, but does not cross, the curved line at the point in question. Such a straight line is called a *tangent* to the curved line. Put differently, the slope of a curved line at a point is given by the slope of the

straight line that is tangent to the curve at the given point. Once we draw the tangent line, we find the slope of the tangent line with the usual right-angle measuring technique discussed earlier.

To find the slope at point  $B$  in Figure 1A-5, we simply construct straight line  $FBJ$  as a tangent to the curved line at point  $B$ . We then calculate the slope of the tangent as  $NJ/MN$ . Similarly, the tangent line  $GH$  gives the slope of the curved line at point  $D$ .

Another example of the slope of a nonlinear line is shown in Figure 1A-6. This shows a typical microeconomics curve, which is dome shaped and has a

FIGURE 1A-5. Tangent as Slope of Curved Line

By constructing a tangent line, we can calculate the slope of a curved line at a given point. Thus the line  $FBJ$  is tangent to smooth curve  $ABDE$  at point  $B$ . The slope at  $B$  is calculated as the slope of the tangent line, i.e., as  $NJ/MN$ .

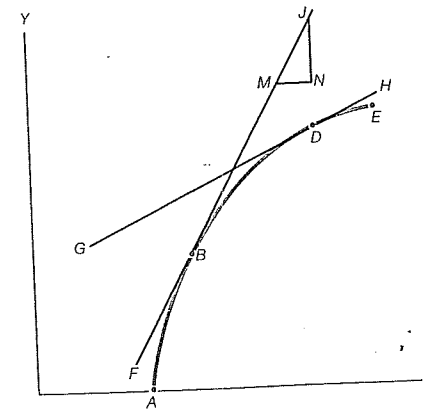
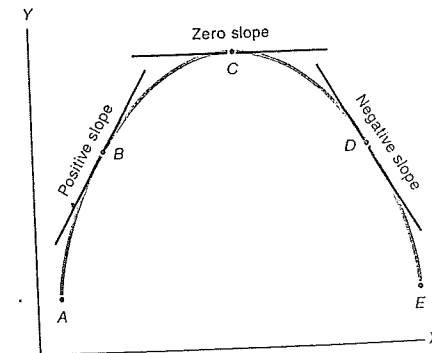


FIGURE 1A-6. Different Slopes of Nonlinear Curves

Many curves in economics first rise, then reach a maximum, then fall. In the rising region from  $A$  to  $C$  the slope is positive (see point  $B$ ). In the falling region from  $C$  to  $E$  the slope is negative (see point  $D$ ). At the curve's maximum, point  $C$ , the slope is zero. (What about a U-shaped curve? What is the slope at its minimum?)



maximum at point *C*. We can use our method of slopes-as-tangents to see that the slope of the curve is always positive in the region where the curve is rising and negative in the falling region. At the peak or maximum of the curve, the slope is exactly zero. A zero slope signifies that a tiny movement in the *X* variable around the maximum has no effect on the value of the *Y* variable.<sup>1</sup>

### Shifts of and Movement Along Curves

An important distinction in economics is that between shifts of curves and movement along curves. We can examine this distinction in Figure 1A-7. The inner production-possibility frontier reproduces the *PPF* in Figure 1A-2. At point *D* society chooses to produce 30 units of food and 90 units of machines. If society decides to consume more food with a given *PPF*, then it can move along the *PPF* to point *E*. This movement along the curve represents choosing more food and fewer machines.

Suppose that the inner *PPF* represents society's production possibilities for 1990. If we return to the same country in 2000, we see that the *PPF* has shifted from the inner 1990 curve to the outer 2000 curve. (This shift would occur because of technological change or because of an increase in labor or capital available.) In the later year, society might choose to be at point *G*, with more food and machines than at either *D* or *E*.

The point of this example is that in the first case (moving from *D* to *E*) we see movement along the curve, while in the second case (from *D* to *G*) we see a shift of the curve.

### Some Special Graphs

The *PPF* is one of the most important graphs of economics, one depicting the relationship between two economic variables (such as food and machines or guns and butter). You will encounter other types of graphs in the pages that follow.

<sup>1</sup> For those who enjoy algebra, the slope of a line can be remembered as follows: A straight line (or linear relationship) is written as  $Y = a + bX$ . For this line, the slope of the curve is  $b$ , which measures the change in  $Y$  per unit change in  $X$ .

A curved line or nonlinear relationship is one involving terms other than constants and the  $X$  term. An example of a nonlinear relationship is the quadratic equation  $Y = (X - 2)^2$ . You can easily verify that the slope of this equation is negative for  $X < 2$  and positive for  $X > 2$ . What is its slope for  $X = 2$ ?

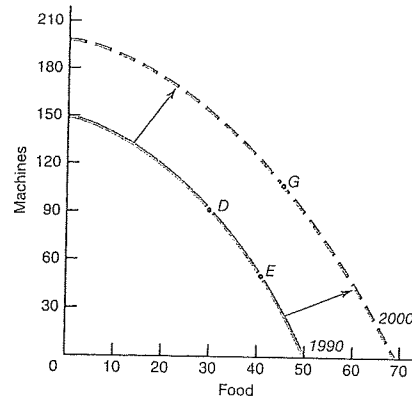


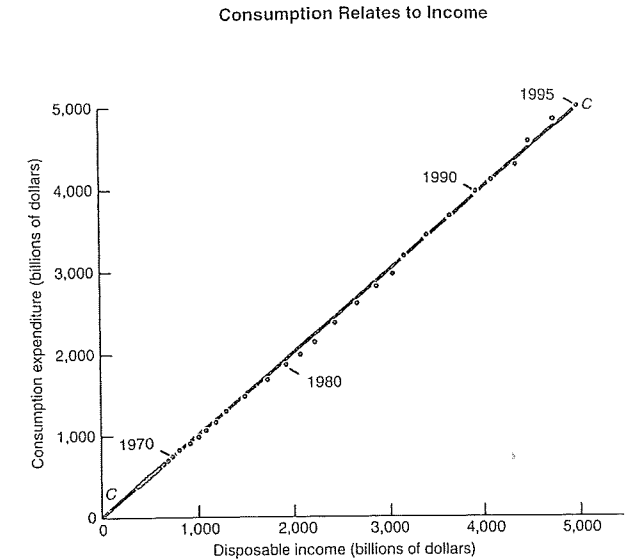
FIGURE 1A-7. Shift of Curves Versus Movement Along Curves

In using graphs, it is essential to distinguish *movement along* a curve (such as from high-investment *D* to low-investment *E*) from a *shift* of a curve (as from *D* in an early year to *G* in a later year).

**Time Series.** Some graphs show how a particular variable has changed over time. Look, for example, at the graphs on the inside front cover of this text. The left-hand graph shows a time series, since the American Revolution, of a significant macroeconomic variable, the ratio of the federal government debt to total gross domestic product, or *GDP*—this ratio is the *debt-GDP ratio*. Time-series graphs have time on the horizontal axis and variables of interest (in this case, the debt-GDP ratio) on the vertical axis. This graph shows that the debt-GDP ratio has risen sharply during every major war.

**Scatter Diagrams.** Sometimes individual pairs of points will be plotted, as in Figure 1A-1. Often, combinations of variables for different years will be plotted. An important example of a scatter diagram from macroeconomics is the *consumption function*, shown in Figure 1A-8. This scatter diagram shows the nation's total disposable income on the horizontal axis and total consumption (spending by households on goods like food, clothing, and housing) on the vertical axis. Note that consumption is very closely linked to income, a vital clue for understanding changes in national income and output.

FIGURE 1A-8. Scatter Diagram of Consumption Function Shows Important Macroeconomic Law Observed points of consumption spending fall near the *CC* line, which displays average behavior over time. Thus, the rust-colored point for 1990 is so near the *CC* line that it could have been quite accurately predicted from that line even before the year was over. Scatter diagrams allow us to see how close the relationship is between two variables.



**Diagrams with More Than One Curve.** Often it is useful to put two curves in the same graph, thus obtaining a "multicurve diagram." The most important example is the *supply-and-demand diagram*, shown in Chapter 3 (see page 52). Such graphs can show two different relationships simultaneously, such as how consumer purchases respond to price (demand) and how business production responds to

price (supply). By graphing the two relationships together, we can determine the price and quantity that will hold in a market.

This concludes our brief excursion into graphs. Once you have mastered these basic principles, the graphs in this book, and in other areas, can be both fun and instructive.

## SUMMARY TO APPENDIX

1. Graphs are an essential tool of modern economics. They provide a convenient presentation of data or of the relationships among variables.
2. The important points to understand about a graph are: What is on each of two axes (horizontal and vertical)? What are the units on each axis? What kind of relationship is depicted in the curve or curves shown in the graph?
3. The relationship between the two variables in a curve is given by its slope. The slope is defined as "the rise over the run," or the increase in  $Y$  per unit increase in

- $X$ . If it is upward- (or positively) sloping, the two variables are directly related; they move upward or downward together. If the curve has a downward (or negative) slope, the two variables are inversely related.
4. In addition, we sometimes see special types of graphs: time series, which show how a particular variable moves over time; scatter diagrams, which show observations on a pair of variables; and multicurve diagrams, which show two or more relationships in a single graph.

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**CONCEPTS FOR REVIEW**


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**Elements of Graphs**  
horizontal, or  $X$ , axis  
vertical, or  $Y$ , axis

slope as "rise over run"  
slope (negative, positive, zero)  
tangent as slope of curved line

**Examples of Graphs**  
time-series graphs  
scatter diagrams  
multicurve graphs

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**QUESTIONS FOR DISCUSSION**


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1. Consider the following problem: After your 8 hours a day of sleep, you have 16 hours a day to divide between leisure and study. Let leisure hours be the  $X$  variable and study hours be the  $Y$  variable. Plot the straight-line relationship between all combinations of  $X$  and  $Y$  on a blank piece of graph paper. Be careful to label the axes and mark the origin.
2. In question 1, what is the slope of the line showing the relationship between study and leisure hours? Is it a straight line?
3. Let us say that you absolutely need 6 hours of leisure per day, no more, no less. On the graph, mark the point that corresponds to 6 hours of leisure. Now consider a *movement along the curve*: Assume that you decide that you need only 4 hours of leisure a day. Plot the new point.
4. Next show a *shift of the curve*: You find that you need less sleep, so you have 18 hours a day to devote to leisure and study. Draw the new (shifted) curve.
5. Keep a record of your leisure and study for a week. Plot a time-series graph of the hours of leisure and study each day. Next plot a scatter diagram of hours of leisure and hours of study. Do you see any relationship between the two variables?

## CHAPTER 2

### THE SHIFTING BOUNDARY BETWEEN MARKETS AND GOVERNMENT

The important thing for Government is not to do things which individuals are doing already, and to do them a little better or a little worse; but to do those things which at present are not done at all.

*John Maynard Keynes, "The End of Laissez Faire" (1926)*

One of the principal problems of political economy—emphasized by the opening quote from Keynes—is deciding on the appropriate boundary between state and market. We can better understand the issues if we examine how the boundaries evolved to their present point. In medieval times, the aristocracy and town guilds directed much of the economic activity in Europe and Asia. However, about two centuries ago, governments began to exercise less and less power over prices and production methods. Gradually, the restraints of feudalism were replaced by what we call the "market mechanism" or "competitive capitalism."

In most of Europe and North America, the nineteenth century became the age of *laissez-faire*. This doctrine, which translates as "leave us alone," holds that government should interfere as little as possible in economic affairs and leave economic decisions to the interplay of supply and demand in the marketplace. Many governments espoused this economic philosophy in the middle of the nineteenth century.

Nevertheless, by the end of the century, the unbridled excesses of capitalism led the United States and the industrialized countries of Western Europe to retreat from full *laissez-faire*. Governments assumed a steadily expanding economic role, regulating monopolies, collecting income taxes, and taking on such tasks as providing support for the elderly (social security). This new system, called the *welfare state*, is one in which markets direct the

detailed activities of day-to-day economic life while governments regulate social conditions and provide pensions, health care, and other aspects of the social safety net.

Under the guiding hand of government, the market economies of Western Europe and North America flourished in the three decades after World War II. Those years witnessed an unprecedented period of sustained economic growth and prosperity. Then, around 1980, the tides shifted again, as conservative governments in many countries began to reduce taxes and deregulate government's control over the economy. Particularly influential was the "Reagan revolution," which changed public attitudes about taxes and government and reversed the trends in U.S. federal spending on civilian programs.

The most dramatic turn toward the market came in Russia and the socialist countries of Eastern Europe. After decades of extolling the advantages of central planning and a government-run command economy, these countries started to make the difficult transition to a decentralized, market economy. China, while still run by the dictatorship of the Communist party, has enjoyed an economic boom in the late 1980s and early 1990s by allowing markets to operate within its borders. Developing countries like Taiwan, Thailand, and Chile have enjoyed rapid income growth by embracing capitalism and reducing the role of government in their economies.



This capsule history of the shifting balance between state and market will naturally raise many questions. What exactly is a market economy, and what makes it so powerful? What is the "capital" in

"capitalism"? What government controls are needed to help markets? The time has come to understand the principles that lie behind the market economy and to review government's role in economic life.

## A. WHAT IS A MARKET?

### Not Chaos, but Economic Order

We usually take for granted the smooth running of the economy. When you go to the supermarket, the items you want—bread, cereal, and bananas—are usually on the shelf. You pay your bill, pop the food in your mouth, and have a juicy meal. What could be simpler?

If you pause for a moment and look more closely, you may begin to appreciate the complexity of the economic system that provides your daily bread. The food may have passed through five or ten links before getting to you, traveling for days or months from every state and every corner of the globe as it moved along the chain of farmers, food processors, packagers, truckers, wholesalers, and retailers. It seems almost a miracle that food is produced in suitable amounts, gets transported to the right place, and arrives in a palatable form at the dinner table.

But the true miracle is that this entire system works without coercion or centralized direction by anybody. Literally millions of businesses and consumers engage in voluntary trade, and their actions and purposes are invisibly coordinated by a system of prices and markets. Nobody decides how many chickens will be produced, where the trucks will drive, and when the supermarkets will open. Still, in the end, the food is in the store when you want it.

Markets perform similar miracles around us all the time, as can easily be seen if only we observe our economy carefully. Thousands of commodities are produced by millions of people, willingly, without central direction or master plan. Indeed, with a few important exceptions (like the military, police, and schools) most of our economic life proceeds without government intervention, and that's the true wonder of the social world.

### The Market Mechanism

A market economy is an elaborate mechanism for coordinating people, activities, and businesses through a system of prices and markets. It is a communication device for pooling the knowledge and actions of billions of diverse individuals. Without central intelligence or computation, it solves problems of production and distribution involving billions of unknown variables and relations, problems that are far beyond the reach of even today's fastest supercomputer. Nobody designed the market, yet it functions remarkably well. *In a market economy, no single individual or organization is responsible for production, consumption, distribution, and pricing.*

How do markets determine prices, wages, and outputs? Originally, a market was an actual place where buyers and sellers could engage in face-to-face bargaining. The *marketplace*—filled with slabs of butter, pyramids of cheese, layers of wet fish, and heaps of vegetables—used to be a familiar sight in many villages and towns, where farmers brought their goods to sell. In the United States today there are still important markets where many traders gather together to do business. For example, wheat and corn are traded at the Chicago Board of Trade, oil and platinum are traded at the New York Mercantile Exchange, and gems are traded at the Diamond District in New York City.

More generally, a market should be thought of as a mechanism by which buyers and sellers can determine prices and exchange goods and services. There are markets for almost everything, from art to pollution. A market may be centralized, like the stock market. It may be decentralized, as in the case of houses or labor. Or it may exist only electronically, as in the case of many financial assets and services,

which are traded by computer. The crucial characteristic of a market is that it brings buyers and sellers together to set prices and quantities.

A market is a mechanism by which buyers and sellers interact to determine the price and quantity of a good or service.

In a market system, everything has a price, which is the value of the good in terms of money (the role of money will be discussed in Section B of this chapter). Prices represent the terms on which people and firms voluntarily exchange different commodities. When I agree to buy a used Ford from a dealer for \$4050, this agreement indicates that the Ford is worth more than \$4050 to me and that the \$4050 is worth more than the Ford to the dealer. The used-car market has determined the price of a used Ford and, through voluntary trading, has allocated this good to the person for whom it has the highest value.

In addition, prices serve as *signals* to producers and consumers. If consumers want more of any good, the price will rise, sending a signal to producers that more supply is needed. For example, every summer, as families set out on their vacations, the demand for gasoline rises, and so does the price. The higher price encourages oil companies to increase gasoline production and, at the same time, discourages travelers from lengthening their trips.

On the other hand, if a commodity such as cars becomes overstocked, dealers and automobile companies will lower their prices in order to reduce their inventory. At the lower price, more consumers will want cars, and producers will want to make fewer cars. As a result, a balance, or equilibrium, between buyers and sellers will be restored.

What is true of the markets for consumer goods is also true of markets for factors of production, such as land or labor. If computer programmers rather than textile workers are needed, job opportunities will be more favorable in the computing field. The price of computer programmers (their hourly wage) will tend to rise, and that of textile workers will tend to fall, as they did during the 1980s. The shift in relative wages will attract workers into the growing occupation.

The nursing crisis of the 1980s shows the labor market at work. During that decade the growth in the health-care sector led to an enormous expansion of nursing jobs with far too few trained nurses to fill

them. Hospitals offered all sorts of fringe benefits to attract nurses, including subsidized apartments, low-cost on-site child care, and signing bonuses as high as \$10,000. One hospital even ran a lottery for nurses, with the prize being a gift certificate at a nearby department store. But what really attracted people into the nursing profession was rising wages. Between 1983 and 1992, the pay for registered nurses rose almost 70 percent, so they were making about as much money as the average accountant or architect. The rising pay drew so many people into nursing that by 1992 the nursing shortage had disappeared in most parts of the country.

Prices coordinate the decisions of producers and consumers in a market. Higher prices tend to reduce consumer purchases and encourage production. Lower prices encourage consumption and discourage production. Prices are the balance wheel of the market mechanism.

**Market Equilibrium.** At every moment, some people are buying while others are selling; firms are inventing new products while governments are passing laws to regulate old ones; foreign companies are opening plants in America while American firms are selling their products abroad. Yet in the midst of all this turmoil, markets are constantly solving the *what, how, and for whom*. As they balance all the forces operating on the economy, markets are finding a **market equilibrium of supply and demand**.

A *market equilibrium* represents a balance among all the different buyers and sellers. Depending upon the price, households and firms all want to buy or sell different quantities. The market finds the equilibrium price that simultaneously meets the desires of buyers and sellers. Too high a price would mean a glut of goods with too much output; too low a price would produce long lines in stores and a deficiency of goods. Those prices for which buyers desire to buy exactly the quantity that sellers desire to sell yield an equilibrium of supply and demand.

### How Markets Solve the Three Economic Problems

We have just described how prices help balance consumption and production (or demand and supply) in an individual market. What happens when we put all the different markets together—gasoline,

cars, land, labor, capital, and everything else? These markets work simultaneously to determine a *general equilibrium* of prices and production.

By matching sellers and buyers (supply and demand) in each market, a market economy simultaneously solves the three problems of *what, how, and for whom*. Here is an outline of a market equilibrium:

1. *What* goods and services will be produced is determined by the dollar votes of consumers—not every 2 or 4 years at the polls, but in their daily purchase decisions. The money that they pay into businesses' cash registers ultimately provides the payrolls, rents, and dividends that consumers, as employees, receive as income.

Firms, in turn, are motivated by the desire to maximize profits. Profits are net revenues, or the difference between total sales and total costs. Firms abandon areas where they are losing profits; by the same token, firms are lured by high profits into production of goods in high demand. A familiar example is Hollywood. If one film makes huge profits—say, a film about a cute dinosaur and an evil scientist—other studios will rush to produce imitations.

2. *How* things are produced is determined by the competition among different producers. The best way for producers to meet price competition and maximize profits is to keep costs at a minimum by adopting the most efficient methods of production. Sometimes change is incremental and consists of little more than tinkering with the machinery or adjusting the input mix to gain a cost advantage, which can be very important in a competitive market. At other times there are drastic shifts in technology, as with steam engines displacing horses because steam was cheaper per unit of useful work, or airplanes replacing railroads as the most efficient mode for long-distance travel. Right now we are in the midst of just such a transition to a radically different technology, with computers replacing typewriters, paper, and many white-collar workers.

3. *For whom* things are produced—who is consuming, and how much—depends, in large part, on the supply and demand in the markets for factors of production. Factor markets (i.e., markets for factors of production) determine wage rates, land rents, interest rates, and profits. Such prices are called *factor prices*. The same person may

receive wages from a job, dividends from stocks, interest from a certificate of deposit, and rent from a piece of property. By adding up all the revenues from factors, we can calculate the person's market income. The distribution of income among the population is thus determined by the amounts of factors (person-hours, acres, etc.) owned and the prices of the factors (wage rates, land rents, etc.).

Be warned, however, that incomes reflect much more than the rewards for sweaty labor or abstemious saving. High incomes come also from large inheritances, good luck, favorable location, and skills highly prized in the marketplace. Those with low incomes are often pictured as lazy, but the truth is that low incomes are generally the result of poor education, discrimination, or living where jobs are few and wages are low. When we see someone on the unemployment line, we might say, "There, but for the grace of supply and demand, go I."

### Monarchs of the Marketplace

Who rules a market economy? Do giant companies like General Electric and AT&T call the tune? Or perhaps Congress and the President? Or the advertising moguls from Madison Avenue? If we examine the structure of a market economy carefully, we see a dual monarchy shared by *consumers and technology*. Consumers direct by their innate and acquired tastes—as expressed by their dollar votes—the ultimate uses to which society's resources are channeled. They pick the point on the production-possibility frontier (PPF).

But consumers alone cannot dictate *what* goods will be produced. The available resources and technology place a fundamental constraint on their choices. The economy cannot go outside its PPF. You can fly to Hong Kong, but there are no flights to Mars. An economy's resources, along with the available science and technology, limit the candidates for the dollar votes of consumers. Consumer demand has to dovetail with business supply of goods. So business cost and supply decisions, along with consumer demand, help determine what is produced.

Not every technology, however, will find a use. From the Stanley Steamer—a car that ran on steam—to the Premier smokeless cigarette, which was smokeless but also tasteless, history is full of

products that found no markets. How do useless products die off? Is there a government agency that pronounces upon the value of new products? No such agency is necessary. Rather, it is profits which serve as the rewards and penalties for businesses and guide the market mechanism.

Like a farmer using a carrot and a stick to coax a donkey forward, the market system deals out profits and losses to induce firms to produce desired goods efficiently.

