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ВЫСШАЯ ШКОЛА ЭКОНОМИКИ

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ДЛЯ СТУДЕНТОВ 4 КУРСА

ФАКУЛЬТЕТА ЭКОНОМИКИ

ОТДЕЛЕНИЯ СТАТИСТИКИ, АНАЛИЗА ДАННЫХ И ДЕМОГРАФИИ

(ЧАСТЬ 1)

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Введение

Данное пособие представляет собой учебный материал, предназначенный для отработки и совершенствования языковых навыков студентов 4 курса факультета экономики, отделения статистики, анализа данных и демографии. Разработано учебное пособие в соответствии с требованиями Программы дисциплины английский язык для направления 080 100.62 «Экономика» подготовки бакалавра для специальности «Статистика, анализ данных и демография».

Цель создания сборника – отработка имеющихся навыков в области чтения, говорения, и слушания. Помимо цели отработки и закрепления имеющихся навыков, ставится задача совершенствования аналитического вида чтения, а также совершенствования диалоговых видов общения, необходимых специалисту для успешного осуществления своей профессиональной и научно-исследовательской деятельности.

Все материалы, включенные в пособие, носят аутентичный характер, большинство которых было взято из учебников признанных авторитетов в области экономики и статистики (D. Downing, J. Clark, G. Keller) и периодических изданий на английском языке (The Economist, The Moscow Times, The Tribune, Business Week).

Каждый урок, включенный в пособие, посвящен рассмотрению той или иной темы, связанной с анализом вопросов общей, социальной и экономической статистики. Статьи, предложенные для работы, имеют особую учебную и практическую ценность, поскольку предоставляют возможность организовать дискуссию и всесторонне обсуждение затрагиваемых вопросов.

Каждая статья, включенная в урок, сопровождается серией упражнений, дополнительно стимулирующих взаимодействие с текстом, а также заданиями на отработку лексических и грамматических навыков. Помимо основного корпуса заданий, каждый урок обогащен дополнительными материалами для чтения с упражнениями, носящими название Reading File, который может использоваться как для аудиторной, так и внеаудиторной работы. А также словарем, предлагающим особую помощь студентам в освоении базовой лексики урока.

Материалы, представленные в сборнике, предполагают владение языком на уровне не ниже Intermediate по всем компонентам знания языка.

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**UNIT 1. INTRODUCTION TO STATISTICS**

**READING/SPEAKING**

Text 1.

**Basic ideas of Statistics**

1 The word statistics has two different but related meanings. In the most common usage, statistics means "a collection of numerical data." For example, we could look at the statistics that show the populations of the cities in a state or that describe the performance of a baseball team.

2 The word statistics also refers to the branch of mathematics that deals with the analysis of statistical data. There are two branches of statistics: descriptive statistics and inferential statistics. Descriptive statistics is the process of obtaining meaningful information from sets of numbers that are often too large to deal with directly. A large pile of numbers that have not been summarized is called raw data. Even though the raw data contains a lot of information, it is not very mean­ingful because people have a limited capacity to absorb the informa­tion. In order to convey meaning, it is usually necessary to summarize the data. You are already familiar with some concepts from descriptive statistics, such as the use of the average (also known as the mean) to indicate the typical value in a group of numbers.

3 Statistical interference refers to the process of obtaining infor­mation about a larger group from the study of a smaller group. The complete group that we are interested in is called the population. For example, we might be interested in the entire population of the United States, or in the population of a particular city. In statistics, the word population does not have to refer to people; for example, the popula­tion we are interested in might consist of all fish in a lake, or it might consist of all ice cream cartons produced at an ice cream factory.

4 The group of items selected from the population is known as the sample. Examples include the following:

• population: all voters in the United States

sample: the 1,000 people in a poll that attempts to predict the result of the election

5 The characteristics of the objects in the sample are known, whereas the characteristics of the objects in the population are usually un­known. We would like to use the information we have obtained from the sample to make inferences about the nature of the population. If the sample happens to be representative of the population, then we will be correct in making those predictions. However, if the sample has been chosen so that it is unrepresentative (for example, it includes entirely people of one political party although the population is evenly split between the two parties), then you will be quite wrong when you attempt to use the sample to indicate the nature of the population. How can you tell if the sample is representative or not? There is no way to know for sure, since the characteristics of the population are unknown. However, the use of statistical inference makes it possible to make statements about the probability that the characteristics calcu­lated from the sample are close to the characteristics of the population, provided that the sample has been selected randomly.

6 You might be tempted to think, "Wouldn't it be better to investigate the entire population? That way we would not have to worry about the danger of choosing an unrepresentative sample." This plan would definitely provide greater accuracy, but at a heavy price. The main reason for investigating samples, instead of populations, is that it is much less expensive. If you have limited resources, then there are better things to do with your resources than checking the entire population, especially since a sample will often provide an accurate enough result for most purposes.

7 There are also other reasons why it is necessary to check samples instead of populations. In some cases the process of investigating the item destroys it. For example, if you are tasting the ice cream coming off the assembly line, then testing the entire population of items would leave you without any items left. It is also possible that data collected from a sample will be measured more accurately than data from a population because the smaller size of the sample makes it possible to be more careful in training interviewers, entering data, and processing answers.

8 In order to understand inferential statistics it is necessary to un­derstand several concepts in probability. Probability and inferential statistics are very closely related because they ask the opposite types of questions. In probability, we know how a process works and we want to predict what the outcomes of that process will be. In statistics, we don't know about the nature of the population, but we can observe the outcomes of the sample selected from the population. We will try to use this information to make predictions about the population.

EXERCISES

**1. Read the following words paying attention to the proper pronunciation of the underlined vowels, consonants, and the word stress.**

word, group, accuracy, numerical, branch, data, example, directly, raw, inferences, entirely, worry, variable, of

**2. Answer the following questions.**

1. Which two meanings does the word *statistics* have?
2. What is *descriptive statistics*? How does it differ from *inferential* one?
3. What type of information is called meaningful?
4. What is *statistical interference*?
5. Give your own examples of the sample from the population.
6. How can we know whether the sample is representative or not?
7. Why do we investigate the sample not the population?
8. How are probability and statistics connected?

**3 Decide whether the following statements are *true* or *false* according to the text.**

1. As far as raw data contains a lot of information it can be called meaningful.
2. Statistical interference means obtaining information about a smaller group from the study of a bigger one.
3. The population is 31 flavours of ice-cream at a store and its sample is the five flavours you tasted in order to determine whether the store sells good ice-cream.
4. The characteristics of the objects in the sample are unknown.
5. The nature of the population can be indicated by using unrepresentative sampling.
6. To obtain greater accuracy we should investigate the entire population.

**4 Complete the following sentences using your own ideas.**

* 1. *Statistics* is everywhere …
  2. As a science *Statistics* studies …
  3. People need *Statistics* because…
  4. *Statistics* has different branches …
  5. Contemporary *Statistics* differs from the Soviet period analogue…
  6. *Statistics* is connected with other scientific areas such as…
  7. Some people believe that it's almost impossible to understand *Statistics* because…
  8. *Statistics* helps to manipulate other people' mind because …

**5. Find English equivalents in Text** **1.**

|  |  |
| --- | --- |
| **para 1**  числовые данные | **para 6**  обеспечить б*о*льшую точность, ограниченные ресурсы |
| **para 2**  раздел математики, получение содержательной информации, первичные данные, ограниченная возможность, передать суть, обобщить данные | **para 7**  сходящий с конвейера, будет оценен более точно |
| **para 5**  признаки, делать выводы о характере статистической совокупности, знать наверняка, случайно выбранный | **para 8**  тесно связанные, предсказать результаты процесса |

**6. Match terms on the left with their corresponding definitions on the right.**

|  |  |
| --- | --- |
| 1 the population | 1. numerical information |
| 2 the sample | 1. the study of chance phenomena |
| 3 data | 1. the average value of some variable |
| 4 probability | 1. the complete set of objects |
| 5 the mean | 1. a subset of the population |

**7. Find partners among the following words to make up a collocation.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| typical | meaningful | common | raw | statistical | representative | inferential |
| statistics | sample | interference | data | usage | information | value |

**8. Translate the following sentences using terms and collocations from the text and the previous tasks.**

1. *Наиболее часто* статистику определяют как науку, изучающую *количественную* сторону массовых общественных явлений.
2. *Статистическая совокупность* – множество варьирующих *объектов*, объединенных общими *свойствами* и подвергающихся *статистическому исследованию*.
3. Отличительная черта, качества, присущие *единице совокупности* и учитываемые при статистическом исследовании, называются *признаком*.
4. *Выборка* – определенное количество элементов совокупности, изучая которую, возможно *сделать выводы* обо всей совокупности в целом.
5. *Репрезентативная выборка* – необходимое условие качественно проведенного статистического исследования.
6. *Статистическая информация* представляет собой широкий круг объектов, явлений, подлежащих *статистической обработке*.
7. *Средние величины* широко распространены в статистике.
8. *Перенос свойств* выборки на генеральную совокупность объектов является ключевым статистическим приемом.
9. *Статистика вывода* тесным образом связана с теорией вероятности.
10. *Описательная статистика* представляет собой отдельное *направление*, отличное от *статистики вывода*.

**9 Fill in the gaps using words given below.**

*empirical experiments advanced applications inference mathematical aspects subject meaningful*

Statistics is the study of how to acquire \_\_1\_\_ information by analyzing data, such as a list of numbers. Sometimes this data comes from planned \_\_2\_\_ in controlled environments where it is possible to vary the factors that we are concerned with. When it is not possible to do experiments, then we must rely on \_\_3\_\_ data from observations of the uncontrolled "real" world.

You're probably wondering whether statistics is a hard \_\_4\_\_. The answer to that question is "yes and no." Many of the important ideas in statistics can be understood even by someone with only a slight \_\_5\_\_ background. However, there are also parts of statistics that are hard. Many require the use of \_\_6\_\_ mathematical methods such as calculus.

To understand statistics it is necessary to understand probabil­ity. Probability, the study of chance phenomena, is also an interesting subject in its own right. There are many fun \_\_7\_\_ of probability since it includes the study of dice, cards, and related games. There are also many important practical \_\_8\_\_ of probability, and the important concepts of statistical \_\_9\_\_ are based on the ideas of probability.