### A Picture of Prices and Markets

We can picture the circular flow of economic life in Figure 2-1 on page 30. The diagram provides an overview of how consumers and producers interact to determine prices and quantities for both inputs and outputs. Note the two different kinds of markets in the circular flow. At the top are the product markets, or the flow of outputs like pizza and shoes; at the bottom are the markets for inputs or factors of production like land and labor. Further, see how decisions are made by two different entities, households and businesses.

Households buy goods and sell factors of production; businesses sell goods and buy factors of production. Households use their income from sale of labor and other inputs to buy goods from businesses; businesses base their prices of goods on the costs of labor and property. Prices in goods markets are set to balance consumer demand with business supply; prices in factor markets are set to balance household supply with business demand.

All this sounds complicated. But it is simply the total picture of the intricate web of interdependent supplies and demands, interconnected through a market mechanism to solve the economic problems of *what, how, and for whom*. Look at Figure 2-1 carefully. A few minutes spent studying it will surely help you understand the workings of a market economy.

### The Invisible Hand and "Perfect Competition"

The orderliness of the market system was first recognized by Adam Smith, whose classic work *The Wealth of Nations* (1776) is still read today. Smith proclaimed the principle of the "invisible hand." This principle holds that, in selfishly pursuing only his or her personal good, every individual is led, as if by an

invisible hand, to achieve the best good for all. Smith held that in this best of all possible worlds, government interference with market competition is almost certain to be injurious. In one of the most famous passages in all of economics, Smith saw harmony between private interest and public interest:

Every individual endeavors to employ his capital so that its produce may be of greatest value. He generally neither intends to promote the public interest, nor knows how much he is promoting it. He intends only his own security, only his own gain. And he is in this led by an invisible hand to promote an end which was no part of his intention. By pursuing his own interest he frequently promotes that of society more effectually than when he really intends to promote it.<sup>1</sup>

Smith's insight about the functioning of the market mechanism has inspired modern economists—both the admirers and the critics of capitalism. Economic theorists have proved that under restrictive conditions a perfectly competitive economy is efficient (remember that an economy is producing efficiently when it cannot increase the economic welfare of anyone without making someone else worse off).

After two centuries of experience and thought, however, we recognize the scope and realistic limitations of this doctrine. We know that there are "market failures" and that markets do not always lead to the most efficient outcome. One set of market failures concerns monopolies and other forms of imperfect competition. A second failure of the invisible hand comes when there are spillovers or externalities outside the marketplace—positive externalities such as scientific discoveries and negative spillovers such as pollution. A final reservation comes when the income distribution is politically or ethically unacceptable. When any of these elements occur, Adam Smith's invisible-hand doctrine breaks down and government may want to step in to mend the flawed invisible hand.

In summary:

Adam Smith discovered a remarkable property of a competitive market economy. Under perfect competition and with no market failures, markets will squeeze as many useful goods and services out of the available resources as is possible. But where monopolies or pollution or similar market failures become pervasive, the remarkable efficiency properties of the invisible hand may be destroyed.

<sup>1</sup> Adam Smith, *The Wealth of Nations*, 1776.

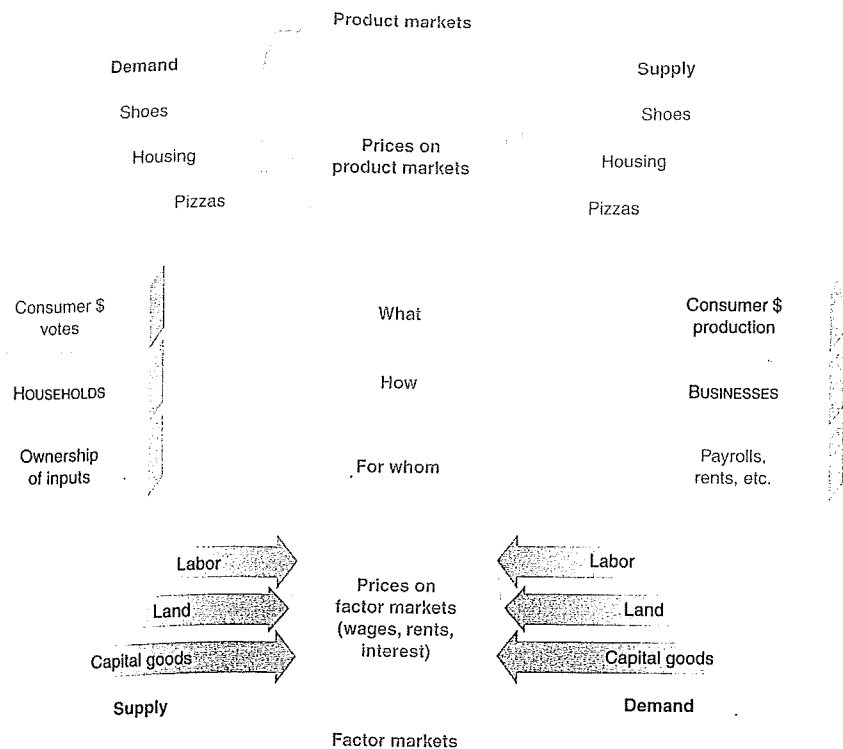


FIGURE 2-1. The Market System Relies on Supply and Demand to Solve the Trio of Economic Problems

We see here the circular flow of a market economy. Dollar votes of households interact with business supply in the product markets at top, helping to determine *what* is produced. Further, business demand for inputs meets the public's supply of labor and other inputs in the factor markets below to help determine wage, rent, and interest payments; incomes thus influence *for whom* goods are delivered. Business competition to buy factor inputs and sell goods most cheaply determines *how* goods are produced.



**Adam Smith: Founding father of economics.** "For what purpose is all the toil and bustle of this world? What is the end of avarice and ambition, of the pursuit of wealth, of power, and pre-eminence?" Thus wrote Adam Smith (1723–1790), of Scotland, who glimpsed for the social world of economics

what Isaac Newton recognized for the physical world of the heavens. Smith answered his questions in *The Wealth of Nations* (1776), where he explained the self-regulating natural order by which the oil of self-interest lubricates the economic machinery in an almost miraculous fashion. Smith believed that the toil and bustle had the effect of

improving the lot of the common man and woman. "Consumption is the sole end and purpose of all production."

Smith was the first apostle of economic growth. At the dawn of the Industrial Revolution, he pointed to the great strides in productivity brought about by specialization and the division of labor. In a famous example, he described the specialized manufacturing of a pin factory in which "one man draws out the wire, another straightens it, a third cuts it," and so it goes. This operation allowed 10 people to make 48,000 pins in a day, whereas if "all wrought separately, they could not each of them make twenty, perhaps not one pin a day." Smith saw the result of this division of labor as "universal opulence which extends itself to the lowest ranks of the people." Imagine what he would think if he returned today to see what two more centuries of economic growth have produced!

Smith wrote hundreds of pages railing against countless cases of government folly and interference. Consider the seventeenth-century guild master who was attempt-

ing to improve his weaving. The town guild decided, "If a cloth weaver intends to process a piece according to his own invention, he should obtain permission from the judges of the town to employ the number and length of threads that he desires after the question has been considered by four of the oldest merchants and four of the oldest weavers of the guild." Smith argued that such restrictions—whether imposed by government or by monopolies, whether on production or on foreign trade—limit the proper workings of the market system and ultimately hurt both workers and consumers.

None of this should suggest that Smith was an apologist for the establishment. He had a distrust of all entrenched power, private monopolies as much as public monarchies. He was for the common people. But, like many of the great economists, he had learned from his research that the road to waste is paved with good intentions.

Above all, it is Adam Smith's vision of the self-regulating "invisible hand" that is his enduring contribution to modern economics.<sup>2</sup>

## B. TRADE, MONEY, AND CAPITAL

Since the time of Adam Smith, market economies have evolved enormously. Advanced capitalist economies, such as the United States, Western Europe, and Japan, have three distinguishing features: trade and specialization, money, and capital.

- An advanced economy is characterized by an elaborate network of *trade*, among individuals and countries, that depends on great *specialization* and an intricate division of labor.
- The economy today makes extensive use of *money*, or the means of payment. The flow of money is the lifeblood of our system. Money provides the yardstick for measuring the economic value of things and for financing trade.
- Modern industrial technologies rest on the use of vast amounts of *capital*: precision machinery,

large-scale factories, and stocks of inventories. Capital goods leverage human labor power into a much more efficient factor of production and allow productivity many times greater than that possible in an earlier age.

### TRADE, SPECIALIZATION, AND DIVISION OF LABOR

Compared to the economies of the 1700s, today's economies depend on the specialization of individuals and firms, connected by an extensive network

<sup>2</sup> An eloquent introduction to the lives of the great economists can be found in Robert L. Heilbroner, *The Worldly Philosophers* (Simon and Schuster, New York, 1980).

of trade. Western economies have enjoyed rapid economic growth as increasing specialization has allowed workers to become highly productive in particular occupations and to trade their output for the commodities they need.

*Specialization* occurs when people and countries concentrate their efforts on a particular set of tasks—it permits each person and country to use to best advantage its specific skills and resources. One of the facts of economic life is that, rather than have everyone do everything in a mediocre way, it is better to establish a *division of labor*—dividing production into a number of small specialized steps or tasks. A division of labor permits tall people to become basketball players, numerate people to teach, and persuasive people to sell cars.

In our economic system, it sometimes takes many years to receive the training for particular careers—it takes 14 years to become a certified neurosurgeon. Capital and land are also highly specialized. Land can be specialized, as in the vineyard lands of California and France, which it has taken decades to cultivate. The computer program that went along with the labor to write this textbook took over a decade to be developed, but it is useless at managing an oil refinery or solving large numerical problems. One of the most impressive examples of specialization is the computer chip that manages automobiles and increases their efficiency.

The enormous efficiency of specialization allows the intricate network of trade among people and nations that we see today. Very few of us produce a single finished good; we make but the tiniest fraction of what we consume. We might teach a small part of one college's curriculum, or empty coins from parking meters, or separate the genetic material of fruit flies. In exchange for this specialized labor, we will receive an income adequate to buy goods from all over the world.

The idea of *gains from trade* forms one of the central insights of economics. Different people or countries tend to specialize in certain areas and then to engage in the voluntary exchange of what they produce for what they need. Japan has grown enormously productive by specializing in manufacturing goods such as automobiles and consumer electronics; it exports much of its manufacturing output to pay for imports of raw materials. By contrast, countries which have tried the strategy of becoming self-sufficient, attempting to produce most of what they

consume, have discovered that this is the road to stagnation. Trade can enrich all nations and increase *everyone's* living standards.

To summarize:

Advanced economies engage in specialization and division of labor, which increase the productivity of their resources. Individuals and countries then voluntarily trade goods in which they specialize for others' products, vastly increasing the range and quantity of consumption and having the potential to raise everyone's living standards.

### MONEY: THE LUBRICANT OF EXCHANGE

If specialization permits people to concentrate on particular tasks, money then allows people to trade their specialized outputs for the vast array of goods and services produced by others. What is money? Money is the means of payment or exchange—that is, the currency and checks that we use when we buy things. But more than that, money is a lubricant that facilitates exchange. When everyone trusts and accepts money as payment for goods and debts, trade is facilitated. Just imagine how complicated economic life would be if you had to barter goods for goods every time you wanted to buy a pizza or go to a concert. What services could you offer Sal's Pizza? And what about your education—what could you barter with your college for tuition that it needs? Because everyone accepts money as the medium of exchange, the need to match supplies and demands is enormously simplified.

Governments control the money supply through their central banks. But like other lubricants, money can get gummed up. It can grow out of control and cause a hyperinflation, in which prices increase very sharply. When that happens, people concentrate on spending their money quickly, before it loses its value, rather than investing it for the future. That's what happened to several Latin American countries in the 1980s, and many former socialist economies in the 1990s, when they had inflation rates exceeding 1000 percent or even 10,000 percent per year. Imagine getting your paycheck and having it lose 20 percent of its value by the end of the week!

Proper management of the money supply is one of the major issues for government macroeconomic policy in all countries.

### CAPITAL

An advanced industrial economy like the United States uses an enormous amount of buildings, machinery, computers, and so on. These are the factors of production called *capital*, a produced factor of production, a durable input which is itself an output of the economy.

Most of us do not realize how much our daily activities rely, directly or indirectly, on capital, including our houses, the highways we drive on, and the wires that bring electricity and cable TV to our homes. The total net amount of capital stock in the economy is almost \$18.5 trillion—including government-owned, business, and residential capital. On average, this is more than \$70,000 per person.

As we have seen, capital is one of the three major factors of production. The other two, land and labor, are often called *primary factors of production*. That means their supply is mostly determined by non-economic factors, such as the fertility rate and the country's geography. Capital, by contrast, has to be produced before you can use it. For example, some companies build textile machinery, which is then used to make shirts; some companies build farm tractors, which are then used to help produce corn.

Note that capital inherently involves time-consuming, roundabout methods of production. In fact, people learned long ago that indirect and roundabout production techniques often are more efficient than direct methods of production. For example, the most direct method of catching fish is to wade into a stream and grab fish with your hands, but this yields more frustration than fish. By using a fishing rod (which is capital equipment), fishing time becomes more productive in terms of fish caught per day. By using even more capital, in the form of nets and fishing boats, fishing becomes productive enough to feed many people and provide a good living to those who operate the specialized nets and equipment.

*Growth from the Sacrifice of Current Consumption.* If people are willing to save—to abstain from present consumption and wait for future consumption—society can devote resources to new capital goods. A larger stock of capital helps the economy grow faster by pushing out the *PPF*. Look back at Figure 1-5 to see how forgoing current

consumption in favor of investment adds to future production possibilities. High rates of saving and investment help explain how Japan, Korea, and other Asian countries have grown so fast. By comparison, many economists believe that the U.S. economy is lagging behind other countries in the growth race because it saves and invests too little.

Is there no limit to the amount of useful capital? Should we continue to boost productivity by adding more capital, by replacing all direct processes with more productive, roundabout ones and all roundabout processes with still more roundabout processes. While this seems sensible, it has a high cost because too much roundabout investment would cause too great a reduction in today's consumption. Investing resources to give every worker an advanced degree, to remove 99.9 percent of pollution, and to build a dense subway system under every city would certainly increase productivity. But the payoff would not be worth the enormous cost in consumption.

We summarize as follows:

Much of economic activity involves forgoing current consumption to increase our capital. Every time we invest—building a new factory or road, increasing the years or quality of education, or increasing the stock of useful technical knowledge—we are enhancing the future productivity of our economy and increasing future consumption.

### Capital and Private Property

In a market economy, capital typically is privately owned, and the income from capital goes to individuals. Every patch of land has a deed, or title of ownership; almost every machine and building belongs to an individual or corporation. *Property rights* bestow on their owners the ability to use, exchange, paint, dig, drill, or exploit their capital goods. These capital goods also have market values, and people can buy and sell the capital goods for whatever price the goods will fetch. *The ability of individuals to own and profit from capital is what gives capitalism its name.*

However, while our society is one built on private property, property rights are limited. Society determines how much of "your" property you may bequeath to your heirs and how much must go in inheritance and estate taxes to the government. Society determines how much your factory can pollute and where you can park your car. Even your home is not your castle: you must obey zoning laws and, if necessary, make way for a road.

Interestingly enough, the most valuable economic resource, labor, cannot be turned into a commodity that is bought and sold as private property. Since the abolition of slavery, it has been against the law to treat human earning power like other capital assets. You are not free to sell yourself; you must rent yourself at a wage.



**Property rights for capital and pollution:**

Property rights define the ability of individuals or firms to own, buy, sell, and use the capital goods and other property in a market economy. These rights are enforced through the legal framework, which constitutes the set of laws within which an economy operates. An efficient and acceptable legal framework for a market economy includes the definition of property rights, the laws of contract, and a system for adjudicating disputes. As the ex-communist countries are discovering, it is very difficult to have a market economy when there are no laws enforcing contracts or guaranteeing that a company can keep its own profits. And when the legal framework breaks down, as in the former Yugoslavia or sometimes even in impoverished urban areas of America, people begin to fear for their lives and have little time or inclination to make long-term investments for the future. Production falls and the quality of life deteriorates. Indeed, many of the most horrifying African famines were caused by civil war and the breakdown in the legal order, not by bad weather.

The environment is another example where poorly designed property rights harm the economy. Water and air are generally common property, meaning that no one owns and controls them. As the saying goes, everyone's business is nobody's business. As a result, people do not weigh all the costs of their actions. Someone might throw trash into the water or emit smoke into the air because the costs of dirty water or foul air are borne by other people. By contrast, people are less likely to throw trash on their own lawn or burn coal in their own living room because they themselves will bear the costs. In recent years, economists have proposed extending property rights to environmental commodities by selling or auctioning permits to pollute and allowing them to be traded on markets. Preliminary evidence suggests that this extension of property rights has given much more powerful incentives to reduce pollution efficiently.

Specialization, trade, money, and capital form the key to the productiveness of an advanced economy. But note as well that they are closely interrelated. Specialization creates enormous efficiencies, while increased production makes trade possible. Use of money allows trade to take place quickly and efficiently. Without the facility for trade and exchange that money provides, an elaborate division of labor would not be possible. Money and capital are related because the funds for buying capital goods are funneled through financial markets, where people's savings can be transformed into other people's capital.

useful ventures such as space exploration and scientific research benefit from government funding. Governments may regulate some businesses (such as banking and garbage collection) while subsidizing others (such as education and health care). And governments tax their citizens and redistribute some of the proceeds to the elderly and needy.

But for all the wide range of possible activities, governments have three main economic functions in a market economy. These functions are increasing efficiency, promoting equity, and fostering macroeconomic stability and growth.

1. Governments increase *efficiency* by promoting competition, curbing externalities like pollution, and providing public goods.
2. Governments promote *equity* by using tax and expenditure programs to redistribute income toward particular groups.
3. Governments foster *macroeconomic stability and growth*—reducing unemployment and inflation while encouraging economic growth—through fiscal policy and monetary regulation.

We will examine briefly each function.

**EFFICIENCY**

Adam Smith recognized that the virtues of the market mechanism are fully realized only when the checks and balances of perfect competition are present. What is meant by **perfect competition**? It means that all goods and services have a price and are traded on markets. It also means that no firm or consumer is large enough to affect the market price. For example, the wheat market is perfectly competitive because the largest wheat farm, producing only a minuscule fraction of the world's wheat, can have no appreciable effect upon the price of wheat.

The invisible-hand doctrine applies to economies in which all the markets are perfectly competitive. In such a circumstance, markets will produce an efficient allocation of resources, so the economy is on its production-possibility frontier. When all industries are subject to the checks and balances of perfect competition, as we will see later in this book, markets will produce the efficient bundle of outputs using the most efficient techniques and the minimum amount of inputs.

Alas, there are many ways that markets can fall short of perfect competition. The three most important involve imperfect competition, such as monopolies; externalities, such as pollution; and public goods, such as national defense and highways. In each case, market failure leads to inefficient production or consumption, and government can play a useful role in curing the disease.

**Imperfect Competition**

One serious deviation from an efficient market comes from *imperfect competition* or *monopoly* elements. Whereas under perfect competition no firm or consumer can affect prices, **imperfect competition** occurs when a buyer or seller can affect a good's price. For example, if the telephone company or a labor union is large enough to influence the price of phone service or labor, respectively, some degree of imperfect competition has set in. When imperfect competition arises, society may move inside its *PPF*. This would occur, for example, if a single seller (a monopolist) raised the price of a good sky-high to earn extra profits. The output of that good would be reduced below the most efficient level, and the efficiency of the economy would thereby suffer. In such a situation, the invisible-hand property of markets may be violated.

What is the effect of imperfect competition, which is the ability of a large firm to affect the price in a given market? Imperfect competition leads to prices that rise above cost and to consumer purchases that are reduced below efficient levels. The pattern of too high price and too low output is the hallmark of the inefficiencies associated with imperfect competition.

In reality, almost all industries possess some measure of imperfect competition. Airlines, for example, may have no competition on some of their routes but face several rivals on others. The extreme case of imperfect competition is the *monopolist*—a single supplier who alone determines the price of a particular good or service.

Over the last century, most governments have taken steps to curb the most extreme forms of imperfect competition. Governments sometimes regulate the prices and profits of monopolies such as local water, telephone, and electric utilities. In addition, government antitrust laws prohibit actions such as

**C. THE ECONOMIC ROLE OF GOVERNMENT**

An ideal market economy is one in which all goods and services are voluntarily exchanged for money at market prices. Such a system squeezes the maximum benefits out of a society's available resources without government intervention. In the real world, however, no economy actually conforms totally to the idealized world of the smoothly functioning invisible hand. Rather, every market economy suffers from imperfections which lead to such ills as excessive pol-

lution, unemployment, and extremes of wealth and poverty.

For that reason, no government anywhere in the world, no matter how conservative, keeps its hands off the economy. In modern economies governments take on many tasks in response to the flaws in the market mechanism. The military, the police, the national weather service, and highway construction are all typical areas of government activity. Socially

price fixing or agreeing to divide up markets. The most important check to imperfect competition, however, is the opening of markets to competitors, whether they be domestic or foreign. Few monopolies can long withstand the attack of competitors unless governments protect them through tariffs or regulations.

### Externalities

A second type of inefficiency arises when there are spillovers or externalities, which involve involuntary imposition of costs or benefits. Market transactions involve voluntary exchange in which people exchange goods or services for money. When a firm buys a chicken to make frozen drumsticks, it buys the chicken from its owner in the chicken market, and the seller receives the full value of the hen. When you buy a haircut, the barber receives the full value for time, skills, and rent.

But many interactions take place outside markets. While airports produce a lot of noise, they generally do not compensate the people living around the airport for disturbing their peace. On the other hand, some companies which spend heavily on research and development have positive spillover effects for the rest of society. For example, researchers at AT&T invented the transistor and launched the electronic revolution, but AT&T's profits increased by only a small fraction of the global social gains. In each case, an activity has helped or hurt people outside the market transaction; that is, there was an economic transaction without an economic payment.

Externalities (or spillover effects) occur when firms or people impose costs or benefits on others outside the marketplace.

Governments are today often more concerned with negative externalities than positive ones. As our society has become more densely populated and as the production of energy, chemicals, and other materials increases, negative externalities or spillover effects have grown from little nuisances into major threats. This is where governments come in. Government *regulations* are designed to control externalities like air and water pollution, damage from strip mining, hazardous wastes, unsafe drugs and foods, and radioactive materials.

In many ways, governments are like parents, always saying no: Thou shalt not expose thy workers to dangerous conditions. Thou shalt not pour out

poisonous smoke from thy factory chimney. Thou shalt not sell dangerous drugs. Thou shalt not drive without wearing thy seat belt. And so forth. Finding the exactly correct regulations is a difficult task, requiring complex science and economics, and subject to heavy political pressure, but few today would argue for returning to the unregulated economic jungle where firms can dump plutonium wherever they want.