**10. Choose the correct letter.**

|  |  |
| --- | --- |
| 1 Now this \_\_\_\_\_\_\_ is being transferred from magnetic tape to hard disk.  a) data  b) datum  c) date  2 The exact detail of the scheme will be worked out at a later \_\_\_\_\_\_.  a) data  b) datum  c) date  3 Chemical \_\_\_\_\_\_ reveals a high content of copper.  a) analysis  b) analyses  4 Statistics \_\_\_\_\_\_ that women live longer than men.  a) suggest  b) suggests  5 Statistics \_\_\_\_\_ a collection of numerical data.  a) is  b) are  6 There \_\_\_\_ a very limited amount of money and people for this work.  a) are  b) is  7 There \_\_\_\_ a number of ways to overcome these difficulties.  a) are  b) is | 8 An inflation rate of only 12% \_\_\_\_\_ a big difference.  a) make  b) makes  9 I would say that about 50% of the houses \_\_\_\_\_ major repair.  a) need  b) needs  10 A small number of children \_\_\_\_\_\_ educated at home.  a) is  b) are  11 The number of people killed in road accidents \_\_\_\_\_ constantly falling.  a) is  b) are  12 The majority of the employees \_\_\_\_\_ university degrees.  a) has  b) have  13 A large majority of people \_\_\_\_\_\_ of the death sentence.  a) approve  b) approves  14 The majority of his money \_\_\_\_ to the poor.  a) goes  b) go |

**11 Choose the correct preposition.**

1. The new salary scale only refers *by / to / on* company managers and directors.
2. We only deal *at / on / with* companies which have a good credit record.
3. I'm sorry, I'm not familiar *to / at/ with* Adam Smith's papers.
4. Yes, I'd be very interested *on / in / with* knowing more about the services your firm offers.
5. The team consists *off / of / on* four Europeans and two Americans.

**12 Choose the proper form of the word to complete the sentence**

to predict

1 The outcomes of their work were just so \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2 The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ value of this new method of analysis has still to be proven.

3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, after the initial media interest, the refugees now seem to have been forgotten.

4 Although her job is boring and monotonous, she likes the sense of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and security that it gives her.

an inference

1 I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the number of cups that he was expecting visitors.

2 The lawyer applied \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ proof method to prove his client’s innocence.

3 These conclusions have been drawn \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

analysis

1 Let's \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the problem and see what went wrong.

2 He's working as a political \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, but he's an engineer by profession.

3 You need a great deal of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ skills to understand Statistics.

4 All demographic data must be examined \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**13. Look at the following pair of words, spot the difference and do the task.**

TO AFFECT ≠ TO EFFECT

|  |  |
| --- | --- |
| **to affect** - to influence someone or something, or cause them to change  It's a disease which affects many older people. | **to effect** - to make something happen  The civil rights movement effected a huge change in America. |

1. Did the newspapers really \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_the outcome of election?
2. If correctly administrated, such drugs can \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ radical cures.
3. It is known that poor housing significantly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ educational achievement.
4. The area has been badly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by pollution.
5. We have tried out our best to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ a reconciliation between the two parties.
6. My pleading did not seem to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ him at all.
7. It will take years to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ meaningful changes in the educational system.
8. The building was badly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by the fire.

**14 Here are thirty verbs/verb phrases which are used to express changes. Which words could be used to describe the change or movement in each graph? Write the phrases in the column below the appropriate graph.**

|  |  |  |
| --- | --- | --- |
| be stable  deepen  diminish  dwindle  fall  improve  maintain same level remain constant  rocket  slump | descend  escalate  double  grow  increase  recover  retain position shrink  soar  decline | decrease  deteriorate  drop  expand  hold firm  jump  reduce  rise  slow down  suffer |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **A** | | **B** | | **C** | |
| \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ |
| \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ |
| \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | (5) |
| \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ |  | |
| \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ |  | |
| \_\_\_\_\_\_\_\_\_\_\_\_ | (11) | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_ |  | |
|  | | \_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_  (14) |  | |

Text 2.

# Статистика, анализ данных и демография: новое отделение факультета экономики приглашает абитуриентов!

*На факультете экономики ГУ-ВШЭ в октябре 2007 года появилось новое отделение — статистики, анализа данных и демографии. О том, чему и как будут учить студентов отделения, рассказывает его руководитель, профессор Владимир Мхитарян.*

— Владимир Сергеевич, расскажите, откуда "взялось" и с какой целью создано новое отделение?

— Идея создания на факультете экономики отделения статистики, анализа данных и демографии принадлежит Ярославу Кузьминову. Цель — подготовка статистиков-аналитиков. Дело в том, что с каждым годом в нашей стране и мире растет потребность в экономистах, обладающих аналитическим мышлением, основанном на глубоком знании экономики, математики, статистики и компьютерных технологий. Значительная потребность в статистиках-аналитиках имеется на сегодня на микроэкономическом уровне у государственных и частных предприятий, учреждений и фирм.

В XXI веке, по мнению американских экспертов, системный аналитик входит в четверку самых востребованных специальностей в мире наряду с финансовым менеджером, менеджером вебсайтов и специалистом по информационным технологиям. Ведущие университеты мира, занимающие первые места в мировых и национальных рейтингах (Гарвард, Стенфорд, Оксфорд, Кембридж и др.), имеют в своей структуре факультеты (кафедры, отделения, школы) статистики. Так что открытие отделения статистики, анализа данных и демографии в ГУ-ВШЭ, ведущем экономическом университете России, вполне закономерно.

Уже сегодня многие министерства в России, а также крупные отечественные и зарубежные компании имеют аналитические подразделения, занимающиеся анализом статистических данных для определения направлений и перспектив своего развития.

— В названии отделения наряду со статистикой перечислены анализ данных и демография. Почему именно такой набор? Это же не вполне очевидная последовательность — что за статистикой должна непременно следовать демография?

— Понятия, включенные в название отделения, тесно связаны между собой. Статистика как наука о количественных измерениях в экономике и социальной сфере решает вопросы создания системы показателей (непосредственные измерения), характеризующих анализируемые явления, сбор и обработку статистических данных (создание баз статистических данных), а также анализ данных и моделирование экономических процессов с использованием статистических методов. Завершающим этапом статистического исследования являются выводы и рекомендации, необходимые управляющим структурам для принятия решения.

Однако выводы об эффективности социально-экономических решений невозможны без демографических данных о численности и структуре населения. В то же время демография, исторически зародившаяся как наука о населении, сегодня немыслима без статистических показателей, характеризующих изменения, происходящие с населением страны и регионов.

Таким образом, понятия статистика, анализ данных и демография вполне логично укладываются в название отделения.

— Кто такой статистик-аналитик и в чем особенность его подготовки?

— Статистик-аналитик — это экономист, подготовленный на уровне международных требований для системной аналитической работы по оценке и прогнозированию финансового положения фирмы, состояния фондового рынка, анализу социально-экономических и демографических явлений на муниципальном, региональном и федеральном уровнях.

Наряду с традиционной для Вышки фундаментальной подготовкой по экономической теории, математике и языку, студенты отделения овладеют международной методологией статистики — смогут решать вопросы, связанные с социально-экономическими измерениями, организацией выборочных статистических обследований, эконометрическим анализом и прогнозированием социально-экономических данных. Решение этих вопросов необходимо для успешной реализации основных задач управления социально-экономическими процессами.

Значительное внимание в учебном процессе будет уделяться научно-исследовательской работе. Студенты на реальных статистических данных будут заниматься моделированием социальных и экономических явлений с использованием профессиональных статистических пакетов.

— А можно привести какой-то конкретный пример задачи, которую будет решать такой аналитик?

— Студенты отделения на 3—4 курсах будут строить эконометрические модели мировых товарных рынков (например, рынка нефти), упрощённую модель экономики страны, моделировать и прогнозировать социально-экономические процессы с использованием профессиональных пакетов SPSS, Statistica и др…

**1 Translate the underlined words and word combinations in the text.**

**2 Translate the following words and phrases without looking back to the text of the interview.**

демография – analytical thinking - статистик-аналитик – demand for - глубокое знание – qualification - государственные и частные предприятия – development prospects - по мнению экспертов – closely related - закономерно –– quantitive measurements – выводы и рекомендации – aggregates - международные требования – capital market – управление процессами – database - научно-исследовательская работа – predicting - мировые товарные рынки

**3 Write a short summary of the interview (80-100 words).** Remember, the summary is not about expressing your opinion, it is about summarizing the writer's idea.

Use the following plan:

* give a general statement of the problem(s) discussed. Use the following prompts:

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  | *informs us* |  |
| *The interview with Mr Mkhitarjan* | *states* | *that …* |
|  | *shows us* |  |
|  |  |  |

or

|  |  |
| --- | --- |
|  | *examines…* |
| *Mr Mkhitarjan in his interview* | *provides…* |
|  | *explains…* |

* outline the main areas of discussion. Use the following prompts:

*The major issue to be discussed here is…*

*Another question which is raised in this interview is…*

*The interview further states that…*

**4 Study the following number writing rules.**

Rule 1

Spell out single-digit whole numbers. Use numerals for numbers greater than nine.

Examples: I want five copies. / I want 10 copies.

Be consistent within a category. For example, if you choose numerals because one of the numbers is greater than nine, use numerals for all numbers in that category. If you choose to spell out numbers because one of the numbers is a single digit, spell out all numbers in that category.

If you have numbers in different categories, use numerals for one category and spell out the other.

Example: Given the budget constraints, if all 30 history students attend the four plays, then the 7 math students will be able to attend only two plays. (Students are represented with figures; plays are represented with words.)

Rule 2

Always spell out simple fractions and use hyphens with them.

Examples: One-half of the pies have been eaten. / A two-thirds majority is required for that bill to pass in Congress.

Rule 3

A mixed fraction can be expressed in figures unless it is the first word of a sentence.

Examples: We expect a 5 1/2 percent wage increase. / Five and one-half percent was the maximum allowable interest.

**Practice: decide whether the following sentences are correct or incorrect**

|  |  |  |
| --- | --- | --- |
|  | **correct** | **incorrect** |
| 1) They want to export almost one-third of their produce. |  |  |
| 2) My reports account of almost 2/3 of the total number of department’s reports. |  |  |
| 3) There are 3 managers in our Personnel Department. |  |  |
| 4) The President has already read five reports from Planning Department and 10 reports from Accounting Department. |  |  |
| 5) 10 2/3 percent oil price increase leads to oil market booming. |  |  |
| 6) ½ of the employees received bonuses. |  |  |
| 7) She has got two certificates of participation. |  |  |
| 8) We need a 3 ½ percent sales increase. |  |  |
| 9) In our department 7 managers received 10 computers and in another department only two managers received one computer. |  |  |
| 10) Those eleven students must be expelled from the school. |  |  |

**LISTENING “Economic Performance” (part 1)**

**1 You will hear the interview with Vladimir Leonidovich Sokolin, Head of the State Statistical Agency in 2003. As you listen, find English equivalents of the following words and phrases.**

Question #1

подводя итоги жиз­недеятельности страны, выставляет оценки правительству и власти в целом, жесткие законы, я ответственно заявляю, изучаться вне рамок международных стан­дартов

*Question #2*

как вела себя экономика, внешнеэкономическая конъюнктура, для нашей черной и цветной металлургии

*Question #3*

постоянное увеличение доли услуг, промышленность, строительство и сельское хозяйство, высокая устойчи­вость экономики

Question #4

пересчитать ВВП в долларах, можно сопо­ставить, некорректное сопоставление, американская эко­номика рухнула за год на 23 процента, учитывая нынешние тенденции на валютном рынке, проблемa сопоставления макроэкономических показателей

**2 Listen to the interview once again and complete the sentences using a word or a number of words.**

*Question #1*

1 A lot of countries members of the UNO control statistics by the means of \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_.