### Public Goods

While negative externalities like pollution or global warming command most of the headlines, positive externalities may well be economically more significant. Important examples of positive externalities are construction of a highway network, operation of a national weather service, support of basic science, and provision of measures to enhance public health. These are not goods which can be bought and sold in markets. Adequate private production of these public goods will not occur because the benefits are so widely dispersed across the population that no single firm or consumer has an economic incentive to provide the service and capture the returns.

The extreme example of a positive externality is a public good. Public goods are commodities for which the cost of extending the service to an additional person is zero and which it is impossible to exclude individuals from enjoying.<sup>3</sup> The best example of a public good is national defense. When a nation protects its freedoms and way of life, it does so for all its inhabitants, whether they want the protection or not and whether they pay for it or not.

Because private provision of public goods is generally insufficient, government must step in to encourage the production of public goods. In buying public goods like national defense or lighthouses, government is behaving exactly like any other large spender. By casting sufficient dollar votes in certain directions, it causes resources to flow there. Once

<sup>3</sup> Lighthouses are an interesting example of a public good provided by government. They save lives and cargos. Lighthouse signals are a "public good" because it costs no more to warn 100 ships than to warn a single ship of the rocks and shoals. In an earlier age, lighthouses were sometimes privately owned, and lighthouse owners attempted to collect fees from ships in port. But private provision encounters a "free-rider" problem that can lead to underprovision and underfinancing of such socially desirable goods. We have here a positive externality, a divergence between private and social benefit, which is efficiently provided free of charge.

the dollar votes are cast, the market mechanism then takes over and channels resources to firms so that the lighthouses or tanks get produced.

*Taxes.* Government must find the revenues to pay for its public goods and for income-redistribution programs. Such revenues come from taxes levied on personal and corporate incomes, on wages, on sales of consumer goods, and on other items. All levels of government—city, state, and federal—collect taxes to pay for their spending.

Taxes sound like another "price"—in this case the price we pay for public goods. But taxes differ from prices in one crucial respect: taxes are not voluntary. Everyone is subject to the tax laws; we are all obligated to pay for our share of the cost of public goods. Of course, through our democratic process, we as citizens choose both the public goods and the taxes to pay for them. However, the close connection between spending and consumption that we see for private goods does not hold for taxes and public goods. I pay for a hamburger only if I want one, but I must pay my share of the taxes used to finance defense and public education even if I don't care a bit for these activities.

### EQUITY

Our discussion of market failures like monopoly or externalities focused on defects in the allocative role of markets—imperfections that can be corrected by judicious intervention. But assume for the moment that the economy functioned with complete efficiency—always on the production-possibility frontier and never inside it, always choosing the right amount of public versus private goods, and so forth. Even if the market system worked perfectly, it might still lead to a flawed outcome.

Markets do not necessarily produce a fair distribution of income. A market economy may produce unacceptably high levels of inequality of income and consumption.

Why might the market mechanism produce an unacceptable solution to the question of *for whom?* The reason is that incomes are determined by a wide variety of factors, including effort, education, inheritance, factor prices, and luck. The resulting income distribution may not correspond to a fair outcome. Moreover, recall that goods follow dollar votes and not the greatest need. A rich man's cat may drink the

milk that a poor boy needs to remain healthy. Does this happen because the market is failing? Not at all, for the market mechanism is doing its job—putting goods in the hands of those who have the dollar votes. If a country spends more fertilizing its lawns than feeding poor children, that is a defect of income distribution, not of the market. Even the most efficient market system may generate great inequality.

Often the income distribution in a market system is the result of accidents of birth. Every year *Forbes* magazine lists the 400 richest Americans, and it's impressive how many of them either received their wealth by inheritance or used inherited wealth as a springboard to even greater wealth. Would everyone regard that as necessarily right or ideal? Probably not. Should someone be allowed to become a billionaire simply by inheriting 5000 square miles of rangeland or the family's holding of oil wells? That is the way the cookie crumbles under *laissez-faire* capitalism.

For most of American history, economic growth was a rising tide that lifted all boats, raising the incomes of the poor as well as those of the rich. But over the last two decades, changes in family structure and declining wages of the less skilled and less educated have reversed the trend. With a return to greater emphasis on the market has come greater homelessness, more children living in poverty, and deterioration of many of America's central cities.

Income inequalities may be politically or ethically unacceptable. A nation does not need to accept the outcome of competitive markets as predetermined and immutable; people may examine the distribution of income and decide it is unfair. If a democratic society does not like the distribution of dollar votes under a *laissez-faire* market system, it can take steps to change the distribution of income.

Let's say that voters decide to reduce income inequality. What tools could the government use? First, it can engage in *progressive taxation*, taxing large incomes at a higher rate than small incomes. It might impose heavy taxes on wealth or on large inheritances to break the chain of privilege. The federal income and inheritance taxes are examples of such redistributive progressive taxation.

Second, because low tax rates cannot help those who have no income at all, governments can make *transfer payments*, which are money payments to people. Such transfers today include aid for the elderly,



blind, and disabled and for those with dependent children, as well as unemployment insurance for the jobless. This system of transfer payments provides a "safety net" to protect the unfortunate from privation. And, finally, governments sometimes subsidize consumption of low-income groups by providing food stamps, subsidized medical care, and low-cost housing—though in the United States, such spending comprises a relatively small share of total spending.

These programs have become increasingly unpopular in the last two decades. As the real wages of the middle class have stagnated, people naturally ask why they should support the homeless or able-bodied people who do not work. What can economics contribute to debates about equality? Economics as a science cannot answer such normative questions as how much of our market incomes—if any—should be transferred to poor families. This is a political question that can be answered only at the ballot box.

Economics can analyze the costs or benefits of different redistributive systems. Economists have devoted much time to analyzing whether different income-redistribution devices (such as taxes and food stamps) lead to social waste (e.g., people work less or buy drugs rather than food). They have also studied whether giving poor people cash rather than goods is likely to be a more efficient way of reducing poverty. Economics cannot answer questions of how much poverty is acceptable and fair, but it can help design more effective programs to increase the incomes of the poor.

### MACROECONOMIC GROWTH AND STABILITY

Since its origins, capitalism has been plagued by periodic bouts of inflation (rising prices) and recession (high unemployment). Since World War II, for example, there have been nine recessions in the United States, some putting millions of people out of work.

Today, thanks to the intellectual contribution of John Maynard Keynes and his followers, we know how to control the worst excesses of the business cycle. By careful use of fiscal and monetary policies, governments can affect output, employment, and inflation. The *fiscal policies* of government are the power to tax and the power to spend. *Monetary policy*

involves determining the supply of money and interest rates; these affect investment in capital goods and other interest-rate-sensitive spending. Using these two fundamental tools of macroeconomic policy, governments can influence the level of total spending, the rate of growth and level of output, the levels of employment and unemployment, and the price level and rate of inflation in an economy.

Governments in advanced industrial countries successfully applied the lessons of the Keynesian revolution over the last half-century. Spurred on by active monetary and fiscal policies, the market economies witnessed a period of unprecedented economic growth in the three decades after World War II.

In the 1980s, governments became more concerned with also designing macroeconomic policies to promote long-term objectives, such as economic growth and productivity. (*Economic growth* denotes the growth in a nation's total output, while *productivity* represents the output per unit input or the efficiency with which resources are used.) For example, tax rates were lowered in most industrial countries in order to improve incentives for saving and production. Many economists emphasized the importance of public saving through smaller budget deficits as a way to increase national saving and investment.

Macroeconomic policies for stabilization and economic growth include fiscal policies (of taxing and spending) along with monetary policies (which affect interest rates and credit conditions). Since the development of macroeconomics in the 1930s, governments have succeeded in curbing the worst excesses of inflation and unemployment.

Table 2-1 summarizes the economic role played by government today. It shows the important governmental functions of promoting efficiency, achieving a fairer distribution of income, and pursuing the macroeconomic objectives of economic growth and stability. In all advanced industrial societies we find a mixed economy in which the market determines output and prices in most individual sectors while government steers the overall economy with programs of taxation, spending, and monetary regulation.

### TWILIGHT OF THE WELFARE STATE?

In 1942, the great Austrian-born Harvard economist Joseph Schumpeter argued that the United States

Failure of market economy	Government intervention	Current examples of government policy
<b>Inefficiency:</b> Monopoly Externalities	Encourage competition Intervene in markets	Antitrust laws, deregulation Antipollution laws, antismoking ordinances
Public goods	Encourage beneficial activities	Build lighthouses, subsidize scientific research
<b>Inequality:</b> Unacceptable inequalities of income and wealth	Redistribute income	Progressive taxation of income and wealth Income-support programs (e.g., food stamps)
<b>Macroeconomic problems:</b> Business cycles (high inflation and unemployment)	Stabilize through macroeconomic policies	Monetary policies (e.g., changes in money supply and interest rates) Fiscal policies (e.g., taxes and spending programs)
Slow economic growth	Stimulate growth	Invest in education Raise national savings rate by reducing budget deficit

TABLE 2-1. Government Can Remedy the Shortcomings of the Market

was "capitalism living in an oxygen tent" on its march to socialism. Capitalism's success would breed alienation and self-doubt, sapping its efficiency and innovation. The next quarter-century saw sustained growth in government's involvement in the economies of North America and Western Europe *along with the most impressive economic performance ever recorded.*

The return to more-normal growth rates in the last two decades has been accompanied by increased skepticism about government's role. Critics of government say that the state is overly intrusive; governments create monopoly; government failures are just as pervasive as market failures; high taxes distort the allocation of resources; social security reduces saving; environmental regulation dulls the spirit of enterprise; government attempts to stabilize the economy must fail at best and increase inflation at

worst; and inflation chokes off investment. In short, for some, government is the problem rather than the solution.<sup>4</sup>

These views remind us how easy it is to take the achievements of the last century for granted. They remind us of the tendency to credit ourselves for successes while blaming others—particularly the government—for failures. In economics as in life, success has many parents, while failure is an orphan. Diatribes against government forget the many successes of collective action over the last century. We have reduced malnutrition and conquered many terrible diseases like smallpox. Government programs have increased literacy and life expectancy. Macro-

<sup>4</sup> For an eloquent account of economic controversies over the last three decades, see Paul Krugman, *Peddling Prosperity* (Nor-ton, New York, 1994).

economic successes have reduced the sting of inflation and unemployment, while government transfer programs have brought health care to the poor and improved the quality of life for the aged. State-supported science has penetrated the atom, discovered the DNA molecule, and explored outer space.

Of course, these successes did not belong to governments alone. Governments harnessed private ingenuity through the market mechanism to help achieve these social aims. And, in some cases, governments were like orators who didn't know when enough was enough. Government's successes and

failures remind us that drawing the right boundary between market and government is an enduring problem. The tools of economics are indispensable to help societies find the *golden mean* between *laissez faire* market mechanisms and democratic rules of the road: the good Mixed Economy is, perforce, the Limited Mixed Economy. But those who would reduce government to the constable plus a few lighthouses are living in the last century. An efficient and humane society requires both halves of the mixed system—market and government. Operating a modern economy without both is like trying to clap with one hand.

### SUMMARY

#### A. What Is a Market?

1. In an economy like the United States, most economic decisions are made in markets, which serve as mechanisms by which buyers and sellers meet to trade and to determine prices and quantities for commodities. Adam Smith proclaimed that the *invisible hand* of markets would lead to the optimal economic outcome as individuals pursue their own self-interest. And while markets are far from perfect, they have proved remarkably effective at solving the problems of *how*, *what*, and *for whom*.
2. The market mechanism works as follows to determine the what and the how: The dollar votes of people affect prices of goods; these prices serve as guides for the amounts of the different goods to be produced. When people demand more of a good, businesses can profit by expanding production of that good. Under perfect competition, a business must find the cheapest method of production, efficiently using labor, land, and other factors; otherwise, it will incur losses and be eliminated from the market.
3. At the same time that the *what* and *how* problems are being resolved by prices, so is the problem of *for whom*. The distribution of income is determined by the ownership of factors of production (land, labor, and capital) and by factor prices. People possessing fertile land or the ability to hit home runs will earn many dollar votes to buy consumer goods. Those without property and with skills, color, or sex that the market does not value will receive low incomes.

#### B. Trade, Money, and Capital

4. As economies develop, they become more specialized. Division of labor allows a task to be broken into a number of smaller chores that can each be mastered and performed more quickly by a single worker. Special-

ization arises from the increasing tendency to use roundabout methods of production that require many specialized skills. As individuals and countries become increasingly specialized, they tend to concentrate on particular commodities and trade their surplus output for goods produced by others. Voluntary trade, based on specialization, benefits all.

5. Trade in specialized goods and services today relies on money to lubricate the wheels of trade. Money is the universally acceptable medium of exchange—currency and checks. It is used to pay for everything from apple tarts to zebra skins. By accepting money, people and nations can specialize in producing a few goods and trade them for others; without money, we would waste much time constantly bartering one good for another.
6. Capital goods—produced inputs such as machinery, structures, and inventories of goods in process—permit roundabout methods of production that add much to a nation's output. These roundabout methods take time and resources to get started and therefore require a temporary sacrifice of present consumption in order to increase future consumption. The rules that define how capital and other assets can be bought, sold, and used are the system of property rights. In no economic system are private-property rights unlimited.

#### C. The Economic Role of Government

7. Although the market mechanism is an admirable way of producing and allocating goods, sometimes market failures lead to deficiencies in the economic outcomes. Government may step in to correct these failures. Government's role in a modern economy is to ensure efficiency, to correct an unfair distribution of income, and to promote economic growth and stability.

8. Markets fail to provide an efficient allocation of resources in the presence of imperfect competition or externalities. Imperfect competition, such as monopoly, produces high prices and low levels of output. To combat these conditions, governments regulate businesses or put legal antitrust constraints on business behavior. Externalities arise when activities impose costs or bestow benefits that are not paid for in the marketplace. Governments may decide to step in and regulate these spillovers (as it does with air pollution) or provide for *public goods* (as in the case of public health).
9. Markets do not necessarily produce a fair distribution of income; they may spin off unacceptably high inequality of income and consumption. In response,

governments can alter the pattern of incomes (the *for whom*) generated by market wages, rents, interest, and dividends. Modern governments use taxation to raise revenues for transfers or income-support programs that place a financial safety net under the needy.

10. Since the development of macroeconomics in the 1930s, government has undertaken a third role: using fiscal powers (of taxing and spending) and monetary policy (affecting credit and interest rates) to promote long-run economic growth and productivity and to tame the business cycle's excesses of inflation and unemployment. Since 1980, the blend of the mixed economy called the welfare state has been on the defensive in the enduring struggle over the boundary between state and market.

### CONCEPTS FOR REVIEW

#### The Market Mechanism

market, market mechanism  
markets for goods and for factors of production  
prices as signals  
market equilibrium  
perfect and imperfect competition  
Adam Smith's invisible-hand doctrine

#### Features of a Modern Economy

specialization and division of labor  
money  
factors of production (land, labor, capital)  
capital, private property, and property rights

#### Government's Economic Role

efficiency, equity, stability  
inefficiencies: monopoly and externalities  
inequity of incomes under markets  
macroeconomic policies:  
fiscal and monetary policies  
stabilization and growth

### QUESTIONS FOR DISCUSSION

1. What determines the composition of national output? In some cases, we say that there is "consumer sovereignty," meaning that consumers decide how to spend their incomes on the basis of their tastes and market prices. In other cases, decisions are made by political choices of legislatures. Consider the following examples: transportation, education, police, energy efficiency of appliances, health-care coverage, television advertising. For each, describe whether the allocation is by consumer sovereignty or by political decision. Would you change the method of allocation for any of these goods?
2. Consider the following cases of government intervention in the economy: regulations to limit air pollution, research on an AIDS vaccine, income supplements to the elderly, price regulation of a local water monopoly, a monetary-policy step to curb inflation. What role of government is being pursued in each case?
3. When a good is limited, some means must be found to ration the scarce commodity. Some examples of rationing devices are auctions, ration coupons, and first-come, first-served systems. What are the strengths and weaknesses of each? Explain carefully in what sense a market mechanism "rations" scarce goods and services.
4. The circular flow of goods and inputs illustrated in Figure 2-1 has a corresponding flow of dollar incomes and spending. Draw a circular-flow diagram for the dollar flows in the economy, and compare it with the circular flow of goods and inputs. What is the role of money in the dollar circular flow?
5. This chapter discusses many "market failures," areas in which the invisible hand guides the economy poorly, and describes the role of government. Is it possible that there are, as well, "government failures," government attempts to curb market failures that are worse



than the original market failures? Think of some examples of government failures. Give some examples in which government failures are so bad that it is better to live with the market failures than to try to correct them.

6. Give three examples of specialization and division of labor. In what areas are you and your friends thinking of specializing? What might be the perils of *over* specialization?
7. "Lincoln freed the slaves. With one pen stroke he destroyed much of the capital the South had accumulated over the years." Comment.
8. The table to the right shows some of the major expenditures of the federal government. Explain how each one relates to the economic role of government.

Major Expenditure Categories for Federal Government

Budget category	Federal spending, 1998 (\$, billion)
Social security	384
National defense	259
Income security	247
Interest on public debt	250
Natural resources and environment	22
Administration of justice	24
Science and technology	16

Source: Office of Management and Budget, *Budget of the United States Government*, Fiscal Year 1998.

## CHAPTER 3

### BASIC ELEMENTS OF SUPPLY AND DEMAND

The level of the sea is not more surely kept, than is the equilibrium of value in society, by the demand and supply: the artifice or legislation punishes itself, by reactions, gluts, and bankruptcies.

Ralph Waldo Emerson (1860)

#### VOLATILE MARKETS

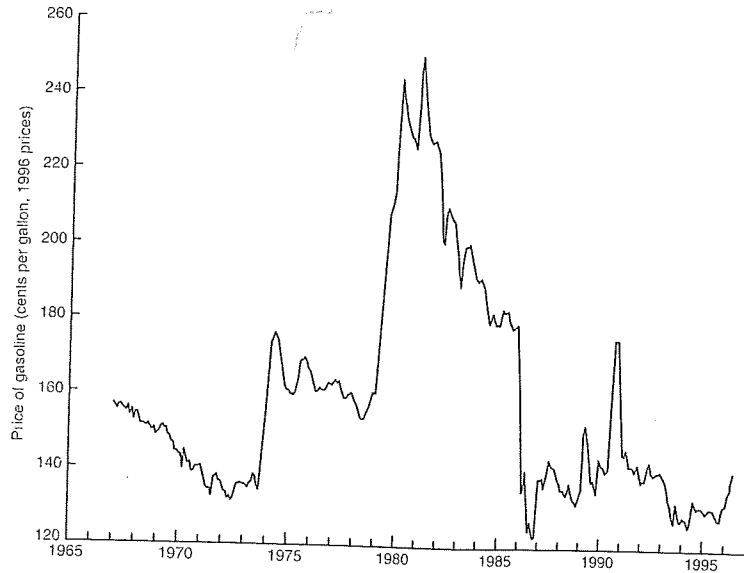
Markets are akin to the weather. They are always changing, dynamic, unpredictable, subject to frequent periods of storm and calm, complex, and fascinating. As with the weather, careful study of markets also shows certain forces and patterns underneath the daily and apparently random movements. The essential tool for understanding the movement of prices and outputs in individual markets is called the analysis of supply and demand.

Take the example of gasoline prices, illustrated in Figure 3-1 on the next page. (This shows the "real gasoline price," or the price corrected for movements in the general price level.) Demand for gasoline and other oil products rose sharply after World War II as people fell in love with the automobile and moved increasingly to the suburbs. Next, in the 1970s, supply restrictions, wars among producers, and revolutions reduced production, with the consequent price spikes seen after 1973 and 1979. Then, as a result of energy conservation, smaller cars, and price wars, the real price of gasoline fell sharply, from about \$2.50 per gallon in 1980 to around \$1.40 in 1996.

What lay behind these dramatic shifts? Econom-

ics has a very powerful tool for explaining these and many other changes in the economic environment. It is called the *theory of supply and demand*. This theory shows how consumer preferences determine consumer demand for commodities, while business costs are the foundation of the supply of commodities. The increases in the price of gasoline occurred either because the demand for gasoline had gone up or because the supply of oil had decreased. The same is true for every market, from computers to diamonds to land: changes in supply and demand drive changes in output and prices. If you understand how supply and demand work, you have gone a long way toward understanding a market economy.

This chapter introduces the notions of supply and demand, and it shows how they operate in competitive markets for *individual commodities*. We begin with demand curves and then discuss supply curves. Using these basic tools, we will see how the market price is determined (or reaches its competitive equilibrium) where these two curves intersect—where the forces of demand and supply are just in balance. It is the movement of prices, the price mechanism, which brings supply and demand into balance or equilibrium. This chapter closes with some examples of how supply-and-demand analysis can be applied.



**FIGURE 3-1. The Volatile Price of Gasoline**  
Gasoline prices have fluctuated widely over the last three decades. The little wiggle at the end—the price run-up before the 1996 U.S. presidential election—led to widespread charges of profiteering and a call for a reduction of the federal gasoline tax. You can easily understand the social unrest provoked by the enormous price increases in the 1970s. Supply and demand are crucial for understanding these trends. (Source: U.S. Departments of Energy and Labor. The price of gasoline has been converted into 1996 prices using the consumer price index.)

**A. THE DEMAND SCHEDULE**

Both common sense and careful scientific observation show that the amount of a commodity people buy depends on its price. The higher the price of an article, other things being constant,<sup>1</sup> the fewer units

<sup>1</sup> Later in this chapter we discuss the other factors that influence demand, including income and tastes. The term "other things held constant" simply means we are varying the price without changing any of these other determinants of demand.

consumers are willing to buy. The lower its market price, the more units of it are bought.

There exists a definite relationship between the market price of a good and the quantity demanded of that good, other things held constant. This relationship between price and quantity bought is called the demand schedule, or the demand curve.

Let's look at a simple example. Table 3-1 presents a hypothetical demand schedule for cornflakes. At

Demand Schedule for Cornflakes		
	(1)	(2)
	Price (\$ per box) <i>P</i>	Quantity demanded (millions of boxes per year) <i>Q</i>
A	5	9
B	4	10
C	3	12
D	2	15
E	1	20

**TABLE 3-1. The Demand Schedule Relates Quantity Demanded to Price**

At each market price, consumers will want to buy a certain quantity of cornflakes. As the price of cornflakes falls, the quantity of cornflakes demanded will rise.

each price, we can determine the quantity of cornflakes that consumers purchase. For example, at \$5 per box, consumers will buy 9 million boxes per year.

At a lower price, more cornflakes are bought. Thus, at a cornflakes price of \$4, the quantity bought is 10 million boxes. At yet a lower price (*P*) equal to \$3, the quantity demanded (*Q*) is still greater, at 12 million. And so forth. We can determine the quantity demanded at each listed price in Table 3-1.