2 Mr Sokolin states that there is no \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on statistical service.

3 For those who try to affect the results of their work they respond that they have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4 Such issues as GDP or the labour market are studied in accordance with \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_.

*Question #2*

1 The economic rise of this year can be called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2 The economic results are almost unpredictable when situation on foreign markets is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3 Mr Sokolin is not sure that the economy will experience a rise of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in other branches.

*Question #3*

1 Unlike the real sector there is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the service sector.

2 In Russia the volume of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is pretty high.

3 Services take the main part of the GDP in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4 Due to economic stability European countries will not be facing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Question #4

1 Economy's \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cannot be estimated by comparing it with the market rate of exchange.

2 Macroeconomic indicators can be compared by using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the UNO.

3 The purchasing power parity is calculated on the base of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Key vocabulary :**

|  |  |  |  |
| --- | --- | --- | --- |
| *population /n/* | генеральная совокупность | *data analyst* | статистик-аналитик |
| *sample /n/* | выборка | *capital market* | фондовый рынок |
| *randomly /adv/* | произвольно | *outcomes /pl n/* | долгосрочные результаты |
| *raw data* | первичные данные | *observation /n/* | наблюдение |
| *meaningful information* | содержательная информация | *real value* | действительная стоимость |
| *statistical interference* | перенос свойств | *descriptive statistics* | описательная статистика |
| *aggregate /n/* | показатель | *numerical data* | числовые данные |
| *quantitive measurements* | количественные измерения | *characteristic /n/* | признак |
| *accuracy /n/* | точность | *the mean /n/* | среднее значение |
| *purchasing power parity* | паритет покупательной способности | *representative sample* | представительная выборка |

Reading File

Text 1

**Defining statistics**

Statistics may be defined in two ways. First, it is a collection of numerical information from which conclusions may be drawn. And second, it is a mathematical process of analysis.

Example: A year's profit picture is analyzed by division, divided into quarters, and compared with previous periods, all for the purpose of judging the company's performance. In this respect, the statistics are thecollective numerical values with which you work.

*Example*: A coming year's budget is prepared after a study of trends in each classification of cost and expense. Some accounts are estimated on the basis of percentage increases, others on per-employee use or historical trends. In this respect, statistics refers to the process of analyzing and using the numerical information you have collected.

In many applications, it is impossible to study a complete array of available information. You will have to take a sample for testing purposes; or you will have to deal only with averages, because a series of possible events cannot be easily reduced to a forecast.

*Example*: A plant manager is attempting to reduce the frequency of defects each shift experiences. The volume of manufacturing activity is high; thus, a detailed study of causes is not practical. The manager selects a sample crew on each shift and analyzes the defect rate in an attempt to isolate causes.

In both these cases, the purpose of selecting a sample is to identify (1) the approximate degree of inaccuracy or (2) the cause of a recurring problem. The entire body of information (a year's checks or the number of units manufactured) is referred to as a population; the smaller grouping of study is called a sample.

Use of samples is the basic idea underlying statistics. In a business meeting, it would not be possible to convey information concerning a large population of data; we must communicate in terms of samples. Anyone who has discussed financial information in a meeting has already applied this technique.

*Example*: An accountant presents a report to the president that describes buying patterns of customers. The report includes average amount of purchase, age and economic status of the typical customer, and response to specific products. All this information is based on surveys of relatively small groups or on averages of a large body of information. It would not have been practical for the accountant to prepare a report summarizing every sale and every customer's attributes. In addition, such a detailed report would not have provided the type of information the president needed in order to draw an informed conclusion.

The most difficult step for most people who confront a large information base is deciding what information is relevant, how to arrange it, and how to draw conclusions. It might seem at first glance that the biggest difficulty is finding the information itself. But, problems are solved not only by gathering facts, but by selecting the right facts and knowing how to convert them into something meaningful and conclusive.

Statistical skill—restricted to the manipulation of numbers—is only the vehicle you use in deriving a solution. Before you can proceed to the actual study, you must first understand the nature of the task. This is why a purely academic approach is useless; of greater value is your experience on the front lines of corporate problem solving.

*Example*: A marketing manager has been given the task of estimating the average dollar volume that each salesperson will generate next year.

This information will be used for the development of assumptions as part of an income forecast. The manager knows from experience that newly recruited salespeople will not produce the same volume of sales as more experienced individuals. Thus, the estimate must be broken down into segments:

1. A study of the average dollar volume produced during the first year a salesperson is hired.

2. An estimate of the average dollar volume produced by salespeo­ple who have been on the job between one and three years.

3. An estimate of average dollar volume produced by salespeople with more than three years on the job.

These samples must be based on estimates of the number of new salespeople per month expected in the coming year, which in turn must be based on historical averages and current recruitment goals. The samples must also be modified by an estimate of the number of salespeople in each classification who are expected to resign, again based on the averages experienced in the past.

Several statistical techniques will be used in this example: The manager will use samples to develop average volume in each group; those averages will be increased or reduced according to an average of previous years' hiring and terminations; and the final results will be used to develop a sales forecast for the entire company.

In this case, a simple average would not be accurate, nor could it be used to judge the accuracy of the statistical study. For example, if actual recruitment fell below expected levels, the estimated volume for first-year salespeople would be off. And if terminations among salespeople with higher-than-average dollar volume were higher or lower than pre­vious years' averages, that too would throw off the sales forecast.

The purpose of statistical studies, such as those performed for every estimate of future financial results, is not to isolate and conclusively decide what will occur. Rather, it is to report the likely results as accurately and as scientifically as possible. Every business decision must be based on assumptions of risk and reward; thus, the use of samples must be as accurate and consistent as possible.

Text 2

# World economic and financial indicators

Americans felt surprisingly cheery in May. Consumer confidence surged from 40.8 to 54.9 on the index published by the Conference Board, a research firm. House prices in **America** fell by 19.1% in the year to the first quarter, on the Case-Shiller national house-price index. Lower prices may be tempting buyers back to the market. Sales of existing homes rose by 2.9% in April.

German businessmen were slightly less gloomy in May than in April. The index of business sentiment from IFO, a research institute based in Munich, edged up from 83.7 to 84.2. GDP in **Germany** fell by 3.8% in the first quarter, unrevised from an earlier estimate. More than half of the drop was down to the weakness of net exports. A collapse in business spending on plant and machinery accounted for much of the rest. Consumption rose by a healthy 0.5% from the previous quarter.

**South Africa’s** GDP fell at an annualised rate of 6.4% in the three months to March, following a smaller drop in the previous quarter. Its mining industry shrank at the fastest rate since records began in 1960.

The National Bank of **Poland** kept its benchmark interest rate unchanged at 3.75% on May 27th, but announced a reduction in the ratio of cash reserves it required from commercial banks, from 3.5% to 3%. **Hungary’s** central bank kept its main interest rate on hold at 9.5%, but analysts reckon the recent revival of the forint may allow cuts in interest rates later this year.

Text 3

# Can dinosaurs dance?

## Responding to the Asian challenge

ARE consumers in India and China too poor to afford high-quality Western goods? That used to be the old idea of doing business in these countries as firms offered watered-down versions of their products at reduced prices. Mr van Houten, of chipmaker NXP, says Indian and Chinese consumers are forcing multinationals to design sophisticated products that more closely meet their needs, and this is making firms operating in Asia better innovators.

By recruiting ingenious local engineers and designers in places like Bangalore and Beijing, and paying close attention to trends and practices in the market, firms are coming up with products and services that can be sold in other parts of the world too. Nokia's engineers are finding that many Chinese and Indians access the Internet mainly through their mobile handsets. Such customers' requirements of their handsets may therefore be quite different to those of Western users, many of whom have computers at home and at work.

GE's research lab in China has come up with a simplified magnetic-resonance imaging machine that costs a fraction of the one it sells in rich countries. The firm now plans to sell it worldwide. Wenda, a question-and-answer “knowledge community” product developed by Google in China to help overcome a lack of local content, was launched in Russia in June.

Unilever has long had a strong distribution network in India, but it has expanded its efforts with a division called Shakti, which provides Indian women's self-help groups with business education and the chance to earn a living selling cheap sachets of Unilever products. The effort has proved so successful that Unilever introduced a high-tech element: the Shakti entrepreneurs now run kiosks with personal computers which villagers can rent to send e-mails and browse the web for things that can make a big difference to their lives, like market prices.

Alan Lafley, who ran some of Procter & Gamble's Asian businesses before getting the top job at the American company, says many Asian firms began imitating what foreign ones did but are now “very innovative, especially with business models”.

Mr Lafley sees Indian firms shaking up the way foreign companies operate, and not only with back-office services where many began. Hours after he uttered those words, Wipro, an Indian pioneer of software services said it would open a new development centre in Atlanta, Georgia, that will report to its headquarters in Bangalore.

This is forcing P&G to innovate in other ways too. Mr Lafley uses the example of detergents in China, where the company is using a low-cost manufacturing method which he likens to Coca-Cola's “syrup” model, which supplies a concentrate to local bottlers. P&G provides secret, high-value “performance chemicals” to Chinese partners, who add basic ingredients and packaging before distributing the products.

**UNIT 2. STATISTICS IN BUSINESS**

**READING/SPEAKING**

Text 1.

**Mastering business statistics**

1 The volume of data you must confront every day makes a consistently detailed analysis impractical. Thus, the use of statistical techniques is a necessity. By evaluating a selective, isolated grouping of information or by dealing in averages, you can assign significance, discover trends, and project likely future events.

2 Statistics as a mathematical discipline suffers from a negative repu­tation, largely because statistical concepts often are misused or used so selectively that information is distorted rather than clarified. By carefully setting rules for yourself, however, you will be able to use the techniques of statistics to improve communication and to support the recommen­dations you convey to others.

3 You are expected to develop reliable information in three major areas where statistical techniques can be put to work:

1). Forecasting and budgeting. All managers are involved in the budg­eting process in one way or another. You may prepare the annual budget for your company, your department, or for a special project; a factory supervisor forecasts output and defect levels; and a processing depart­ment manager forecasts the number of transactions to be processed, number of employees needed to complete the task, and expenses involved in accomplishing the task.