**THE DEMAND CURVE**

The graphical representation of the demand schedule is the *demand curve*. We show the demand curve in Figure 3-2, which graphs the quantity of cornflakes demanded on the horizontal axis and the price of cornflakes on the vertical axis. Note that quantity and price are inversely related, *Q* going up when *P* goes down. The curve slopes downward, going from northwest to southeast. This important property is called the *law of downward-sloping demand*. It is based on common sense as well as economic theory and has been empirically tested and verified for practically all commodities—cornflakes, gasoline, college education, and illegal drugs being a few examples.

**Law of downward-sloping demand:** When the price of a commodity is raised (and other things are held constant), buyers tend to buy less of the commodity. Similarly, when the price is lowered, other things being constant, quantity demanded increases.

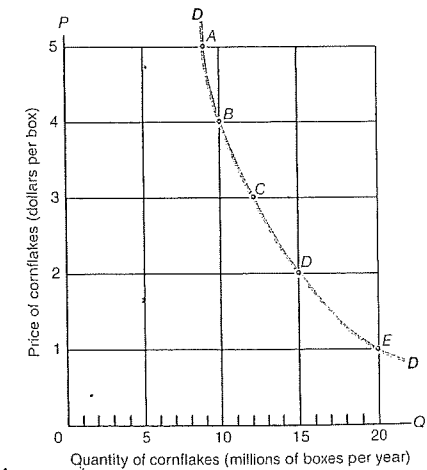
Why does quantity demanded tend to fall as price rises? For two reasons. First is the *substitution effect*. When the price of a good rises, I will substitute other similar goods for it (as the price of beef rises, I eat more chicken). A second reason for the depressing effect of price increases on purchases is the *income effect*. This comes into play because when a price goes up, I find myself somewhat poorer than I was before. If gasoline prices double, I have in effect less real income, so I will naturally curb my consumption of gasoline and other goods.

**Market Demand**

Our discussion of demand has so far referred to "the" demand curve. But whose demand is it? Mine? Yours? Everybody's? The fundamental building block for demand is individual tastes and needs. However, in this chapter we will always focus on the *market demand*, which represents the sum total of all

**FIGURE 3-2. A Downward-Sloping Demand Curve Relates Quantity Demanded to Price**

In the demand curve for cornflakes, prices (*P*) are measured on the vertical axis while quantity demanded (*Q*) is measured on the horizontal axis. Each pair of (*P*, *Q*) numbers from Table 3-1 is plotted as a point and then a smooth curve is passed through the points to give us a demand curve, *DD*. The negative slope of the demand curve illustrates the law of downward-sloping demand.



individual demands. The market demand curve is found by adding together the quantities demanded by all individuals at each price. The market demand is what is observable in the real world.

Does the market demand curve obey the law of downward-sloping demand? It certainly does. If prices drop, for example, the lower prices attract new customers, through the substitution effect. In addition, a price reduction will induce extra purchases of goods by existing consumers, through both the income and substitution effects. Conversely, a rise in the price of a good will cause some of us to buy less.

We can illustrate the law of downward-sloping demand for the case of personal computers (PCs). In the early 1980s, the price of PCs was astronomical, and they were found in few businesses and even fewer homes. People used typewriters or pens to write papers and did calculations by hand.

But the prices of PCs fell sharply in the last decade, and the lower prices enticed new buyers. As more and more people could afford them, PCs came to be widely used for work, for school, and for fun. Even today, the computer revolution is unfinished. As prices for personal computers drop further, even more people will find it worthwhile to buy their first PC or to buy an extra one.

### Behind the Demand Curve

What determines the market demand curve for cornflakes or gasoline or computers? A whole array of factors influences how much will be demanded at a given price: average levels of income, the size of the population, the prices and availability of related goods, individual and social tastes, and special influences.

- The *average income* of consumers is a key determinant of demand. As people's incomes rise, individuals tend to buy more of almost everything, even if prices don't change. Automobile purchases tend to rise sharply with higher levels of income.
- The *size of the market*—measured, say, by the population—clearly affects the market demand curve. California's 32 million people tend to buy 32 times more apples and cars than do Rhode Island's 1 million people.

- The prices and availability of *related goods* influence the demand for a commodity. A particularly important connection exists among substitute goods—ones that tend to perform the same function, such as cornflakes and oatmeal, pens and pencils, small cars and large cars, or oil and natural gas. Demand for good A tends to be low if the price of substitute product B is low. (For example, if the price of beef rises, will that increase or decrease the demand for chicken?)
- In addition to these objective elements, there is a set of subjective elements called *tastes* or *preferences*. Tastes represent a variety of cultural and historical influences. They may reflect genuine psychological or physiological needs (for liquids, love, or excitement). And they may include artificially contrived cravings (for cigarettes, drugs, or fancy sports cars). They may contain a large element of tradition or religion (eating beef is popular in America but taboo in India, while curried jellyfish is a delicacy in Japan but would make many Americans gag).
- Finally, *special influences* will affect the demand for particular goods. The demand for umbrellas is high in rainy Seattle but low in sunny Phoenix; the demand for air conditioners will rise in hot weather; the demand for automobiles will be low in New York, where public transport is plentiful and parking is a nightmare. In addition, expectations about future economic conditions, particularly prices, may have an important impact on demand.

The determinants of demand are summarized in Table 3-2, which uses automobiles as an example.

### A Change in Demand

As economic life evolves, demand changes incessantly. Demand curves sit still only in textbooks.

Why does the demand curve shift? Because the influences other than the good's price change. For example, there are many possible reasons why the American demand for cars grew sharply from 1950 to 1997: the average real income of Americans almost doubled; the adult population rose by more than half; and there was a decline in the availability of alternative forms of local transportation (bus,

Factors affecting the demand curve

1. Average income
2. Population
3. Prices of related goods
4. Tastes
5. Special influences

Example for automobiles

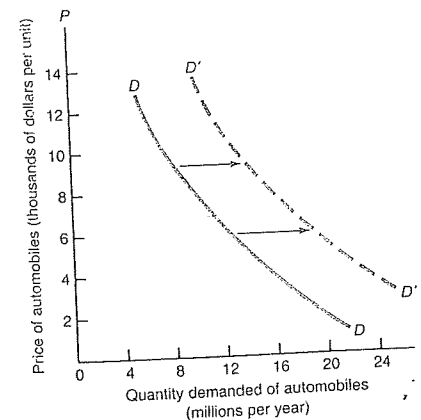
As incomes rise, people increase car purchases.  
A growth in population increases car purchases.  
Lower gasoline prices raise the demand for cars.  
Having a new car becomes a status symbol.  
Special influences include availability of alternative forms of transportation, safety of automobiles, expectations of future price increases, etc.

TABLE 3-2. Many Factors Affect the Demand Curve

trolley, and rail). The result of all these changes was a rightward shift in the demand curve for cars.

The net effect of the changes in underlying influences is what we call an *increase in demand*. An increase in the demand for automobiles is illustrated in Figure 3-3 as a rightward shift in the demand curve. Note that the shift means that more cars will be bought at every price.

FIGURE 3-3. Increase in Demand for Automobiles  
As elements underlying demand change, the demand for automobiles is affected. Here we see the effect of rising average income, increased population, and lower gasoline prices on the demand for automobiles. We call this shift in the demand curve an increase in demand.



**Do not confuse movement along curves with shift of curves.** Great care must be

taken not to confuse a change in demand (which denotes a shift of the demand curve) with a change in the quantity demanded (which means moving to a different point on the same demand curve after a price change).

A change in demand occurs when one of the elements underlying the demand curve shifts. Take the case of pizzas. As incomes increase, consumers will want to buy more pizzas even if pizza prices do not change. In other words, higher incomes will increase demand and shift the demand curve for pizzas out and to the right. This is a shift in the demand for pizzas.

Distinguish this from a change in quantity demanded that occurs because consumers tend to buy more pizzas as pizza prices fall, all other things remaining constant. Here, the increased purchases result not from an increase in demand but from the price decrease. This change represents a *movement along* the demand curve, not a *shift* of the demand curve. A movement along the demand curve means that other things were held constant when the price changed.

## B. THE SUPPLY SCHEDULE

Let us now turn from demand to supply. The supply side of a market typically involves the terms on which businesses produce and sell their products. The supply of tomatoes tells us the quantity of tomatoes that will be sold at each tomato price. More precisely, the supply schedule relates the quantity supplied of a good to its market price, other things constant. In considering supply, the other things that are held constant include costs of production, prices of related goods, and government policies.

The supply schedule (or supply curve) for a commodity shows the relationship between its market price and the amount of that commodity that producers are willing to produce and sell, other things held constant.

### THE SUPPLY CURVE

Table 3-3 shows a hypothetical supply schedule for cornflakes, and Figure 3-4 plots the data from the table in the form of a supply curve. These data show that at a cornflakes price of \$1 per box, no cornflakes at all will be produced. At such a low price, breakfast cereal manufacturers might want to devote their factories to producing other types of cereal, like bran flakes, that earn them more profit than

Supply Schedule for Cornflakes

	(1) Price (\$ per box) <i>P</i>	(2) Quantity supplied (millions of boxes per year) <i>Q</i>
A	5	18
B	4	16
C	3	12
D	2	7
E	1	0

TABLE 3-3. Supply Schedule Relates Quantity Supplied to Price

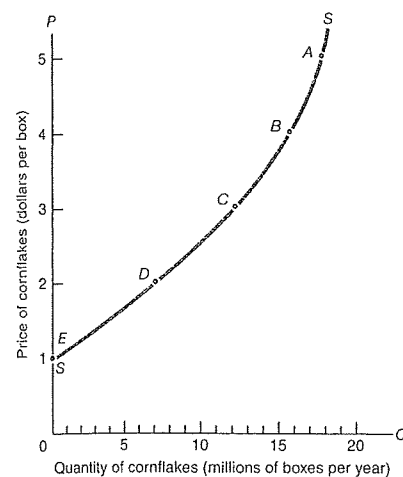
The table shows, for each price, the quantity of cornflakes that cornflakes makers want to produce and sell. Note the positive relation between price and quantity supplied.

cornflakes. As the price of cornflakes increases, ever more cornflakes will be produced. At ever-higher cornflakes prices, cereal makers will find it profitable to add more workers and to buy more automated cornflakes-stuffing machines and even more cornflakes factories. All these will increase the output of cornflakes at the higher market prices.

Figure 3-4 shows the typical case of an upward-sloping supply curve for an individual commodity. One important reason for the upward slope is "the law of diminishing returns" (a concept we will learn more about later). Wine will illustrate this important law. If society wants more wine, then additional labor will have to be added to the limited land sites suitable for producing wine grapes. Each new worker will be adding less and less extra product. The price needed to coax out additional wine output is there-

FIGURE 3-4. Supply Curve Relates Quantity Supplied to Price

The supply curve plots the price and quantity pairs from Table 3-3. A smooth curve is passed through these points to give the upward-sloping supply curve, *SS*.



fore higher. By raising the price of wine, society can persuade wine producers to produce and sell more wine; the supply curve for wine is therefore upward-sloping. Similar reasoning applies to many other goods as well.

### Behind the Supply Curve

In examining the forces determining the supply curve, the fundamental point to grasp is that producers supply commodities for profit and not for fun or charity. For example, a cereal maker will supply more cornflakes at higher prices because it is profitable to do so; conversely, when the price of cornflakes falls below the cost of production, cereal makers will switch to other lines of business.

One major element underlying the supply curve is the *cost of production*. When production costs for a good are low relative to the market price, it is profitable for producers to supply a great deal. When production costs are high relative to price, firms produce little, switch to the production of other products, or may simply go out of business.

Production costs are primarily determined by the *prices of inputs* and *technological advances*. The prices of inputs such as labor, energy, or machinery obviously have a very important influence on the cost of producing a given level of output. For example, when oil prices rose sharply in the 1970s, the increase raised the price of energy for manufacturers, increased their production costs, and lowered their supply. As computer prices fell over the last three decades, businesses increasingly substituted computerized for manual technologies, as in payroll or accounting operations.

An equally important determinant of production costs is *technological advances*, which consist of changes that lower the amount of inputs needed to produce the same quantity of output. Such advances include everything from actual scientific breakthroughs to better application of existing technology or simply reorganization of the flow of work. For example, manufacturers have become much more efficient over the last decade or so. It takes far fewer hours of labor to produce an automobile today than it did just 10 years ago. This advance enables car makers to produce more automobiles at the same cost. Or, to give another example, if a computer program allows a new customer to open a checking account with a few quick entries

on a computer screen, that, too, lowers the cost of production.

But production costs are not the only ingredient that goes into the supply curve. Firms are always alert to alternative opportunities to use their productive assets. So supply is also influenced by the *prices of related goods*, particularly goods that can be readily substituted for one another as outputs of the production process. If the price of one production substitute rises, the supply of another substitute will decrease. For example, auto companies typically make several different car models in the same factory. If there's more demand for one model, and its price rises, they will switch more of their assembly lines to making that model, and the supply of the other models will fall. Or if the demand and price for trucks rise, the entire factory can be converted to making trucks, and the supply of cars will fall.

*Government policy* also has an important impact on the supply curve. Environmental and health considerations determine what technologies can be used, while taxes and minimum-wage laws can significantly raise input prices. In the local electricity market, government regulations influence both the number of firms that can compete and the prices they charge. And government trade policies have a major impact upon supply. For instance, when a free-trade agreement opens up the U.S. market to Mexican goods, the supply of Mexican goods increases.

Finally, *special influences* affect the supply curve. The weather exerts an important influence on farming and on the ski industry. The computer industry has been marked by a keen spirit of innovation, which has led to a continuous flow of new products. Market structure will affect supply, and expectations about future prices often have an important impact upon supply decisions.

Table 3-4 on page 50 highlights the important determinants of supply, using automobiles as an example.

### Shifts in Supply

Businesses are constantly changing the mix of products and services they provide. What lies behind these changes in supply behavior?

Supply changes when any influences other than the commodity's own price change. In terms of a supply curve, we say that supply increases (or decreases) when the amount supplied increases (or decreases) at each market price.

Factors affecting the supply curve	Example for automobiles
1. Technology	Computerized manufacturing lowers production costs and increases supply.
2. Input prices	A reduction in the wage paid to autoworkers lowers production costs and increases supply.
3. Prices of related goods	If truck prices fall, supply of cars rises.
4. Government policy	Removing quotas and tariffs on imported automobiles increases automobile supply.
5. Special influences	If the government lowers standards on pollution-control equipment, supply of cars may increase.

TABLE 3-4. Supply Is Affected by Production Costs and Other Factors

When automobile prices change, producers change their production and quantity supplied, but the supply and the supply curve do not shift. By contrast, when other influences affecting supply change, supply changes and the supply curve shifts.

We can illustrate a shift in supply for the automobile market. Supply would increase if the introduction of cost-saving computerized design and

manufacturing reduced the labor required to produce cars, if autoworkers took a pay cut, if Japanese automakers were allowed to export more cars to the United States, or if the government removed some of the regulatory requirements on the industry. Any of these elements would increase the supply of automobiles in the United States at each price. Figure 3-5 illustrates an increase in supply of automobiles.

To test your understanding of supply shifts, think about the following: What would happen to the world supply curve for oil if a revolution in Saudi Arabia led to declining oil production? What would happen to the supply curve for tomatoes in the United States if quotas on Mexican tomatoes were imposed to pander to Florida tomato growers in an election year? What happens to the supply curve for computers if Intel introduces a new Sextium chip that dramatically increases computing speeds?

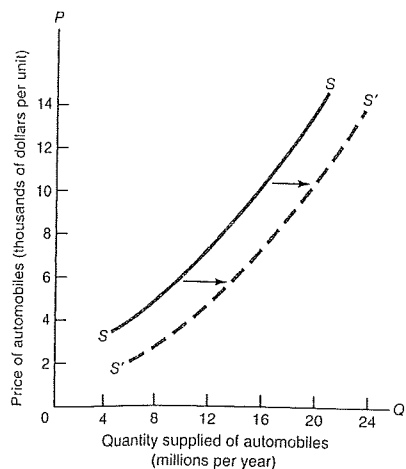


FIGURE 3-5. Increased Supply of Automobiles  
As production costs fall or Japanese competition increases, the supply of automobiles increases. At each price, domestic and foreign producers will supply more automobiles, and the supply curve therefore shifts to the right. (What would happen to the supply curve if Congress put a restrictive quota on automobile imports?)



**Reminder on shifts of curves vs. movements along curves:** As you answer the questions above, make sure to keep in mind the difference between moving along a curve and a shift of the curve. Look back at the gasoline-price curve in Figure 3-1 on page 44. When the price of oil rose and the production of oil declined because of political disturbances in the 1970s, these changes resulted from an inward shift in the supply curve. When sales of gasoline declined in response to the higher price, that was a movement along the demand curve. How would you describe a rise in chicken production that was induced by a rise in chicken prices? What about the case of a rise in chicken production because of a fall in the price of chicken feed?

C. EQUILIBRIUM OF SUPPLY AND DEMAND

Up to this point we have been considering demand and supply in isolation. We know the amounts that are willingly bought and sold at each price. We have seen that consumers demand different amounts of cornflakes, cars, and computers as a function of these goods' prices. Similarly, producers willingly supply different amounts of these and other goods depending on their prices. But how can we put both sides of the market together?

The answer is that supply and demand interact to produce an equilibrium price and quantity, or a market equilibrium. The market equilibrium comes at that price and quantity where the forces of supply and demand are in balance. At the equilibrium price, the amount that buyers want to buy is just equal to the amount that sellers want to sell. The reason we call this an equilibrium is that, when the forces of supply and demand are in balance, there is no reason for price to rise or fall, as long as other things remain unchanged.

Let us work through the cornflakes example in Table 3-5 to see how supply and demand determine a market equilibrium; the numbers in this table come from Tables 3-1 and 3-3. To find the market price and quantity, we find a price at which the amounts desired to be bought and sold just match. If we try a price of \$5 per box, will it prevail for long? Clearly not. As row A in Table 3-5 shows, at \$5 pro-

ducers would like to sell 18 million boxes per year while demanders want to buy only 9. The amount supplied at \$5 exceeds the amount demanded, and stocks of cornflakes pile up in supermarkets. Because too few consumers are chasing too many cornflakes, the price of cornflakes will tend to fall, as shown in column (5) of Table 3-5.

Say we try \$2. Does that price clear the market? A quick look at row D shows that at \$2 consumption exceeds production. Cornflakes begin to disappear from the stores at that price. As people scramble around to find their desired cornflakes, they will tend to bid up the price of cornflakes, as shown in column (5) of Table 3-5.

We could try other prices, but we can easily see that the equilibrium price is \$3, or row C in Table 3-5. At \$3, consumers' desired demand exactly equals producers' desired production, each of which is 12 units. Only at \$3 will consumers and suppliers both be making consistent decisions.

A market equilibrium comes at the price at which quantity demanded equals quantity supplied. At that equilibrium, there is no tendency for the price to rise or fall. The equilibrium price is also called the *market-clearing price*. This denotes that all supply and demand orders are filled, the books are "cleared" of orders, and demanders and suppliers are satisfied.

TABLE 3-5. Equilibrium Price Comes Where Quantity Demanded Equals Quantity Supplied  
The table shows the quantities supplied and demanded at different prices. Only at the equilibrium price of \$3 per box does amount supplied equal amount demanded. At too low a price there is a shortage and price tends to rise. Too high a price produces a surplus, which will depress price.

Combining Demand and Supply for Cornflakes					
	(1)	(2)	(3)	(4)	(5)
	Possible price (\$ per box)	Quantity demanded (millions of boxes per year)	Quantity supplied (millions of boxes per year)	State of market	Pressure on price
A	5	9	18	Surplus	↓Downward
B	4	10	16	Surplus	↓Downward
C	3	12	12	Equilibrium	Neutral
D	2	15	7	Shortage	↑Upward
E	1	20	0	Shortage	↑Upward

**EQUILIBRIUM WITH SUPPLY AND DEMAND CURVES**

We often show the market equilibrium through a supply-and-demand diagram like the one in Figure 3-6; this figure combines the supply curve from Figure 3-4 with the demand curve from Figure 3-2. Combining the two graphs is possible because they are drawn with exactly the same units on each axis.

We find the market equilibrium by looking for the price at which quantity demanded equals quantity supplied. *The equilibrium price comes at the intersection of the supply and demand curves, at point C.*

How do we know that the intersection of the supply and demand curves is the market equilibrium? Let us repeat our earlier experiment. Start with the initial high price of \$5 per box, shown at the top of the price axis in Figure 3-6. At that price, suppliers want to sell more than demanders want to buy. The result is a *surplus*, or excess of quantity supplied over quantity demanded, shown in the figure by the black line labeled "Surplus." The arrows along the curves show the direction that price tends to move when a market is in surplus.

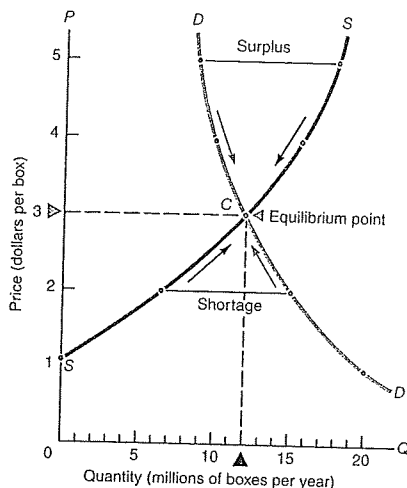
At a low price of \$2 per box, the market shows a *shortage*, or excess of quantity demanded over quantity supplied, here shown by the black line labeled "Shortage." Under conditions of shortage, the competition among buyers for limited goods causes the price to rise, as shown in the figure by the arrows pointing upward.

We now see that the balance or equilibrium of supply and demand comes at point C, where the supply and demand curves intersect. At point C, where the price is \$3 per box and the quantity is 12 units, the quantities demanded and supplied are equal: there are no shortages or surpluses; there is no tendency for price to rise or fall. At point C and only at point C, the forces of supply and demand are in balance and the price has settled at a sustainable level.

The equilibrium price and quantity come at that level where the amount willingly supplied equals the amount willingly demanded. In a competitive market, this equilibrium is found at the intersection of the supply and demand curves. There are no shortages or surpluses at the equilibrium price.