2). Market testing. New products are tested by manufacturing com­panies in regional trials; services may be tested and costed out in the same way. But even if you are not directly involved in selling your company's product or service, you still need to apply the estimating skills used to test-market—even if only for an idea. You may recommend a change in procedures, for example; in order to gain approval, you will have to "sell" the idea to the decision maker. Your task will be to prove that profits will increase as the result of putting your information into action.

3). Risk analysis. Your company's top management is always aware of risk. Marketing a new product, hiring a new employee, computeriz­ing, and investing in long-term assets are all forms of risk. Accepting your ideas also represents risk—if your idea does not produce profits, then the company will lose money. Statistical techniques that identify risk levels help decision makers to identify how much risk is appropriate and whether or not a specific action is worth that risk.

**Setting objectives**

4 Some people assume that statistics is too complex for anyone to grasp unless they have studied higher math in college. Some elements of statistics and probability are so abstract that a grounding in calculus is necessary; however, that advanced skill level is not required for the business applications you will put to use.

5 The use of Greek symbols to represent complex mathematical concepts and the appearance of lengthy formulas will undoubtedly intimidate many people and prevent them from attacking a text of statistics. However, by following a methodical approach and remember­ing the actual applications as they affect you in your daily tasks, you will not have difficulty in mastering business statistics.

6 Set goals for yourself on two levels. First, decide that you will master the basic skills, terminology, and formulas related to business statistics. Second, consider the following goals for use of statistical information in your job:

1). Validate every fact and series of facts you use in statistical claims and conclusions. Draw a clear reference between the answer to a problem and the assumption base used to arrive at it.

2). Be prepared to support your contentions with your assumption base. Don't just assume that someone else will agree with you; examine alternatives, and either propose alternative methods for approaching a solution or dismiss them as flawed by preparing and presenting proof in support of your position.

3). Never quote statistics that you cannot find and establish. Avoid the habit of deferring to statistical statements to strengthen an argument and recognize that this habit only weakens credibility.

4). For every concept and technique involving statistics, find appro­priate business applications and apply your skill in using those methods that work to solve problems you face. Avoid "over-statistifying" reports.

5). Avoid all arbitrary guesswork when dealing with financial infor­mation. In too many cases, projections are based on poorly supported assumptions, or on no assumptions whatsoever. Question budgets based on the previous year's levels, sales forecasts that assume percentage increases over the previous year, and similar practices. Always look for the statistical means for supporting projections.

6). Remember that every decision you make will affect someone else. Even in a highly automated, efficiently run, technological environ­ment, the two-dimensional nature of statistical information must not be allowed to take priority over the human element. Use statistics as a tool, not as a replacement for sound decisions.

EXERCISES

**1. Read the following words paying attention to the proper pronunciation of the underlined vowels, consonants, and the stress.**

to confront, isolated, to assign, discipline, forecasting, defect, to accomplish, trials, to apply, approval, increase (n/v), to assume, calculus, undoubtedly, affect (n/v), flawed, deferring, appropriate, arbitrary, automated, dimensional

**2. Answer the following questions.**

1 How do statistical techniques help in everyday business practice?

2 Why does Statistics suffer from a negative reputation?

3 How can statistics be put in action:

* forecasting
* budgeting
* market testing
* risk analysis

4 What makes Statistics difficult to understand?

5 How does Business Statistics differ from Statistics?

6 Which basic skills does a person need to master Statistics?

7 Why should we validate facts used in statistical claims?

8 To what extant can we trust statistics in everyday life?

9 How would you explain the phrase from the text “overstatistifying reports”?

10 The author of the article tells us about the two-dimensional nature of statistical information. What does the author mean?

**3 Decide whether the following statements are true or false.**

1. In most cases statistical information is 100 percent reliable.
2. A good supervisor must know Statistics well.
3. Statistics as a science and statistics in business are absolutely different matters.
4. Applying statistical techniques we can identify risks of any level.
5. Only people who have studied higher math can understand and apply statistical techniques.
6. The only way to strengthen the argument is to use statistical statements.
7. Some day statistical information will take priority over the human element.

**4 Complete the following sentences using your own ideas**

1. If I were a manager of a big enterprise, I would use statistics for…
2. Statistical techniques are absolutely useless in …
3. Statistical information can be misused when …
4. Estimating skills are known as special abilities which …
5. I decided to master Statistics because …
6. The best way to support my contentions is …
7. Some elements of Statistics are so abstract that …
8. The best way to ensure that your projections will work is …

**5. Find English equivalents in Text** **1.**

|  |  |
| --- | --- |
| **para 1**  объем информации, столкнуться, тщательное исследование, отдельный, определить важность, вероятные в будущем события | **para 4**  полагать, овладеть, владение основами счета, применить |
| **para 2**  в основном из-за, используются выборочно, установить правила, давать рекомендации | **para 5**  математические понятия, несомненно, освоить статистику предприятия |
| **para 3**  достоверная информация, применять, прогнозирование, тем или иным образом, производственный выпуск, издержки, завершение задачи, применить навыки оценки, получить одобрение, долгосрочные активы | **para 6**  теоретический базис, собственные предположения, предложить альтернативный метод, некорректный, усилить доказательство, надежность, применение в деловой практике, случайные догадки, высоко автоматизированный, эффективно управляемый |