**Effect of a Shift in Supply or Demand**

The analysis of the supply-and-demand apparatus can do much more than tell us about the equi-

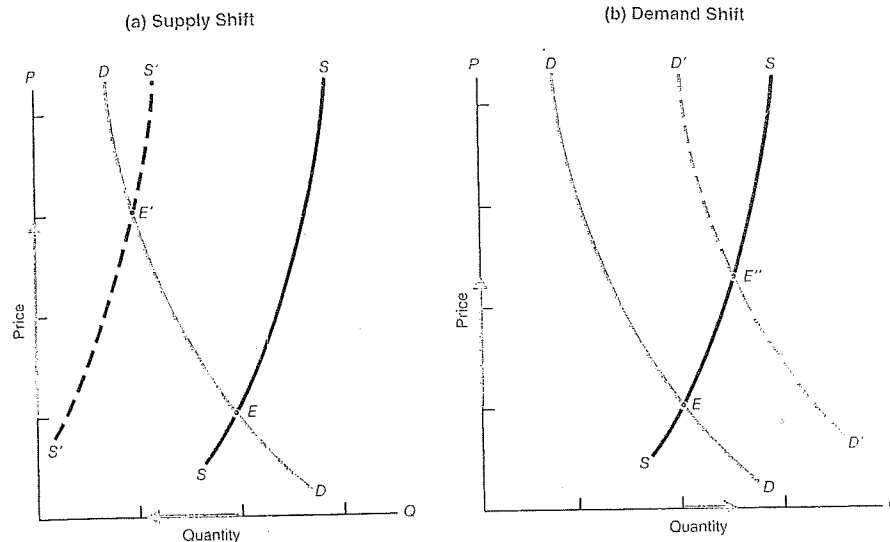


**FIGURE 3-6.** Market Equilibrium Comes at the Intersection of Supply and Demand Curves

The market equilibrium price and quantity come at the intersection of the supply and demand curves. At a price of \$3, at point C, firms willingly supply what consumers willingly demand. When price is too low (say, at \$2), quantity demanded exceeds quantity supplied, shortages occur, and the price is driven up to equilibrium. What occurs at a price of \$4?

librium price and quantity. It can also be used to predict the impact of changes in economic conditions on prices and quantities. Let's change our example to the staff of life, bread. Suppose that a spell of bad weather raises the price of wheat, a key ingredient of bread. That shifts the supply curve for bread to the left. This is illustrated in Figure 3-7(a), where the bread supply curve has shifted from SS' to S'S'. In contrast, the demand curve has not shifted; people have the same desire for their daily sandwich whether the harvest is good or bad.

What happens in the bread market? The bad harvest causes bakers to produce less bread at the old price, so quantity demanded exceeds quantity supplied. The price of bread therefore rises, encouraging



**FIGURE 3-7.** Shifts in Supply or Demand Change Equilibrium Price and Quantity

(a) If supply shifts leftward, a shortage will develop at the original price. Price will be bid up until quantities willingly bought and sold are equal, at new equilibrium E'. (b) A shift in the demand curve leads to excess demand. Price will be bid up as equilibrium price and quantity move upward to E''.

production and thereby raising quantity supplied, while simultaneously discouraging consumption and lowering quantity demanded. The price continues to rise until, at the new equilibrium price, the amounts demanded and supplied are once again equal.

As Figure 3-7(a) shows, the new equilibrium is found at E', the intersection of the new supply curve S'S' and the original demand curve. Thus a bad harvest (or any leftward shift of the supply curve) raises prices and, by the law of downward-sloping demand, lowers quantity demanded.

Suppose that new baking technologies lower costs and therefore increase supply. That means the supply curve shifts down and to the right. Draw in a new S''S'' curve, along with the new equilibrium E''. Why is the equilibrium price lower? Why is the equilibrium quantity higher?

We can also use our supply-and-demand apparatus to examine how changes in demand affect the market equilibrium. Suppose that there is a sharp increase in family incomes, so everyone wants to eat more bread. This is represented in Figure 3-7(b) as a "demand shift" in which, at every price, consumers demand a higher quantity of bread. The demand curve thus shifts *rightward* from DD' to D'D'.

The demand shift produces a shortage of bread at the old price. A scramble for bread ensues, with long lines in the bakeries. Prices are bid upward until supply and demand come back into balance at a higher price. Graphically, the increase in demand has changed the market equilibrium from E to E'' in Figure 3-7(b).

For both examples of shifts—a shift in supply and a shift in demand—a variable underlying the

	Demand and supply shifts	Effect on price and quantity
If demand rises . . .	The demand curve shifts to the right, and . . .	Price $\uparrow$ Quantity $\uparrow$
If demand falls . . .	The demand curve shifts to the left, and . . .	Price $\downarrow$ Quantity $\downarrow$
If supply rises . . .	The supply curve shifts to the right, and . . .	Price $\downarrow$ Quantity $\uparrow$
If supply falls . . .	The supply curve shifts to the left, and . . .	Price $\uparrow$ Quantity $\downarrow$

TABLE 3-6. The Effect on Price and Quantity of Different Demand and Supply Shifts

demand or supply curve has changed. In the case of supply, there might have been a change in technology or input prices. For the demand shift, one of the influences affecting consumer demand—incomes, population, the prices of related goods, or tastes—changed and thereby shifted the demand schedule (see Table 3-6).

When the elements underlying demand or supply change, this leads to shifts in demand or supply and to changes in the market equilibrium of price and quantity.

#### Interpreting Changes in Price and Quantity

Let's go back to our bread example. Suppose that you go to the store and see that the price of bread has doubled. Does the increase in price mean that the demand for bread has risen, or does it mean that bread has become more expensive to produce? The correct answer is that without more information, you don't know—it could be either one, or even both. Let's look at another example. If fewer airline tickets are sold, is the cause that airline fares have gone up or that demand for air travel has gone down? Airlines will be most interested in the answer to this question.

Economists deal with these sorts of questions all the time: When prices or quantities change in a market, does the situation reflect a change on the supply side or the demand side? Sometimes, in simple situations, looking at price and quantity simultaneously gives you a clue about whether it's the supply curve that's shifted or the demand curve. For example, a

rise in the price of bread accompanied by a *decrease* in quantity suggests that the supply curve has shifted to the left (a decrease in supply). A rise in price accompanied by an *increase* in quantity indicates that the demand curve for bread has probably shifted to the right (an increase in demand).

This point is illustrated in Figure 3-8. In both panel (a) and panel (b), quantity goes up. But in (a) the price rises, and in (b) the price falls. Figure 3-8(a) shows the case of an increase in demand, or a shift in the demand curve. As a result of the shift, the equilibrium quantity demanded increases from 10 to 15 units. The case of a movement along the demand curve is shown in Figure 3-8(b). In this case, a supply shift changes the market equilibrium from point  $E$  to point  $E''$ . As a result, the quantity demanded changes from 10 to 15 units. But demand does not change in this case; rather, quantity demanded increases as consumers move along their demand curve from  $E$  to  $E''$  in response to a price change.



**The elusive concept of equilibrium:** The notion of equilibrium is one of the most elusive concepts of economics. We are familiar with equilibrium in our everyday lives from seeing, for example, an orange resting at the bottom of a bowl or a pendulum at rest. In economics, equilibrium means that the different forces operating on a market are in balance, so the resulting price and quantity align the desires of purchasers and suppliers. Too low a price means that the forces are *not* in balance—that the forces attracting demand are greater than the forces attracting supply, so there is excess

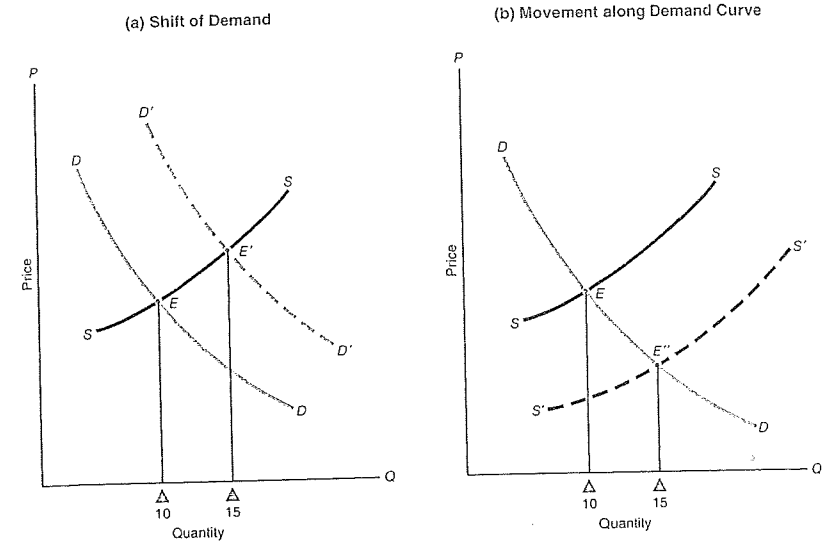


FIGURE 3-8. Shifts of and Movements along Curves

Start out with initial equilibrium at  $E$  and a quantity of 10 units. In (a), an increase in demand (i.e., a shift of the demand curve) produces a new equilibrium of 15 units at  $E'$ . In (b), a shift in supply results in a movement along the demand curve from  $E$  to  $E''$ .

demand or a shortage. We also know that a competitive market is a mechanism for producing equilibrium. If price is too low, demanders will bid up the price to the equilibrium level.

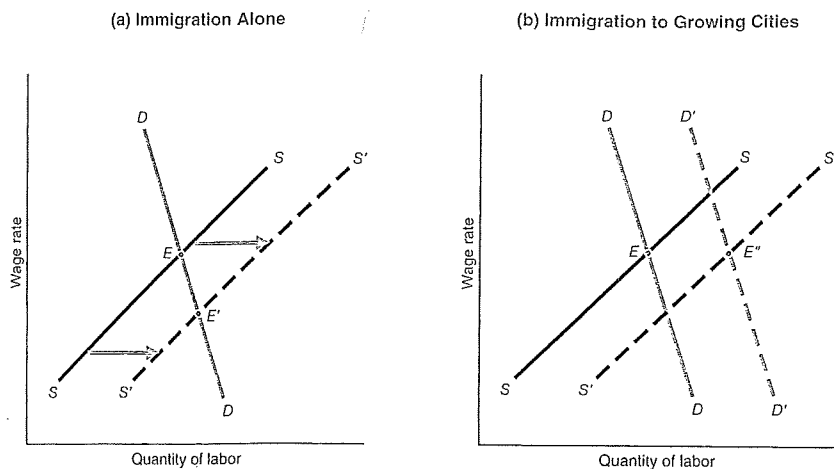
The notion of equilibrium is tricky, however, as is seen by the statement of a leading pundit: "Don't lecture me about supply and demand equilibrium. The supply of oil is always equal to the demand for oil. You simply can't tell the difference." The pundit is right in an accounting sense. Clearly the oil sales recorded by the oil producers should be exactly equal to the oil purchases recorded by the oil consumers. But this bit of arithmetic cannot repeal the laws of supply and demand. More important, if we fail to understand the nature of economic equilibrium, we cannot hope to understand the way that different forces affect the marketplace.

In economics, we are interested in knowing the quantity of sales that will clear the market, that is, the equilibrium quantity. We also want to know the price at which

consumers willingly buy what producers willingly sell. Only at this price will both buyers and sellers be satisfied with their decisions. Only at this price and quantity will there be no tendency for price and quantity to change. Only by looking at the equilibrium of supply and demand can we hope to understand such paradoxes as the fact that immigration may not lower wages in the affected cities, that land taxes do not raise rents, and that bad harvests raise (yes, raise!) the incomes of farmers.

#### Supply, Demand, and Immigration

A fascinating and important example of supply and demand, full of complexities, is the role of immigration in determining wages. If you ask people, they are likely to tell you that immigration into California or Florida surely lowers the wages of people in those regions. It's just supply and demand. They might point to Figure 3-9(a), which shows a



**FIGURE 3-9.** Analysis of Supply and Demand Must Hold All Other Things Constant  
 In (a), new immigrants cause the supply curve for labor to shift from  $SS$  to  $S'S'$ , lowering equilibrium wages. What if immigrants go only to cities with growing labor markets? Then, as shown in (b), the wage may not fall if demand shifts right to  $D'D'$  at the same time as supply shifts.

supply-and-demand analysis of immigration. According to this analysis, immigration into a region shifts the supply curve for labor to the right and pushes down wages.

Careful economic studies cast doubt on this simple proposition, however. A recent survey of the evidence concludes:

[The] effect of immigration on the labor market outcomes of natives is small. There is no evidence of economically significant reductions in native employment. Most empirical analysis . . . finds that a 10 percent increase in the fraction of immigrants in the population reduces native wages by at most 1 percent.<sup>2</sup>

How can we explain the small impact of immigration on wages? The main mistake is to forget how mobile the American population is and that the

impact of immigration will quickly spread around the entire country. For example, immigrants may move to cities where they can get jobs—that is, people move to those cities where the demand for labor is already rising because of a strong local economy.

This possibility is illustrated in Figure 3-9(b), where a shift in labor supply to  $S'$  is associated with a higher demand curve,  $D'$ . The new equilibrium wage at  $E''$  is the same as the original wage at  $E$ . Another possibility is that native-born residents move out (or do not move in) when immigrants move in, so total supply of labor is unchanged. This would leave the supply curve for labor in its original position and leave the wage unchanged.

How do economists sort out the possible reasons for the puzzling finding that immigration is not associated with depressed city wages? The key step in isolating the impact of a single variable is to hold other things constant. This means that all other variables must be held constant while the variable under consideration is changed. If we want to measure the

impact of immigration on wages, we must examine the effect of new immigrants when the strength of the local economy and the number of native-born residents in a city are unchanged—that is, when these “other things” are held constant. Unless you exclude the effects of other changing variables, you cannot accurately gauge the impact of immigration.

The same principle holds in doing a supply-and-demand analysis of any market. As much as possible, when you are examining the impact of a supply or demand shift, you must try to keep all other things constant.

### RATIONING BY PRICES

Let us now take stock of what the market mechanism accomplishes. By determining the equilibrium prices and quantities of all inputs and outputs, the market allocates or rations out the scarce goods of the society among the possible uses. Who does the rationing? A planning board? Congress or the President? No. The marketplace, through the interaction of supply and demand, does the rationing. This is *rationing by the purse*.

What goods are produced? This is answered by the signals of the market prices. High oil prices stim-

ulate oil production, whereas low food prices drive resources out of agriculture. Those who have the most dollar votes have the greatest influence on what goods are produced.

For whom are goods produced? The power of the purse dictates the distribution of income and consumption. Those with higher incomes end up with larger houses, more clothing, and longer vacations. When backed up by cash, the most urgently felt needs get fulfilled through the demand curve.

Even the *how* question is decided by supply and demand. When corn prices are low, it is not profitable for farmers to use expensive tractors and irrigation systems, and only the best land is cultivated. When oil prices are high, oil companies drill in deep offshore waters and employ novel seismic techniques to find oil.

With this introduction to supply and demand, we begin to see how desires for goods, as expressed through demands, interact with costs of goods, as reflected in supplies. Further study will deepen our understanding of these concepts and will show how this tool can be applied to other important areas. But even this first survey will serve as an indispensable tool for interpreting the economic world in which we live.

### SUMMARY

1. The analysis of supply and demand shows how a market mechanism solves the three problems of *what*, *how*, and *for whom*. It shows how dollar votes decide the prices and quantities of different goods and services. A market blends together demands, coming from consumers who are spreading their incomes among available goods and services, with supplies, such as those provided by businesses interested in maximizing their profits.
2. A demand schedule shows the relationship between the quantity demanded and the price of a commodity, other things held constant. Such a demand schedule, depicted graphically by a demand curve, holds constant other things like family incomes, tastes, and the prices of other goods. Almost all commodities obey the *law of downward-sloping demand*, which holds that quantity demanded falls as a good's price rises. This law is represented by a downward-sloping demand curve.
3. Many influences lie behind the demand schedule for the market as a whole: average family incomes, population, the prices of related goods, tastes, and special influences. When these influences change, the demand curve will shift.
4. The supply schedule (or supply curve) gives the relationship between the quantity of a good that producers desire to sell—other things constant—and that good's price. Quantity supplied generally responds positively to price, so the supply curve rises upward and to the right.
5. Elements other than the good's price affect its supply. The most important influence is the commodity's production cost, determined by the state of technology and by input prices. Other elements in supply include the prices of related goods, government policies, and special influences.

<sup>2</sup> Rachel M. Friedberg and Jennifer Hunt, “The Impact of Immigrants on Host Country Wages, Employment, and Growth,” *Journal of Economic Perspectives* (Spring 1995), pp. 23–44.



## C. Equilibrium of Supply and Demand

6. The equilibrium of supply and demand in a competitive market is attained at a price at which the forces of supply and demand are in balance. The equilibrium price is the price at which the quantity demanded just equals the quantity supplied. Graphically, we find the equilibrium as the intersection of the supply and demand curves. At a price above the equilibrium, producers want to supply more than consumers want to buy, which results in a surplus of goods and exerts downward pressure on price. Similarly, too low a price generates a shortage, and buyers will therefore tend to bid price upward to the equilibrium.
7. Shifts in the supply and demand curves change the equilibrium price and quantity. An increase in demand, which shifts the demand curve to the right,

will increase both equilibrium price and quantity. An increase in supply, which shifts the supply curve to the right, will decrease price and increase quantity demanded.

8. To use supply-and-demand analysis correctly, we must (a) distinguish a change in demand or supply (which produces a shift in a curve) from a change in the quantity demanded or supplied (which represents a movement along a curve); (b) hold other things constant, which requires distinguishing the impact of a change in a commodity's price from the impact of changes in other influences; and (c) look always for the supply-and-demand equilibrium, which comes at the point where forces acting on price and quantity are in balance.
9. Competitively determined prices ration the limited supply of goods among those with the demands.

## CONCEPTS FOR REVIEW

supply-and-demand analysis	supply schedule or curve, <i>SS</i>	shifts in supply and demand curves
demand schedule or curve, <i>DD</i>	influences affecting supply curve	all other things held constant
law of downward-sloping demand	equilibrium price and quantity	rationing by prices
influences affecting demand curve		

## QUESTIONS FOR DISCUSSION

- Define carefully what is meant by a demand schedule or curve. State the law of downward-sloping demand. Illustrate the law of downward-sloping demand with two cases from your own experience.
  - Define the concept of a supply schedule or curve. Show that an increase in supply means a rightward and downward shift of the supply curve. Contrast this with the rightward and upward shift in the demand curve implied by an increase in demand.
- What might increase the demand for hamburgers? What would increase the supply? What would inexpensive frozen pizzas do to the market equilibrium for hamburgers? To the wages of teenagers who work at McDonald's?
- Explain why the price in competitive markets settles down at the equilibrium intersection of supply and demand. Explain what happens if the market price starts out too high or too low.
- Explain why each of the following is false:
  - A freeze in Brazil's coffee-growing region will lower the price of coffee.
  - "Protecting" American tomato producers from Mexican tomato imports will lower tomato prices in the United States.
  - The rapid increase in college tuitions will lower the demand for college.
  - The war against drugs, with increased interdiction of imported cocaine, will lower the price of domestically produced marijuana.
- The four laws of supply and demand are the following:
  - An increase in demand generally raises price and raises quantity demanded.
  - A decrease in demand generally \_\_\_\_\_ price and \_\_\_\_\_ quantity demanded.
  - An increase in supply generally lowers price and raises quantity demanded.
  - A decrease in supply generally \_\_\_\_\_ price and \_\_\_\_\_ quantity demanded.
 Fill in the blanks. Demonstrate each law with a supply-and-demand diagram.
- For each of the following, explain whether quantity demanded changes because of a demand shift or a price change, and draw a diagram to illustrate your answer:
  - As a result of decreased military spending, the price of Army boots falls.
  - Fish prices fall after the pope allows Catholics to eat meat on Friday.

- An increase in gasoline taxes lowers the consumption of gasoline.
  - After the Black Death struck Europe in the fourteenth century, wages rose.
7. Examine the graph for the price of gasoline in Figure 3-1, page 44. Then, using a supply-and-demand diagram, illustrate the impact of each of the following on price and quantity demanded:
- Improvements in transportation lower the costs of importing oil into the United States in the 1960s.
  - After the 1973 war, oil producers cut oil production sharply.
  - After 1980, smaller automobiles get more miles per gallon.
  - A record-breaking cold winter in 1995-1996 unexpectedly raises the demand for heating oil.

8. From the following data, plot the supply and demand curves and determine the equilibrium price and quantity:

Supply and Demand for Pizzas		
Price (\$ per pizza)	Quantity demanded (pizzas per semester)	Quantity supplied (pizzas per semester)
10	0	40
8	10	30
6	20	20
4	30	10
2	40	0
0	125	0

What would happen if the demand for pizzas tripled at each price? What would occur if the price were initially set at \$4 per pizza?

7

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# ΟΙΚΟΝΟΜΙΚΗ

ΔΕΚΑΤΗ ΕΚΤΗ ΔΙΕΘΝΗΣ ΕΚΔΟΣΗ

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ΕΚΔΟΣΕΙΣ ΠΑΠΑΖΗΣΗ  
ΑΘΗΝΑ 2000





## ΚΕΦΑΛΑΙΟ 1

# ΤΑ ΘΕΜΕΛΙΑ ΤΗΣ ΟΙΚΟΝΟΜΙΚΗΣ

Δεν περιμένουμε το γεύμα μας από την καλοσύνη του κρεοπώλη, του ζυθοποιού ή του αρτοποιού, αλλά από τη φροντίδα τους για το δικό τους συμφέρον.

*Adam Smith, The Wealth of Nations (1776)*

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### Α. ΕΙΣΑΓΩΓΗ

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Ας σταθούμε λίγο και ας στοχαστούμε τα παράδοξα αυτά λόγια που έγραψε το 1776 ο Άνταμ Σμιθ, ο ιδρυτής της σύγχρονης οικονομικής. Το ίδιο έτος σημαδεύτηκε από τη Διακήρυξη της Αμερικανικής Ανεξαρτησίας. Δεν είναι σύμπτωση που και οι δύο αυτές ιδέες εμφανίστηκαν ταυτοχρόνως. Όπως ακριβώς οι Αμερικανοί επαναστάτες διακήρυτταν την ανεξαρτησία τους από την τυραννία, έτσι και ο Άνταμ Σμιθ κήρυττε ένα επαναστατικό δόγμα απελευθέρωσης του εμπορίου και της βιομηχανίας από τα δεσμά της φεουδαρχικής αριστοκρατίας.

Κατά τους τελευταίους δύο αιώνες, ο περισσότερος κόσμος γνώρισε μια περίοδο πρωτοφανούς ευημερίας. Στις Ηνωμένες Πολιτείες και στις άλλες χώρες υψηλού εισοδηματικού επιπέδου, οι περισσότεροι άνθρωποι έχουν τα μέσα να αγοράζουν πολύ περισσότερα αγαθά και όχι απλώς τα απολύτως απαραίτητα είδη διατροφής, ένδυσης και στέγης. Ταχύτατοι προσωπικοί υπολογιστές, οικιακά συστήματα ψυχαγωγίας υψηλής τεχνολογίας και γρήγορες αεροπορικές μεταφορές σε οποιοδήποτε μέρος του κόσμου είναι παραδείγματα μιας εκπληκτικής ποικιλίας αγαθών και υπηρεσιών που έχουν γίνει μέρος της καθημερινής ζωής μας. Αλλά και στις αναπτυσσόμενες χώρες το βιοτικό επίπεδο ανέρχεται με γρήγορο ρυθμό τα τελευταία χρόνια.

Ωστόσο, η εκτεταμένη ευημερία δεν έχει φέρει οικονομική ασφάλεια. Ένα μέσο έτος, 10 εκατομμύρια Αμερικανοί χάνουν τη δουλειά τους και σχεδόν 100.000 επιχειρήσεις χρεοκοπούν. Το 14% των νοικοκυριών θεωρούνται φτωχά, και το ποσοστό αυτό ανέρχεται σχεδόν στο 50% των νοικοκυριών με αρχηγό μαύρο άνδρα. Πολλές οικογένειες ανησυχούν για τις καταστροφικές οικονομικές συνέπειες των ασθενειών, επειδή δεν έχουν ασφάλεια υγείας. Η κοινωνία της αφθονίας είναι μια ανασφαλής κοινωνία.

Παρατηρώντας την ιστορία του ανθρώπου, διαπιστώνουμε ότι –το μεγαλύτερο τμήμα της– εκείνοι που δέχονταν το χτύπημα της οικονομικής κακοτυχίας ζούσαν χάρη στη μεγαλοψυχία των οικογενειών ή των φίλων τους. Ξεκινώντας πριν από περίπου έναν αιώνα, οι κυβερνήσεις άρχισαν να δημιουργούν το «κράτος πρόνοιας», το οποίο παρέχει κοινωνική ασφάλιση και στήριξη του εισοδήματος των φτωχών ανθρώπων. Προοδευτικά, οι φτωχοί που ζούσαν σε πλούσιες χώρες άρχισαν να αποκτούν πρόσβαση στα κατώτατα επίπεδα εισοδήματος, διατροφής και ιατροφαρμακευτικής περίθαλψης. Ωστόσο, η αύξηση των φόρων και των δημόσιων δαπανών προκάλεσε επανάσταση της μεσαίας τάξης, δηλαδή της φορολογούμενης τάξης. Το 1996, οι Ηνωμένες Πολιτείες απέσυραν την εγγύηση εισοδηματικής υποστήριξης που πρόσφεραν στις φτωχές οικογένειες. Σε όλο τον κόσμο, οι χώρες επαναπροσδιόριζαν τα όρια μεταξύ κράτους και αγοράς, σε μια προσπάθεια να εξισορροπήσουν την αυξανόμενη ανάγκη για δημόσιες υπηρεσίες με την αυξανόμενη διαμαρτυρία που απαιτεί μείωση των φόρων και συρρίκνωση του κράτους.

Είναι η εποχή της παγκόσμιας αγοράς. Σήμερα, χρήμα, αγαθά και πληροφορίες διασχίζουν τα εθνικά σύνορα πιο εύκολα από ποτέ. Σε παλιότερες εποχές, είχαμε συναλλαγές με ανθρώπους της γειτονιάς μας ή της κοντινής πόλης και αγοράζαμε κυρίως εγχώρια αγαθά. Σήμερα, οδηγούμε το «παγκόσμιο αυτοκίνητο». Ας δούμε αυτό το παγκόσμιο αυτοκίνητο ή το γρήγορο προσωπικό υπολογιστή. Ενσωματώνουν υλικά, εργασία, κεφάλαιο και καινοτομίες από όλο τον κόσμο. Η άνοδος της παγκόσμιας αγοράς θέτει νέες προκλήσεις. Ποιος θα κατορθώσει να προσαρμοστεί καλύτερα στις νέες συνθήκες; Ποιος θα προσαρμοστεί πιο γρήγορα στην εποχή της πληροφόρησης; Το στοίχημα είναι μεγάλο. Οι νικητές θα έχουν κέρδος, οι ηττημένοι θα μείνουν πίσω.

### Για ποιον χτυπά η καμπίνα

Θα διερωτάσθε, ίσως, καθώς αρχίζετε τις σπουδές σας: Γιατί σπουδάσω οικονομικά; Η κατανόηση του ρόλου του κράτους και οι προκλήσεις της παγκόσμιας αγοράς είναι δύο μόνον από τους λόγους για τους οποίους οι νέοι σπουδάζουν σήμερα οικονομικά.

Ορισμένοι σπουδάζουν οικονομικά επειδή ελπίζουν ότι θα κερδίσουν χρήματα. Άλλοι φοβούνται ότι θα είναι αμόρφωτοι αν δεν μπορούν να κατανοούν τους νόμους της προσφοράς και της ζήτησης. Πολλοί ενδιαφέρονται να μάθουν πώς θα μπορούσαμε να βελτιώσουμε το περιβάλλον ή γιατί η ανισότητα στη διανομή του εισοδήματος έχει μεγαλώσει τόσο πολύ στις Ηνωμένες Πολιτείες τα τελευταία χρόνια.

Όλοι αυτοί οι λόγοι –και πολλοί περισσότεροι– είναι απολύτως κατανοητοί. Ωστόσο, πρέπει να καταλάβουμε ότι υπάρχει ένας συντριπτικός λόγος για τον οποίο σπουδάζουμε οικονομικά: ολόκληρη η ζωή μας –από το λίκνο έως τον τάφο, αλλά και πέραν αυτού– θα περιστρέφεται γύρω από τις ωμές αλήθειες της οικονομικής. Ως ψηφοφόροι θα πρέπει να αποφασίζουμε για ζητήματα –όπως τα δημόσια ελλείμματα, οι φόροι, το ελεύθερο εμπόριο– τα οποία δεν θα μπορούμε να κατανοήσουμε αν δεν έχουμε κάνει κτήμα μας τους ακρογωνιαίους λίθους αυτής της επιστήμης.

Η επιλογή του επαγγέλματος, το οποίο θα ασκούμε σε όλη τη ζωή μας, είναι η πιο σημαντική από τις αποφάσεις που θα κληθούμε να πάρουμε. Το μέλλον μας εξαρτάται όχι μόνον από τις ικανότητές μας αλλά και από το πώς οι οικονομικές δυνάμεις, που βρίσκονται πέρα από τον έλεγχό μας, θα επηρεάσουν το μισθό μας. Η οικονομική μπορεί, επίσης, να μας βοηθήσει να επενδύσουμε το απόθεμα που κατορθώσαμε να αφήσουμε στην άκρη από τα εισοδήματά μας. Φυσικά, η μελέτη της οικονομικής δεν μπορεί να μας μετατρέψει σε μεγαλοφυΐες. Αλλά χωρίς γνώσεις οικονομικής, τα ζάρια της ζωής ρίχνονται εναντίον μας.

Δεν υπάρχει λόγος να γίνουμε κουραστικοί, επιμένοντας στο θέμα αυτό. Ελπίζουμε μόνο ότι η οικονομική, εκτός από χρήσιμη, είναι από μόνη της ένα συναρπαστικό πεδίο. Γενεές σπουδαστών έχουν ανακαλύψει, μένοντας συχνά κατάπληκτοι, πόσο μαγευτική μπορεί να είναι η μελέτη της οικονομικής.

## ΣΠΑΝΙΟΤΗΤΑ ΚΑΙ ΑΠΟΤΕΛΕΣΜΑΤΙΚΟΤΗΤΑ: ΤΑ ΔΙΔΥΜΑ ΘΕΜΑΤΑ ΤΗΣ ΟΙΚΟΝΟΜΙΚΗΣ

Τι είναι, λοιπόν, η οικονομική; Κατά τα τελευταία 30 χρόνια η μελέτη της οικονομικής έχει διευρυνθεί, συμπεριλαμβάνοντας μια πολύ μεγάλη ποικιλία θεμάτων. Ποιοι είναι οι κυριότεροι ορισμοί του αναπτυσσόμενου αυτού θέματος; Οι πιο σημαντικοί είναι ότι η οικονομική<sup>1</sup>:

- ο μελετά πώς οι τιμές της εργασίας, του κεφαλαίου και της γης ορίζονται στην οικονομία και πώς χρησιμοποιούνται για την κατανομή των παραγωγικών πόρων·
- ο διερευνά τη συμπεριφορά των χρηματαγορών και αναλύει πώς κατανέμουν το κεφάλαιο στην υπόλοιπη οικονομία·
- ο εξετάζει τη διανομή του εισοδήματος και υποδεικνύει τρόπους με τους οποίους θα μπορούσε να δοθεί βοήθεια στους φτωχούς, χωρίς να προκληθεί βλάβη στην οικονομία·
- ο εξετάζει την επίδραση των δημόσιων δαπανών, των φόρων και των ελλειμμάτων του κρατικού προϋπολογισμού στην ανάπτυξη·
- ο μελετά τις διακυμάνσεις στην ανεργία και στην παραγωγή, που σχηματίζουν τον οικονομικό κύκλο, και επεξεργάζεται μέτρα οικονομικής πολιτικής για την πραγματοποίηση της οικονομικής μεγέθυνσης·
- ο εξετάζει τα πρότυπα εμπορίου μεταξύ κρατών και αναλύει τις συνέπειες των εμπορικών φραγμών·
- ο διερευνά την οικονομική μεγέθυνση στις αναπτυσσόμενες χώρες και εισηγείται τρόπους ενθάρρυνσης της αποτελεσματικής χρήσης των παραγωγικών πόρων.

Ο κατάλογος αυτός είναι αρκετά πλήρης, αν και θα μπορούσατε να τον διευρύνετε πολλές φορές. Ωστόσο, αν αναζητήσουμε το καταστάλαγμα όλων αυτών των ορισμών, θα βρούμε ένα θέμα κοινό:

Οικονομική είναι η μελέτη του τρόπου με τον οποίον οι κοινωνίες χρησιμοποιούν τους σπανίζοντες πόρους τους για να παραγάγουν πολύτιμα αγαθά και να τα διανεμίσουν μεταξύ των μελών τους.

1. Ο κατάλογος αυτός περιλαμβάνει ορισμένους ειδικούς όρους της οικονομικής. Για να μπορέσει κάποιος να κάνει κτήμα του την οικονομική, θα πρέπει να κατανοήσει τους όρους αυτούς. Αν κάποιος όρος δεν σας είναι οικείος, θα πρέπει να συμβουλευέστε το Γλωσσάριο που υπάρχει στο τέλος του βιβλίου. Το Γλωσσάριο περιλαμβάνει τους περισσότερους από τους τεχνικούς οικονομικούς όρους που χρησιμοποιούνται στο παρόν σύγγραμμα. Όλοι οι ειδικοί όροι δίνονται στο κείμενο με μαύρα γράμματα και ορίζονται στο Γλωσσάριο.

Υπόβαθρο του ορισμού αυτού είναι δύο βασικές ιδέες της οικονομικής: ότι τα αγαθά σπανίζουν και ότι η κοινωνία πρέπει να χρησιμοποιεί τους παραγωγικούς πόρους της αποτελεσματικά. Πράγματι, η οικονομική είναι σημαντική υπόθεση, εξαιτίας του γεγονότος της σπανιότητας και της επιθυμίας για αποτελεσματικότητα.

Ας πάρουμε πρώτα τη **στενότητα** (ή **σπανιότητα**). Αν μπορούσαμε να παράγουμε άπειρες ποσότητες από κάθε αγαθό ή αν ήταν δυνατόν να ικανοποιούμε πλήρως όλες τις επιθυμίες των ανθρώπων, ποιες θα ήταν οι συνέπειες; Οι άνθρωποι δεν θα στενοχωρούνταν πώς να αυξήσουν με μόχθο τα περιορισμένα εισοδήματά τους, επειδή θα είχαν όλα όσα επιθυμούσαν. Οι επιχειρήσεις δεν θα χρειαζόταν να ανησυχούν για το κόστος εργασίας ή για τις εισφορές στα ταμεία κοινωνικής ασφάλισης. Οι κυβερνήσεις δεν θα χρειαζόταν πλέον να δίνουν μάχες για τους φόρους και τις δημόσιες δαπάνες, επειδή ουδείς θα νοιαζόταν. Επιπλέον, επειδή όλοι θα είχαμε ό,τι επιθυμεί η ψυχή μας, ουδείς θα ενδιαφερόταν για το πώς διανέμεται το εθνικό εισόδημα μεταξύ διαφόρων ανθρώπων ή κοινωνικών τάξεων.

Σε έναν τέτοιο επίγειο παράδεισο αφθονίας δεν θα υπάρχουν **οικονομικά αγαθά**, δεν θα υπάρχουν αγαθά που σπανίζουν ή που η προσφορά τους είναι περιορισμένη. Όλα τα αγαθά θα είναι ελεύθερα, όπως η άμμος στην έρημο ή το θαλασσινό νερό στην παραλία. Τιμές και αγορές δεν θα υπάρχουν. Και, φυσικά, η οικονομική δεν θα είναι πλέον χρήσιμο γνωστικό πεδίο.

Ωστόσο, καμία κοινωνία δεν έχει κατορθώσει να επιτύχει την ουτοπία των απεριόριστων δυνατοτήτων. Τα αγαθά είναι περιορισμένα, ενώ οι επιθυμίες φαίνεται να είναι απεριόριστες. Ακόμη και έπειτα από δύο αιώνες γρήγορης οικονομικής μεγέθυνσης, η παραγωγή στις Ηνωμένες Πολιτείες δεν επαρκεί για να καλύψει τις επιθυμίες όλων. Αν αθροίσουμε όλες τις ανάγκες, θα διαπιστώσουμε γρήγορα ότι τα αγαθά και οι υπηρεσίες που υπάρχουν φθάνουν για να καλυφθεί μόνον ένα κλάσμα των καταναλωτικών αναγκών όλων μας. Η παραγωγή των Ηνωμένων Πολιτειών θα έπρεπε να είναι πολλαπλάσια για να γίνει δυνατό να ζει ο μέσος Αμερικανός σε ένα βιοτικό επίπεδο ανάλογο με αυτό του μέσου ιατρού ή του μέσου δικηγόρου. Σε άλλες περιοχές του κόσμου, ιδίως στην Αφρική και στην Ασία, εκατομμύρια άνθρωποι υποφέρουν από την πείνα και τις στέρησεις.

Είναι σημαντικό λοιπόν για μια οικονομία, δεδομένου ότι οι ανθρώπινες ανάγκες είναι απεριόριστες, να χρησιμοποιήσει με τον καλύτερο τρόπο τους περιορισμένους παραγωγικούς πόρους της. Η ανάγκη αυτή

μάς φέρνει μπροστά στην κρίσιμη έννοια της **αποτελεσματικότητας**. Αποτελεσματικότητα σημαίνει την πιο αποδοτική χρήση των πόρων μιας κοινωνίας για την ικανοποίηση των επιθυμιών και αναγκών των μελών της.

Πιο συγκεκριμένα, μια οικονομία παράγει αποτελεσματικά όταν δεν μπορεί να βελτιώσει την οικονομική ευημερία ενός μέλους της χωρίς να βλάψει την ευημερία κάποιου άλλου μέλους της.

Η ουσία της οικονομικής έγκειται σε τούτο: να συνειδητοποιήσουμε την πραγματικότητα της στενότητας και, ακολούθως, να καθορίσουμε πώς θα οργανώσουμε την κοινωνία έτσι ώστε να χρησιμοποιεί με τον πιο αποτελεσματικό τρόπο τους διαθέσιμους πόρους της. Αυτό ακριβώς είναι το πεδίο στο οποίο η οικονομική δίνει τη μοναδική συνεισφορά της.

#### Μικροοικονομική και Μακροοικονομική

Ο Άνταμ Σμιθ θεωρείται, συνήθως, ο ιδρυτής του πεδίου της **μικροοικονομικής**, του κλάδου της οικονομικής που ασχολείται με τη συμπεριφορά ξεχωριστών οντοτήτων της οικονομίας, όπως οι αγορές, οι επιχειρήσεις και τα νοικοκυριά. Στον *Πλούτο των Εθνών*, ο Σμιθ μελετά τον καθορισμό των τιμών της γης, της εργασίας και του κεφαλαίου και διερευνά τα ισχυρά και αδύνατα σημεία του μηχανισμού της αγοράς. Εντοπίζει, πράγμα ακόμη πιο σημαντικό, τις ιδιότητες αποτελεσματικότητας των αγορών και βλέπει ότι το οικονομικό όφελος πηγάζει από πράξεις ατόμων που επιδιώκουν την προαγωγή του δικού τους συμφέροντος. Όλα αυτά τα ζητήματα εξακολουθούν να είναι σημαντικά μέχρι σήμερα και, ενώ η μελέτη της οικονομικής έχει ασφαλώς προχωρήσει πολύ από τις ημέρες του Σμιθ, το έργο του εξακολουθεί να αναφέρεται τόσο από πολιτικούς όσο και από οικονομολόγους.

Ο άλλος μεγάλος κλάδος της οικονομικής είναι η **μακροοικονομική**, της οποίας αντικείμενο είναι η γενική επίδοση της οικονομίας. Η μακροοικονομική δεν υπήρχε στη σύγχρονη μορφή της πριν από το 1935, όταν ο Τζον Μείναρντ Κέινς δημοσίευσε το επαναστατικό έργο του *Γενική Θεωρία της Απασχόλησης, του Τόκου και του Χρήματος*. Την εποχή εκείνη, η Αγγλία και οι Ηνωμένες Πολιτείες εξακολουθούσαν να είναι βυθισμένες στη Μεγάλη Κρίση της δεκαετίας του '30, σε συνθήκες όπου περισσότερο από το ένα τέταρτο του αμερικανικού εργατικού δυναμικού ήταν άνεργο. Στη νέα θεωρία του, ο Κέινς προχώρησε σε μια ανάλυση σχετικά με το τι προκαλεί την ανεργία και τις οικονομικές κάμψεις.

πώς καθορίζονται οι επενδύσεις και η κατανάλωση, πώς οι κεντρικές τράπεζες διαχειρίζονται το χρήμα και τα επιτόκια και πώς ορισμένες χώρες ευημερούν, ενώ άλλες είναι απολεματωμένες. Ο Κέινς υποστήριξε ότι το κράτος έχει να παίξει σημαντικό ρόλο στο μετριασμό των μεγάλων διακυμάνσεων του οικονομικού κύκλου. Μολονότι η μακροοικονομική έχει προχωρήσει πάρα πολύ από τότε που ο Κέινς διατύπωσε τις ιδέες αυτές, τα ζητήματα τα οποία πραγματεύθηκε εξακολουθούν να καθορίζουν μέχρι σήμερα τη μελέτη της μακροοικονομικής.

Οι δύο κλάδοι – μικροοικονομική και μακροοικονομική – συγκλίνουν, σχηματίζοντας τη σύγχρονη οικονομική. Κάποτε, τα όρια μεταξύ των δύο περιοχών ήταν σαφή. Τελευταίως, οι δύο αυτοί κλάδοι έχουν συγχωρευθεί, καθώς οι οικονομολόγοι εφαρμόζουν τα εργαλεία της μικροοικονομικής σε θέματα όπως η ανεργία και ο πληθωρισμός.

#### Η ΛΟΓΙΚΗ ΤΗΣ ΟΙΚΟΝΟΜΙΚΗΣ

Η οικονομική ζωή είναι μια απίστευτα περίπλοκη κυψέλη δραστηριοτήτων, με ανθρώπους να αγοράζουν, να πωλούν, να διαπραγματεύονται, να επενδύουν, να πείθουν και να απειλούν. Τελικός σκοπός της οικονομικής επιστήμης και του παρόντος βιβλίου είναι η κατανόηση αυτού του περίπλοκου εγχειρήματος. Πώς επιτελούν το καθήκον τους αυτό οι οικονομολόγοι;

Οι οικονομολόγοι χρησιμοποιούν την *επιστημονική προσέγγιση* για να κατανοήσουν την οικονομική ζωή. Αυτό σημαίνει ότι παρατηρούν τα οικονομικά φαινόμενα και στηρίζονται σε στατιστικά στοιχεία και ιστορικά δεδομένα. Για σύνθετα φαινόμενα, όπως οι επιπτώσεις των ελλειμμάτων του προϋπολογισμού ή τα αίτια του πληθωρισμού, η ιστορική έρευνα έχει αποδειχθεί χρυσωρυχείο ιδεών. Συχνά οι οικονομολόγοι στηρίζονται σε αναλύσεις και θεωρίες. Οι θεωρητικές προσεγγίσεις επιτρέπουν στους οικονομολόγους να διατυπώσουν μεγάλες γενικεύσεις, όπως εκείνες που αφορούν στα πλεονεκτήματα του ελεύθερου εμπορίου και της ειδίκευσης ή στα μειονεκτήματα των δασμών και των ποσοτώσεων.

Μια τελική προσέγγιση είναι η χρήση των στατιστικών αναλύσεων. Οι οικονομολόγοι έχουν αναπτύξει μια εξειδικευμένη τεχνική που είναι γνωστή ως **οικονομετρία**, η οποία εφαρμόζει τα εργαλεία της στατιστικής σε οικονομικά προβλήματα. Χρησιμοποιώντας την οικονομμετρία, οι οικονομολόγοι μπορούν να διαχειριστούν βουνά δεδομένων και να εξαγάγουν από αυτά απλές σχέσεις. Παραδείγματος χάρη, τα τελευταία



χρόνια, ο κόσμος διαφωνεί σχετικά με τις συνέπειες των υψηλότερων ημερομισθίων και μισθών στην απασχόληση. Από δεκάδες μελέτες, οι οικονομολόγοι έχουν συμπεράνει ότι είναι πιθανόν η αύξηση του κατώτατου μισθού να μειώσει την απασχόληση των χαμηλόμισθων εργαζομένων. Η γνώση αυτή είναι απαραίτητη στον πολιτικό που καλείται να αντιμετωπίσει το πρόβλημα πόσο ψηλά να ορίσει τα κατώτατα ημερομίσθια και τους μισθούς.

Οι νέοι οικονομολόγοι πρέπει, επίσης, να γνωρίζουν τον κίνδυνο να διολισθήσουν σε ορισμένα σφάλματα στην οικονομική λογική. Επειδή οι οικονομικές σχέσεις είναι συχνά σύνθετες και εμπλέκονται σε αυτές πολλές μεταβλητές, είναι εύκολο να μπερδευτεί κάποιος όσον αφορά στα πραγματικά αίτια στα οποία οφείλονται ορισμένα γεγονότα ή στις επιπτώσεις στην οικονομία ορισμένων μέτρων οικονομικής πολιτικής. Οι ακόλουθες είναι μερικές από τις πιο κοινές πλάνες που αντιμετωπίζει η οικονομική λογική:

- *Το σφάλμα post hoc.* Η πρώτη πλάνη αφορά στον εντοπισμό της αιτιότητας. *Το σφάλμα post hoc συμβαίνει όταν υποθέτουμε πως επειδή ένα γεγονός συνέβη πριν από ένα άλλο, το πρώτο γεγονός προκάλεσε το δεύτερο*<sup>2</sup>. Ένα παράδειγμα του συνδρόμου αυτού εμφανίστηκε στα χρόνια της Μεγάλης Κρίσης τη δεκαετία του '30, στις Ηνωμένες Πολιτείες. Μερικοί άνθρωποι είχαν παρατηρήσει ότι οι περίοδοι επέκτασης των επιχειρηματικών εργασιών προηγούνται ή συνοδεύουν περιόδους ανόδου των τιμών. Ξεκινώντας από τη διαπίστωση αυτή, συμπέραναν ότι το κατάλληλο φάρμακο για τη θεραπεία της οικονομικής ύφεσης είναι η άνοδος των ημερομισθίων και των τιμών. Η αντίληψη αυτή οδήγησε σε πλήθος νομοθετημάτων και ρυθμίσεων με σκοπό να στηριχθούν τα ημερομίσθια και οι τιμές με αναποτελεσματικό τρόπο. Τελικώς, προώθησαν τα μέτρα αυτά την οικονομική μεγέθυνση; Απολύτως όχι. Απεναντίας, μάλλον επιβράδυναν την ανάκαμψη της οικονομίας, η οποία δεν κατέστη δυνατή παρά μόνον όταν άρχισαν να αυξάνονται οι συνολικές δαπάνες ως αποτέλεσμα των αυξημένων στρατιωτικών δαπανών εν όψει του Β' Παγκοσμίου Πολέμου.
- *Η αδυναμία να κρατήσουμε τους λοιπούς παράγοντες αμετάβλητους.* Μια δεύτερη παγίδα είναι η αδυναμία να κρατήσουμε τους λοιπούς

2. Το post hoc είναι μέρος της λατινικής φράσης *post hoc, ergo propter hoc*. Η φράση αυτή αποδίδεται ως «μετά ταύτα, άρα, διά ταύτα», δηλαδή επειδή κάτι προηγήθηκε χρονικά ενός αποτελέσματος είναι κατ' ανάγκη το αίτιό του.

παράγοντες σταθερούς όταν εξετάζουμε κάποιο ζήτημα. Παραδείγματος χάριν, μπορεί να θέλουμε να γνωρίζουμε αν η αύξηση των φορολογικών συντελεστών θα αυξήσει ή θα μειώσει τα φορολογικά έσοδα. Μερικοί άνθρωποι έχουν διατυπώσει το εσφαλμένο επιχείρημα ότι μπορούμε να φάμε την πίτα μας και ταυτοχρόνως να την έχουμε ολάκερη. Δηλαδή, υποστηρίζουν ότι μειώνοντας τους φορολογικούς συντελεστές θα αυξήσουμε την ίδια στιγμή τα δημόσια έσοδα και θα μειώσουμε το δημόσιο έλλειμμα. Και μας υπενθυμίζουν την περίπτωση των φορολογικών περικοπών των Κένεντι - Τζόνσον το 1964, όταν έπειτα από μια απότομη μείωση των φορολογικών συντελεστών ακολούθησε αύξηση των δημόσιων εσόδων το 1965. Όθεν, υποστηρίζουν, οι χαμηλότεροι φορολογικοί συντελεστές οδηγούν σε υψηλότερα δημόσια έσοδα.

Τι είναι λάθος στο συλλογισμό αυτόν; Το επιχείρημα αυτό παραβλέπει ότι η οικονομία από το 1964 έως το 1965 αναπτύχθηκε. Επειδή, λοιπόν, τα εισοδήματα των ανθρώπων αυξήθηκαν στη διάρκεια αυτής της περιόδου, αυξήθηκαν και τα δημόσια έσοδα, παρά το γεγονός ότι οι φορολογικοί συντελεστές ήταν χαμηλότεροι. Προσεκτικές μελέτες δείχνουν ότι τα δημόσια έσοδα θα ήταν ακόμη μεγαλύτερα το 1965 αν δεν είχαν μειωθεί οι φορολογικοί συντελεστές του 1964. Επομένως, η ανάλυση αυτή αποτυγχάνει να κρατήσει τους λοιπούς παράγοντες (δηλαδή, τα συνολικά εισοδήματα) σταθερούς.

*Δεν πρέπει να λησμονείτε να κρατάτε σταθερούς τους λοιπούς παράγοντες όταν αναλύετε την επίδραση μιας μεταβλητής στο οικονομικό σύστημα.*

- *Το σφάλμα της σύνθεσης.* Μερικές φορές υποθέτουμε ότι αυτό που ισχύει για το μέρος ενός συστήματος ισχύει και για το όλο. Ωστόσο, στην οικονομική συχνά διαπιστώνουμε ότι το όλο είναι διαφορετικό από το άθροισμα των μερών του. Όταν υποθέτετε ότι αυτό που είναι αληθές για το μέρος είναι αληθές και για το όλο, διαπραττέτε το σφάλμα της σύνθεσης.

Ιδού μερικές αληθείς προτάσεις που, αν αγνοούσατε το σφάλμα της σύνθεσης, πιθανότατα θα σας εξέπλητταν: (1) Αν ένας αγρότης έχει μια πολύ πλούσια σοδειά, θα έχει και υψηλότερο εισόδημα. Αλλά αν όλοι οι αγρότες έχουν ασυνήθιστα μεγάλη σοδειά, το εισόδημά τους θα μειωθεί. (2) Αν ένας άνθρωπος αποκτήσει πολύ περισσότερα χρήματα, η θέση του θα βελτιωθεί. Αν όμως όλοι αποκτήσουν πολύ περισσότερα χρήματα, η θέση της κοινωνίας, πιθανότατα, θα χειροτερεύσει. (3) Αν επιβληθεί υψηλός δασμός στο προϊόν ενός ορισμένου

κλάδου, οι παραγωγοί του κλάδου αυτού πιθανότατα θα ωφεληθούν. Αν όμως επιβληθούν υψηλοί δασμοί σε όλους τους κλάδους, η θέση των περισσότερων παραγωγών και καταναλωτών θα χειροτερεύσει. (4) Όταν οι καθηγητές βαθμολογούν σύμφωνα με την κλίμακα επίδοσης της τάξης (grade on a curve), οι βαθμοί είναι ένα «παίγνιο μηδενικού αθροίσματος». Αν ένας σπουδαστής έχει καλές επιδόσεις, θα αυξήσει τη βαθμολογία του. Αν όμως όλοι οι σπουδαστές έχουν καλές επιδόσεις, η μέση βαθμολογία θα μείνει αμετάβλητη.

Τα παραδείγματα αυτά δεν περιέχουν τεχνάσματα ή μαγικά. Αντιθέτως, είναι αποτελέσματα των συστημάτων αλληλεπίδρασης των ατόμων. Όταν τα άτομα αλληλεπιδρούν μεταξύ τους, συχνά η συμπεριφορά των συνόλων φαίνεται να είναι πολύ διαφορετική από τη συμπεριφορά των μεμονωμένων ατόμων.

Η μνεία των λογικών αυτών σφαλμάτων που έγινε εδώ ήταν ομολογουμένως σύντομη. Αργότερα, όμως, όταν θα παρουσιάζουμε τα εργαλεία της οικονομικής ανάλυσης, θα επανερχόμαστε στη συζήτηση αυτή και θα δίνουμε παραδείγματα για να δείξουμε πώς η έλλειψη συγκέντρωσης στη λογική της οικονομικής μπορεί να οδηγήσει σε σφάλματα τα οποία, ενίοτε, κοστίζουν ακριβά. Και όταν θα έχετε ολοκληρώσει τη μελέτη του παρόντος βιβλίου, θα μπορείτε να ανατρέχετε στα προηγούμενα και να βλέπετε γιατί καθένα από τα παράδοξα αυτά παραδείγματα είναι, πράγματι, αληθές.

## ΛΟΓΙΚΗ ΚΑΙ ΕΥΑΙΣΘΗΣΙΑ

Από την εποχή του Άνταμ Σμιθ, η οικονομική, ένα μικρό βελανίδι τότε, έχει αναπτυχθεί και έχει γίνει μια ισχυρή βελανιδιά. Κάτω από τα απλωμένα κλαδιά της βρίσκουμε ερμηνείες για τα οφέλη από το διεθνές εμπόριο, συμβουλές για το πώς να μειώσουμε την ανεργία και τον πληθωρισμό, τύπους σχετικά με το πώς να επενδύουμε τα χρήματα που αποταμιεύουμε για τα γηρατειά μας, ακόμη και προτάσεις για την πώληση του δικαιώματός μας να ρυπαίνουμε. Σε όλο τον κόσμο, οικονομολόγοι εργάζονται για να συγκεντρώσουν στοιχεία και να μας βοηθήσουν να κατανοήσουμε καλύτερα τις οικονομικές τάσεις.

Εύλογα, όμως, θα αναρωτιέστε: Ποιος είναι ο σκοπός αυτής της στρατιάς των οικονομολόγων που μετρούν, αναλύουν και υπολογίζουν; Τελικός σκοπός της οικονομικής επιστήμης είναι η βελτίωση των συνθη-

κών ζωής των ανθρώπων στην καθημερινή ζωή τους. Η αύξηση του Ακαθάριστου Εγχώριου Προϊόντος δεν είναι απλώς ένα παιχνίδι με τους αριθμούς. Υψηλότερα εισοδήματα σημαίνουν καλύτερη τροφή, πιο ζεστά σπίτια, ζεστό νερό. Σημαίνουν ασφαλές πόσιμο νερό και εμβολιασμούς κατά των επανεμφανιζόμενων λοιμών που μαστίζουν την ανθρωπότητα.

Σημαίνουν, όμως, και άλλα πράγματα. Τα υψηλότερα εισοδήματα επιτρέπουν στις κυβερνήσεις να κατασκευάζουν σχολεία για να μπορούν οι νέοι άνθρωποι να μαθαίνουν γράμματα και να αναπτύσσουν τις απαραίτητες ικανότητες για το χειρισμό περίπλοκων τεχνολογιών. Καθώς αυξάνονται ακόμη περισσότερο τα εισοδήματα, τα κράτη μπορούν να διαθέτουν τους πόρους για τη διεξαγωγή βαθύτερων επιστημονικών ερευνών στη βιολογία και να ανακαλύπτουν νέα εμβόλια κατά των νόσων. Με τους πόρους που απελευθερώνει η οικονομική ανάπτυξη, ταλαντούχοι καλλιτέχνες έχουν την ευκαιρία να γράφουν ποίηση και να συνθέτουν μουσική, ενώ άλλοι έχουν ελεύθερο χρόνο να διαβάσουν, να ακούν και να εκτελούν. Μολονότι δεν υπάρχει κάποιο μοναδικό πρότυπο οικονομικής ανάπτυξης και η εξέλιξη του πολιτισμού διαφέρει από χώρα σε χώρα, η απελευθέρωση από την πείνα, τους λοιμούς και τα στοιχεία της φύσης είναι κοινή φιλοδοξία ολόκληρης της ανθρωπότητας.

Ωστόσο, οι αιώνες της ιστορίας του ανθρώπου δείχνουν ότι η ευαισθησία από μόνη της δεν μπορεί να χορτάσει τον πεινασμένο ή να γιατρέψει τον άρρωστο. Ο προσδιορισμός του καλύτερου δρόμου για την οικονομική πρόοδο χρειάζεται τον ψυχρό νοη - την ψυχρή λογική που θα σταθμίσει αντικειμενικά το κόστος και το όφελος των διαφόρων προσεγγίσεων και θα προσπαθήσει όσο πιο σκληρά είναι δυνατόν να προστατεύσει την ανάλυση από τον κίνδυνο να υπεισέλθουν στοιχεία ευσεβών πύθων. Μερικές φορές, η οικονομική πρόοδος θα απαιτήσει το κλείσιμο κάποιου ξεπερασμένου εργοστασίου. Άλλες πάλι φορές, όπως όταν οι πρώην σοσιαλιστικές χώρες υιοθέτησαν αρχές της αγοράς, τα πράγματα πρέπει να γίνουν χειρότερα για να μπορέσουν αργότερα να γίνουν καλύτερα. Οι επιλογές είναι εξαιρετικά δύσκολες στους τομείς της υγείας, όπου οι περιορισμένοι πόροι αφορούν κυριολεκτικά τη ζωή και το θάνατο.

Θα έχετε ασφαλώς ακούσει το αίτημα: «Από τον καθένα σύμφωνα με τις δυνατότητές του, στον καθένα σύμφωνα με τις ανάγκες του». Τα σημερινά κράτη έχουν διδαχθεί ότι καμία κοινωνία δεν μπορεί να λειτουργήσει μόνο με αυτήν την ουτοπική αρχή. Για να παραμείνει υγιής μια οικονομία, το κράτος πρέπει να παρέχει κίνητρα για να εργάζονται οι άνθρωποι και να αποταμιεύουν. Οι κοινωνίες μπορούν να προσφέρουν τα

αναγκαία στους ανέργους, αλλά αν η κοινωνική ασφάλιση είναι υπερβολικά γενναιοδωρη, οι άνθρωποι θα αρχίσουν να εξαρτώνται από το κράτος. Και αν όλοι αρχίσουν να πιστεύουν ότι το κράτος οφείλει να τους συντηρεί, θα δεχθεί σοβαρό πλήγμα το τολμηρό πνεύμα. Δεν σημαίνει, λοιπόν, ότι επειδή κάποια κρατικά προγράμματα καταρτίστηκαν με αγνές προθέσεις πρέπει να εφαρμοστούν αστόχαστα, χωρίς ενδιαφέρον για την αποτελεσματικότητά τους.

Το κράτος οφείλει να βρει τη χρυσή τομή ανάμεσα στην πειθαρχία της αγοράς και τη γενναιοδωρία του κράτους ευημερίας. Χρησιμοποιώντας την ψυχρή λογική μας για να πληροφορήσει την ευαίσθητη ψυχή μας, η οικονομική επιστήμη μπορεί να διαδραματίσει κάποιο ρόλο στη δημιουργία μιας ευημερούσας και δίκαιης κοινωνίας.

## Β. ΤΑ ΤΡΙΑ ΠΡΟΒΛΗΜΑΤΑ ΤΗΣ ΟΙΚΟΝΟΜΙΚΗΣ ΟΡΓΑΝΩΣΗΣ

Κάθε ανθρώπινη κοινωνία – είτε πρόκειται για μια ανεπτυγμένη βιομηχανική χώρα είτε για μια κεντρικά σχεδιασμένη οικονομία είτε, τέλος, για μια απομονωμένη φυλετική χώρα – πρέπει να αντιμετωπίζει και να επιλύει τρία θεμελιώδη οικονομικά προβλήματα. Κάθε κοινωνία πρέπει να έχει έναν τρόπο να καθορίζει τι αγαθά θα παράγει, πώς θα παράγει τα αγαθά αυτά και για ποιον θα τα παράγει.

Πράγματι, τα τρία αυτά θεμελιώδη προβλήματα της οικονομικής οργάνωσης – τι, πώς και για ποιον – είναι σήμερα το ίδιο κρίσιμα όσο ήταν και στο λυκαυγές του ανθρώπινου πολιτισμού. Ας δούμε πιο αναλυτικά τα προβλήματα αυτά:

- Τι αγαθά θα παραχθούν και σε τι ποσότητες; Μια κοινωνία πρέπει να αποφασίσει την ποσότητα την οποία θα παραγάγει από το σύνολο των αγαθών και των υπηρεσιών και τη χρονική στιγμή κατά την οποία θα τα παραγάγει. Θα παραγάγουμε πίτσες ή πουκάμισα σήμερα; Λίγα υψηλής ποιότητας πουκάμισα ή, μήπως, πολλά φθηνά πουκάμισα; Θα χρησιμοποιήσουμε σπανίζοντες πόρους για την παραγωγή πολλών καταναλωτικών αγαθών (όπως πίτσες); Ή μήπως θα παραγάγουμε λιγότερα καταναλωτικά και περισσότερα επενδυτικά αγαθά (όπως

- μηχανές με τις οποίες παρασκευάζονται πίτσες), πράγμα που θα δώσει ώθηση στην αυριανή παραγωγή και κατανάλωση;
- Πώς παράγονται τα αγαθά; Μια κοινωνία πρέπει να αποφασίσει ποι-οι θα πραγματοποιούν την παραγωγή, με τι παραγωγικούς πόρους και ποιες τεχνικές θα χρησιμοποιούν. Ποιοι θα είναι αγρότες και ποι-οι δάσκαλοι; Θα παράγεται ηλεκτρικό ρεύμα από πετρέλαιο, από άν-θρακα ή από τον ήλιο; Με πολλή ρύπανση ή με λίγη;
- Για ποιον παράγονται τα αγαθά; Ποιος απολαμβάνει τους καρπούς της οικονομικής δραστηριότητας; Ή, με άλλα λόγια, πώς διανέμεται το εθνικό προϊόν μεταξύ των νοικοκυριών; Είναι πολλοί άνθρωποι φτωχοί και ελάχιστοι πλούσιοι; Τα υψηλά εισοδήματα πηγάζουν στα ανώτερα διευθυντικά στελέχη, στους αθλητές, στους εργάτες, στους γαιοκτήμονες; Θα παρέχει η κοινωνία ένα κατώτατο επίπεδο κατανά-λωσης στους φτωχούς ή μήπως θα πρέπει να εργάζονται αν θέλουν να μη λιμοκτονήσουν;



**Προειδοποίηση:** Όταν σκεπτόμαστε οικονομικά ζητήματα, πρέ-πει να κάνουμε τη διάκριση ανάμεσα σε ζητήματα που αναφέρο-νται σε γεγονότα και σε ζητήματα δικαιοσύνης. Η θετική οικονομική περιγράφει τα γεγονότα μιας οικονομίας, ενώ η κανονιστική ή δεοντολογική οι-κονομική περιλαμβάνει αξιολογικές κρίσεις.

Η **θετική οικονομική** πραγματεύεται ζητήματα όπως: Γιατί οι γιατροί κερ-δίζουν περισσότερα χρήματα από τους θυρωρούς; Το ελεύθερο εμπόριο οδη-γεί σε υψηλότερα ή σε χαμηλότερα ημερομίσθια και μισθούς για τους περισσό-τερους Αμερικανούς; Ποια θα είναι η οικονομική επίπτωση μιας ενδεχόμενης αύξησης των φόρων; Μολονότι δεν είναι εύκολη η απάντηση στα ερωτήματα αυτά, όλα μπορούν να λυθούν με αναφορά στην ανάλυση και στην εμπειρία. Γι' αυτό ακριβώς εντάσσονται στο πεδίο της θετικής οικονομικής.

Η **κανονιστική οικονομική** περιλαμβάνει ηθικές αρχές και κανόνες δικαιο-σύνης. Θα πρέπει να ζητείται από τους φτωχούς να εργαστούν για να δικαι-οούνται την οικονομική βοήθεια του κράτους; Θα πρέπει να αυξηθεί η ανεργία για να εξασφαλιστεί ότι δεν είναι πολύ γρήγορος ο πληθωρισμός τιμών; Θα πρέπει οι Ηνωμένες Πολιτείες να επιβάλουν κυρώσεις στην Κίνα, επειδή η τε-λευταία δεν πληρώνει δικαιώματα πνευματικής ιδιοκτησίας σε αμερικανικά βι-βλία και CD; Στα ερωτήματα αυτά δεν υπάρχουν ορθές ή εσφαλμένες απα-ντήσεις, επειδή αναφέρονται σε ηθική και αξίες και όχι σε γεγονότα. Τα ζητή-ματα αυτά μπορούν να λυθούν μόνο με πολιτικό διάλογο και πολιτικές απο-φάσεις και όχι με την οικονομική ανάλυση.

## ΑΓΟΡΑ, ΕΝΤΟΛΗ ΚΑΙ ΜΙΚΤΕΣ ΟΙΚΟΝΟΜΙΕΣ

Μια κοινωνία μπορεί να απαντήσει με πολλούς τρόπους στα ερωτήματα: *τι, πώς και για ποιον*. Διάφορες κοινωνίες οργανώνονται μέσα από *εναλλακτικά οικονομικά συστήματα* και η οικονομική μελετά τους διάφορους μηχανισμούς τους οποίους μπορεί να χρησιμοποιήσει η κοινωνία για να κατανείμει τους σπανίζοντες πλουτοπαραγωγικούς πόρους της.

Γενικώς διακρίνουμε δύο θεμελιωδώς διαφορετικούς τρόπους οργάνωσης της οικονομίας. Στο ένα άκρο, το κράτος λαμβάνει τις περισσότερες οικονομικές αποφάσεις, με εκείνους που βρίσκονται στην κορυφή της ιεραρχίας να δίνουν εντολές στους ευρισκόμενους σε κατώτερες βαθμίδες της κλίμακας. Στο άλλο άκρο, οι αποφάσεις λαμβάνονται στις αγορές, όπου άτομα ή επιχειρήσεις συμφωνούν με τη θέλησή τους να ανταλλάξουν αγαθά και υπηρεσίες, συνήθως μέσω χρηματικού αντιτίμου. Ας εξετάσουμε σύντομα καθεμία από αυτές τις δύο μορφές οργάνωσης της οικονομίας.

Στις Ηνωμένες Πολιτείες και στις περισσότερες δημοκρατικές χώρες, τα περισσότερα οικονομικά προβλήματα λύνονται από την αγορά. Επομένως, τα οικονομικά τους συστήματα ονομάζονται οικονομίες της αγοράς. **Οικονομία της αγοράς** είναι μια οικονομία όπου τα άτομα και οι ιδιωτικές επιχειρήσεις λαμβάνουν τις μεγάλες αποφάσεις για την παραγωγή και την κατανάλωση. Ένα σύστημα τιμών, αγορών, κερδών και ζημιών, κινήτρων και ανταμοιβών καθορίζει το *τι, πώς και για ποιον*. Οι επιχειρήσεις παράγουν εμπορεύματα που αποφέρουν τα υψηλότερα κέρδη (το *τι*), με τεχνικές παραγωγής που είναι λιγότερο δαπανηρές (το *πώς*). Η κατανάλωση καθορίζεται από τις αποφάσεις των ατόμων σχετικά με το πώς θα δαπανήσουν τους μισθούς και τα εισοδήματά τους τα οποία δημιουργούνται από την εργασία και την περιουσία τους (το *για ποιον*). Η ακραία περίπτωση της οικονομίας της αγοράς, όπου το κράτος δεν παρεμβαίνει στις οικονομικές αποφάσεις, ονομάζεται οικονομία **laissez-faire**.

Απεναντίας, **οικονομία εντολών** είναι μια οικονομία όπου το κράτος λαμβάνει όλες τις σημαντικές αποφάσεις σχετικά με την παραγωγή και την κατανάλωση. Σε μια οικονομία εντολών, όπως αυτή που υπήρχε στη Σοβιετική Ένωση κατά τον τελευταίο αιώνα, το κράτος ήταν ιδιοκτήτης των μέσων παραγωγής (γη και κεφάλαιο). Στην κυριότητά του, επίσης, βρίσκονταν και οι επιχειρήσεις των περισσότερων κλάδων, τις οποίες το ίδιο διοικούσε. Ήταν ο εργοδότης των περισσότερων εργαζομένων και τους έλεγε πώς πρέπει να κάνουν τη δουλειά τους. Επίσης, το κράτος ή-

ταν αυτό που αποφάσιζε πώς θα κατανεμηθεί η παραγωγή μεταξύ διαφόρων αγαθών και υπηρεσιών. Με λίγα λόγια, σε μια οικονομία της αγοράς, το κράτος απαντά στα μεγάλα ερωτήματα μέσω της ιδιοκτησίας των παραγωγικών πόρων και της εξουσίας του να επιβάλλει τις αποφάσεις του.

Καμία σύγχρονη κοινωνία δεν εμπίπτει απόλυτα στη μία ή στην άλλη ακραία περίπτωση. Μάλλον, όλες οι κοινωνίες είναι **μικτές οικονομίες**, με στοιχεία αγοράς και εντολών. Ποτέ δεν υπήρξε οικονομία της αγοράς 100% (αν και η Αγγλία του 19ου αιώνα πλησίαζε το σύστημα αυτό).

Σήμερα οι περισσότερες αποφάσεις στις Ηνωμένες Πολιτείες λαμβάνονται στην αγορά. Αλλά και το κράτος διαδραματίζει σημαντικό ρόλο, εποπτεύοντας τη λειτουργία της αγοράς. Τα κράτη ψηφίζουν νόμους που ρυθμίζουν την οικονομική ζωή, παράγουν υπηρεσίες παιδείας και αστυνόμευσης και ελέγχουν τη ρύπανση. Οι περισσότερες χώρες σήμερα έχουν μικτές οικονομίες.

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 Γ. ΟΙ ΤΕΧΝΟΛΟΓΙΚΕΣ ΔΥΝΑΤΟΤΗΤΕΣ ΤΗΣ ΚΟΙΝΩΝΙΑΣ
 

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Κάθε κανόνι που κατασκευάζεται, κάθε πολεμικό πλοίο που καθελκύεται, κάθε πύραυλος που εκτοξεύεται είναι, σε τελική ανάλυση, κλοπή από ανθρώπους που πεινούν και δεν τους δίνουμε τροφή.

*Πρόεδρος Ντουάιτ Ντ. Αϊζενχάουερ*

Κάθε οικονομία έχει ένα απόθεμα περιορισμένων πόρων – εργασίας, τεχνικής γνώσης, εργοστασίων και εργαλείων, γης, ενέργειας. Όταν η οικονομία λαμβάνει την απόφαση *τι και πώς* θα παραχθεί, στην πραγματικότητα αποφασίζει πώς θα κατανείμει τους παραγωγικούς πόρους της ανάμεσα σε χιλιάδες διαφορετικά αγαθά και υπηρεσίες που μπορούν να παραχθούν. Πόση γη θα διατεθεί για την παραγωγή σίτου; Ή για την κατασκευή κατοικιών για τον πληθυσμό; Πόσα εργοστάσια θα κατασκευάζουν ηλεκτρονικούς υπολογιστές; Πόσα θα παρασκευάζουν πίτσες; Πόσα παιδιά θα μεγαλώσουν για να γίνουν επαγγελματίες αθλητές

ή επαγγελματίες οικονομολόγοι ή προγραμματιστές ηλεκτρονικών υπολογιστών;

Όταν έρχεται αντιμέτωπη με την αδιαμφισβήτητη πραγματικότητα ό-  
τι τα αγαθά βρίσκονται σε στενότητα σε σχέση με τις ανάγκες, μια οικο-  
νομία πρέπει να αποφασίσει πώς θα χρησιμοποιήσει τους περιορισμέ-  
νους πόρους της. Πρέπει να επιλέξει ανάμεσα σε διάφορες δέσμες αγα-  
θών που μπορούν να παραχθούν (το τι), να καταλήξει σε συγκεκριμένες  
τεχνικές παραγωγής (το πώς) και να αποφασίσει, τέλος, ποιος θα κατα-  
ναλώσει τα αγαθά και τις υπηρεσίες που θα παραχθούν (το για ποιον).

### ΕΙΣΡΟΕΣ ΚΑΙ ΕΚΡΟΕΣ

Κάθε κοινωνία για να απαντήσει στα τρία προαναφερθέντα ερωτήματα  
πρέπει να κάνει επιλογές σχετικά με τις εισροές και εκροές της οικονο-  
μίας. **Εισροές** είναι αγαθά ή υπηρεσίες που χρησιμοποιούνται για την  
παραγωγή άλλων αγαθών και υπηρεσιών. Μια οικονομία χρησιμοποιεί  
την **τεχνολογία** που διαθέτει για να συνδυάσει εισροές και να παραγάγει  
εκροές. **Εκροές** είναι τα διάφορα χρήσιμα αγαθά ή υπηρεσίες που είναι  
αποτέλεσμα της παραγωγικής διαδικασίας και είτε καταναλώνονται είτε  
χρησιμοποιούνται ξανά στην παραγωγή. Ας δούμε την «παραγωγή» πί-  
τσας. Λέμε, λοιπόν, ότι τα αβγά, το αλεύρι, η θερμότητα, ο φούρνος ό-  
που ψήνονται οι πίτσες και η ειδικευμένη ικανότητα του μάγειρα πίτσας  
είναι οι εισροές. Εκροή είναι η νόστιμη πίτσα. Στην εκπαίδευση, εισροές  
είναι ο χρόνος της μελέτης, τα εργαστήρια και οι αίθουσες διδασκαλίας,  
τα εγχειρίδια κ.ο.κ., ενώ εκροές είναι οι μορφωμένοι και ενημερωμένοι  
πολίτες.

Ένας άλλος όρος για τις εισροές είναι οι **συντελεστές της παραγω-  
γής**. Οι συντελεστές της παραγωγής μπορούν να ταξινομηθούν σε τρεις  
γενικές κατηγορίες: γη, εργασία και κεφάλαιο.

- Η **γη** –ή, πιο γενικά, οι φυσικοί πόροι– αντιπροσωπεύει το δώρο της  
φύσης στις παραγωγικές διαδικασίες μας. Αποτελείται από το έδαφος  
που χρησιμοποιείται για αγροτικές καλλιέργειες ή για τη θεμελίωση  
κατοικιών και εργοστασίων ή για την κατασκευή δρόμων· τις ενεργει-  
ακές πηγές που μας προσφέρουν καύσιμα για τα αυτοκίνητά μας και  
θερμότητα στα σπίτια μας· και τους μη ενεργειακούς πόρους, όπως ο  
χαλκός, το σιδηρομέταλλευμα και η άμμος. Στο σημερινό, πολυάν-  
θρωπο κόσμο μας, οφείλουμε να διευρύνουμε τους φυσικούς πόρους

μας, συμπεριλαμβάνοντας τους περιβαλλοντικούς, όπως τον καθαρό  
αέρα και το πόσιμο νερό.

- Η **εργασία** αποτελείται από το χρόνο που ο άνθρωπος δαπανά στην  
παραγωγή – εργαζόμενος σε αυτοκινητοβιομηχανίες, οργάνοντας τη  
γη, διδάσκοντας στα σχολεία ή ψήνοντας πίτσες. Χιλιάδες απασχολή-  
σεις και έργα, σε όλα τα επίπεδα ειδίκευσης, εκτελούνται από την ερ-  
γασία. Είναι ασφαλώς η πιο οικεία αλλά και η πιο κρίσιμη εισροή σε  
μια ανεπτυγμένη βιομηχανική οικονομία.
- Το **κεφάλαιο** (ή κεφαλαιακοί πόροι) αποτελείται από τα διαρκή αγα-  
θά μιας οικονομίας που έχουν παραχθεί για να χρησιμοποιηθούν  
στην παραγωγή και άλλων αγαθών. Στα κεφαλαιουχικά αγαθά περι-  
λαμβάνονται μηχανές, δρόμοι, ηλεκτρονικοί υπολογιστές, σφυριά,  
νταλίκες, χαλυβουργεία, αυτοκίνητα, πλυντήρια και κτήρια. Όπως θα  
δούμε αργότερα, η συσσώρευση εξειδικευμένων κεφαλαιουχικών α-  
γαθών είναι ουσιαστική προϋπόθεση για την οικονομική ανάπτυξη.

Εκφράζοντας τα τρία οικονομικά προβλήματα σε όρους εισροών και ε-  
κροών, μια κοινωνία πρέπει να αποφασίσει (1) τι εκροές θα παράγει  
και σε τι ποσότητες· (2) πώς θα τις παράγει – δηλαδή, με ποιες τεχνικές  
θα πρέπει να συνδυαστούν οι εισροές για να παραχθούν οι επιθυμητές  
εκροές· και (3) για ποιον θα πρέπει να παραχθούν και να κατανομηθούν  
οι εκροές.

### ΤΟ ΟΡΙΟ ΤΩΝ ΔΥΝΑΤΟΤΗΤΩΝ ΠΑΡΑΓΩΓΗΣ

Οι κοινωνίες δεν μπορούν να έχουν όλα όσα θέλουν. Υπόκεινται σε πε-  
ριορισμούς τους οποίους επιβάλλουν οι διαθέσιμοι παραγωγικοί πόροι  
και η υπάρχουσα τεχνολογία. Ας δούμε, παραδείγματος χάριν, την άμυ-  
να. Οι χώρες είναι πάντοτε αναγκασμένες να αποφασίζουν πόσοι από  
τους περιορισμένους παραγωγικούς πόρους τους θα διατεθούν για στρα-  
τιωτικές ανάγκες και πόσοι για άλλες δραστηριότητες (όπως για την κα-  
τασκευή νέων εργοστασίων ή για την παιδεία). Ορισμένες χώρες, όπως  
η Ιαπωνία, διαθέτουν περίπου το 1% του εθνικού προϊόντος τους για  
στρατιωτικές δαπάνες. Οι Ηνωμένες Πολιτείες δαπανούν το 5% του ε-  
θνικού προϊόντος τους σε στρατιωτικές δαπάνες, ενώ μια οχυρωμένη οι-  
κονομία, όπως η οικονομία της Κορέας, διαθέτει το 20% του εθνικού ει-  
σοδήματος για στρατιωτικές δαπάνες. Όσο μεγαλύτερο μέρος του εθني-  
κού προϊόντος διατίθεται για την άμυνα μιας χώρας τόσο λιγότερο μένει  
για κατανάλωση και επενδύσεις.

Ας δραματοποιήσουμε την επιλογή αυτή, εξετάζοντας μια οικονομία που παράγει μόνο δύο οικονομικά αγαθά: κανόνια και βούτυρο. Τα κανόνια, φυσικά, αντιπροσωπεύουν στρατιωτικές δαπάνες και το βούτυρο συμβολίζει τις πολιτικές δαπάνες. Ας υποθέσουμε ότι η κοινωνία μας αποφασίζει να ρίξει όλες τις δυνάμεις της στην παραγωγή του πολιτικού αγαθού, του βουτύρου. Υπάρχει μια μέγιστη ποσότητα βουτύρου που μπορεί να παραχθεί μέσα σε ένα έτος. Η μέγιστη ποσότητα του βουτύρου που μπορεί να παραχθεί εξαρτάται από την ποσότητα και την ποιότητα των παραγωγικών πόρων της οικονομίας και από την παραγωγική αποτελεσματικότητα με την οποία χρησιμοποιούνται. Ας υποθέσουμε ότι η μέγιστη ποσότητα βουτύρου που μπορεί να παραχθεί με τους διαθέσιμους παραγωγικούς πόρους και την υπάρχουσα τεχνολογία είναι 5 εκατομμύρια κιλά.

Στο άλλο άκρο, ας φανταστούμε ότι όλοι οι παραγωγικοί πόροι διατίθενται για την παραγωγή κανονιών. Και πάλι, εξαιτίας των περιορισμένων παραγωγικών πόρων, η οικονομία μπορεί να παράγει μόνο συγκεκριμένη ποσότητα κανονιών. Ας υποθέσουμε, παραδείγματος χάρη, ότι η οικονομία μπορεί να παράγει 15.000 κανόνια ενός ορισμένου τύπου, εφόσον δεν παράγει καθόλου βούτυρο.

Οι επιλογές αυτές είναι οι δύο ακραίες δυνατότητες που έχει στη διάθεσή της η οικονομία. Ανάμεσά τους βρίσκεται ένα πλήθος άλλων

### ΠΙΝΑΚΑΣ 1.1

Ο περιορισμός των σπανιζόντων πόρων συνεπάγεται την αντίστροφη σχέση μεταξύ κανονιών και βουτύρου

Εναλλακτικές Δυνατότητες Παραγωγής		
Δυνατότητες	Βούτυρο (σε εκατομμύρια κιλά)	Κανόνια (σε χιλιάδες)
A	0	15
B	1	14
Γ	2	12
Δ	3	9
E	4	5
Z	5	0

Οι σπανίζοντες παραγωγικοί πόροι και η τεχνολογία συνεπάγονται ότι η παραγωγή κανονιών και βουτύρου είναι περιορισμένη. Προχωρώντας από το A στο B και, διαδοχικά, έως το Z, μεταφέρουμε εργασία, μηχανές και γη από την παραγωγή κανονιών στη βιομηχανία βουτύρου και, επομένως, αυξάνουμε την παραγωγή του.

δυνατοτήτων. Αν είμαστε διατεθειμένοι να παραιτηθούμε από κάποια ποσότητα βουτύρου, μπορούμε να αποκτήσουμε έναν αριθμό κανονιών. Αν αποφασίσουμε να παραιτηθούμε από ακόμη μεγαλύτερη ποσότητα βουτύρου, μπορούμε να αποκτήσουμε ακόμη περισσότερα κανόνια.

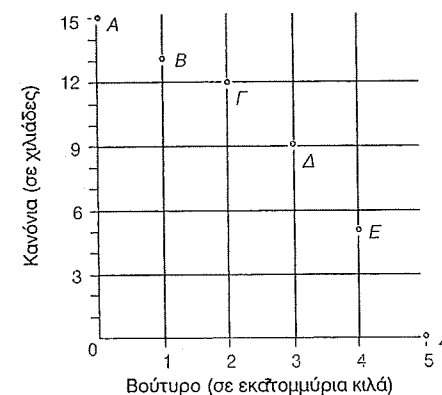
Στον Πίνακα 1.1 παρουσιάζονται ορισμένες δυνατότητες παραγωγής συνδυασμών βουτύρου και κανονιών. Ο συνδυασμός Z δείχνει την ακραία περίπτωση στην οποία παράγεται μόνο βούτυρο και καθόλου κανόνια, ενώ το A περιγράφει το αντίθετο άκρο, όπου παράγονται μόνο κανόνια και καθόλου βούτυρο. Στο ενδιάμεσο - στους συνδυασμούς B, Γ, Δ και E - παραιτούμαστε από αυξανόμενες ποσότητες βουτύρου ώστε να παράγουμε περισσότερα κανόνια.

Ωστόσο, θα αναρωτιέστε εύλογα πώς είναι δυνατόν μια χώρα να μετατρέπει την παραγωγή βουτύρου σε παραγωγή κανονιών. Το βούτυρο δεν μετατρέπεται υλικά σε κανόνια, αλλά με την αλχημεία της μεταφοράς παραγωγικών πόρων της οικονομίας από τη μία χρήση στην άλλη.

Μπορούμε να απεικονίσουμε το όριο των δυνατοτήτων παραγωγής μιας οικονομίας πιο παραστατικά, με ένα διάγραμμα, όπως εκείνο του Σχήματος 1.1. Στο διάγραμμα αυτό, το βούτυρο μετριέται στον οριζόντιο άξονα και τα κανόνια στον κατακόρυφο άξονα. (Αν δεν είστε σίγουρος για τα διάφορα είδη διαγραμμάτων ή το πώς ένας πίνακας μπορεί να με-

### ΣΧΗΜΑ 1.1

Το όριο δυνατοτήτων παραγωγής σε ένα διάγραμμα



Το Σχήμα 1.1 παρουσιάζει τους εναλλακτικούς συνδυασμούς των ζευγών παραγωγής που περιέχονται στον Πίνακα 1.1.

τατραπεί σε γραφική απεικόνιση, συμβουλευθείτε το Παράρτημα του παρόντος κεφαλαίου). Σημειώνουμε το σημείο  $Z$  στο Σχήμα 1.1 από τα στοιχεία του Πίνακα 1.1. μετρώντας 5 μονάδες βουτύρου προς τα δεξιά, από την αρχή του οριζόντιου άξονα, και 0 μονάδες κανονιών στον κατακόρυφο άξονα. Ομοίως, σημειώνουμε το  $E$ , το οποίο βρίσκουμε μετρώντας 4 μονάδες βουτύρου προς τα δεξιά, στον οριζόντιο άξονα, και 5 μονάδες κανονιών προς τα πάνω, στον κατακόρυφο άξονα. Τέλος, βρίσκουμε το σημείο  $A$  προχωρώντας 0 μονάδες βουτύρου στον οριζόντιο άξονα και ανεβαίνοντας τον κατακόρυφο άξονα στις 15 μονάδες κανονιών.

Αν συμπληρώσουμε όλες τις ενδιάμεσες θέσεις με νέα σημεία χρώματος σκούρου καφέ, που αντιπροσωπεύουν τους διάφορους συνδυασμούς κανονιών και βουτύρου, παίρνουμε μια συνεχή, χρώματος σκούρου καφέ γραμμή, η οποία παρουσιάζεται ως όριο δυνατοτήτων παραγωγής ή  $ΟΔΠ$ , στο Σχήμα 1.2.

Το όριο δυνατοτήτων παραγωγής ( $ΟΔΠ$ ) δείχνει τη μέγιστη ποσότητα προϊόντος που μπορεί να παραχθεί από μια οικονομία, με την υπάρχουσα τεχνολογία και τους παραγωγικούς πόρους που έχει στη διάθεσή της. Το  $ΟΔΠ$  παρουσιάζει τον κατάλογο των αγαθών και των υπηρεσιών που είναι διαθέσιμα για την κοινωνία.

#### Βάζοντας το $ΟΔΠ$ να δουλέψει

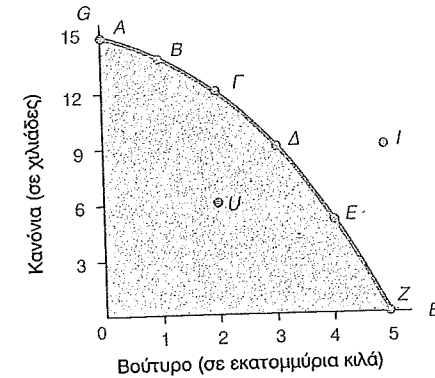
Το  $ΟΔΠ$  στο Σχήμα 1.2 χαράχθηκε για κανόνια και βούτυρο, αλλά η ίδια ανάλυση ισχύει και για κάθε επιλογή ανάμεσα σε αγαθά. Έτσι, όσο περισσότερους παραγωγικούς πόρους χρησιμοποιεί μια χώρα για να παράγει δημόσια αγαθά, όπως αυτοκινητόδρομους, τόσο λιγότεροι πόροι της μένουν για να παράγει ιδιωτικά αγαθά, όπως σπίτια. Όσο περισσότερα τρόφιμα επιλέγει να καταναλώσει κανείς τόσο λιγότερα ρούχα μπορεί να καταναλώσει. Όσο περισσότερα αποφασίζει να καταναλώσει σήμερα μια οικονομία τόσο λιγότερα θα έχει στη διάθεσή της για την παραγωγή κεφαλαιουχικών αγαθών, τα οποία θα μετατραπούν σε περισσότερα καταναλωτικά αγαθά στο μέλλον.

Τα διαγράμματα των Σχημάτων 1.3 έως 1.5 παρουσιάζουν κάποιες σημαντικές εφαρμογές του  $ΟΔΠ$ . Το Σχήμα 1.3 δείχνει την επίδραση της οικονομικής μεγέθυνσης στις παραγωγικές δυνατότητες μιας χώρας. Μια αύξηση των εισροών ή μια βελτίωση της τεχνολογικής γνώσης επιτρέπει σε μια χώρα να παράγει μεγαλύτερη ποσότητα από όλα τα αγαθά και τις υπηρεσίες, πράγμα που σημαίνει ότι το όριο δυνατοτήτων παρα-

#### ΣΧΗΜΑ 1.2

Μια ομαλή καμπύλη συνδέει τα απεικονιζόμενα σημεία των αριθμητικών δυνατοτήτων παραγωγής

Το όριο των δυνατοτήτων παραγωγής



Το όριο των δυνατοτήτων παραγωγής που παρουσιάζεται εδώ δείχνει την καμπύλη επί της οποίας μπορεί να κινηθεί η κοινωνία αντικαθιστώντας κανόνια με βούτυρο. Υποθέτουμε ότι υπάρχει ένα ορισμένο επίπεδο τεχνολογίας και μια δεδομένη ποσότητα εισροών. Τα σημεία που βρίσκονται έξω από το όριο (όπως το σημείο  $I$ ) είναι ανέφικτα. Κάθε σημείο που βρίσκεται μέσα από το όριο (όπως το σημείο  $U$ ), υποδηλώνει ότι η οικονομία δεν έχει επιτύχει παραγωγική αποτελεσματικότητα, όπως συμβαίνει όταν υπάρχει υψηλή ανεργία στη διάρκεια οικονομικών υφέσεων.

γωγής μετατοπίζεται προς τα έξω. Το σχήμα δείχνει, επίσης, ότι οι φτωχές χώρες πρέπει να διαθέσουν τους περισσότερους παραγωγικούς πόρους τους στην παραγωγή τροφίμων, ενώ οι πλούσιες χώρες μπορούν να παράγουν περισσότερα είδη πολυτελείας καθώς αυξάνονται οι παραγωγικές δυνατότητές τους.

Το Σχήμα 1.4 περιγράφει την επιλογή καταναλωτών ανάμεσα σε ιδιωτικά (που αγοράζονται σε κάποια τιμή) και δημόσια αγαθά (που πληρώνονται με φόρους). Οι φτωχές χώρες μπορούν να έχουν ελάχιστα δημόσια αγαθά, όπως δημόσια υγεία και επιστημονική έρευνα. Με την οικονομική μεγέθυνση, όμως, τα δημόσια αγαθά όπως και η προστασία του περιβάλλοντος παίρνουν ένα μεγαλύτερο μερίδιο από το εθνικό προϊόν.

Το Σχήμα 1.5 περιγράφει την επιλογή μιας οικονομίας ανάμεσα (α)

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