**6. Match words on the left with their corresponding definitions on the right.**

|  |  |
| --- | --- |
| 1. **distort** /v/ | 1. correct or suitable for a particular situation |
| 1. **accomplish** /v/ | 1. to frighten |
| 1. **appropriate** /adj/ | 1. to suggest |
| 1. **intimidate** /v/ | 1. to finish successfully |
| 1. **validate** /v/ | 1. showing good sense |
| 1. **propose** /v/ | 1. to make references |
| 1. **flawed** /adj/ | 1. to give a false or dishonest account of smth |
| 1. **defer** **to**/v/ | 1. not perfect |
| 1. **arbitrary** /adj/ *derog* | 1. to make valid, especially legally |
| 1. **sound** /adj/ | 1. based on chance or personal opinion rather than facts |

**7** **Fill in the blanks using words from Task 6.**

1. It is a \_\_\_\_\_\_\_\_\_\_\_\_\_ investment that is sure to bring good profits.
2. In order to \_\_\_\_\_\_\_\_\_\_\_\_\_ the agreement, both parties sign it.
3. This argument has been dismissed as \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. I \_\_\_\_\_\_\_\_\_\_\_ delaying our decision until the next meeting.
5. Complaints must be addressed to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ authority.
6. In his PhD paper he \_\_\_\_\_\_\_\_\_\_\_\_\_\_ us to his latest works.
7. She has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ a great deal in the last few weeks.
8. An account of what has happened was seriously \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by the newspaper.
9. They tried \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ him into doing what they wanted.
10. I did not know anything about any of the statistical books so my choice was quite \_\_\_\_\_\_\_\_\_\_.

**8. Find partners among the following words to make up a collocation.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| consistently | long-term | reliable | higher | business | methodical |
| approach | math | applications | detailed | assets | information |

**9. Translate the following sentences using terms and collocations from the text and the previous tasks.**

1. Вложения в *долгосрочные активы* являются определенным риском для предприятия.
2. *Регулярные, тщательно проводимые исследования* больших *объемов деловой информации* являются залогом успеха.
3. Одна из задач статистики – предоставить руководителю *надежную информацию*, *имеющую практическое применение в бизнесе*.
4. Некоторые *полагают*, что статистическим знанием не смогут *овладеть* те, кто не прошел курс *высшей математики*.
5. Используя специальные *методические приемы* возможно в короткий срок *овладеть* статистическим знанием.
6. В процесс *прогнозирования* и *составления бюджета* вовлечены менеджеры многих отделов компании.
7. Чтобы быть убедительным в научном споре, следует *подкреплять свою точку зрения* *весомыми аргументами*.
8. *Рассмотрите альтернативные варианты* и *устраните* те из них, которые покажутся *некорректными*.
9. При работе с финансовой информацией не полагайтесь на *непроверенные предположения*.
10. Необходимо *подтвердить реальность* информации, используемой для статистических *предположений* и *выводов*.

**10 Fill in the gaps using words given below.**

justify intimidating volume master complicated automated applied budgets routines abstract

A comprehension of statistics and probabilities need not be \_\_1\_\_. As \_\_2\_\_ mathematical ideas, the formulas and equations are \_\_3\_\_ and, for a good number of managers, difficult to \_\_4\_\_. How­ever, when those same principles are \_\_5\_\_ to situations with which you are familiar, the building blocks are already in place.

If you are involved in a "number-intensive" department such as accounting or auditing, the use of \_\_6\_\_ programs can help you manage a \_\_7\_\_ of information, as well as help you apply statistical skills. However, most managers deal with numbers only when preparing reports or \_\_8\_\_, so they cannot \_\_9\_\_ an investment in highly specialized software for statistical analysis. You can perform most of the mathematical \_\_10\_\_ introduced by using a hand calculator.

**11. Choose the correct letter.**

|  |  |
| --- | --- |
| 1 Low demand for their products has made production very \_\_\_ profitable.  a) dis  b) un  c) in  2 We don't have a detailed cost analysis yet, so the management are \_\_\_decided about future investment.  a) dis  b) un  c) in  3 You must make everything very clear now in order to avoid any \_\_\_understandings later.  a) mis  b) de  c) in  4 Four Seasons Ltd has been \_\_\_successful in marketing the new product.  a) dis  b) un  c) in  5 Since \_\_\_\_regulation, telephone companies have been able to set their own prices.  a) mis  b) de  c) in  6 The company would be more profitable if they could reduce the amount of \_\_\_used capacity.  a) mis  b) ab  c) un  7 They have decided to \_\_\_continue the production of Product P because sales have fallen.  a) dis  b) de  c) in | 8 They have changed the way they measure profit as absorption costing is \_\_\_\_adequate.  a) dis  b) un  c) in  9 The management think that the policy of expanding sales is \_\_\_correct.  a) dis  b) un  c) in  10 Prices for raw materials are \_\_\_normally high at the moment.  a) mis  b) ab  c) un  11 They \_\_\_estimated the effect of the competitor's products on sales in this market sector.  a) mis  b) dis  c) under  12 The report showed that moving the production to a new site was \_\_\_desirable.  a) dis  b) un  c) in  13 An increase in the price of land was totally \_\_\_expected.  a) dis  b) un  c) in  14 Lots of the documentation which was lost in the fire is \_\_\_replaceable.  a) ir  b) ur  c) de |

**12 Choose the correct preposition.**

1. Labour costs have fallen \_\_\_ 22% of total production costs \_\_\_ 14% in the last ten years. That's 8%!
2. There was a dramatic fall in sales to the USA\_\_\_1997 and 2000.
3. The company is currently selling 20,000 units \_\_\_£23 each.
4. The growth in sales has led to a rise\_\_\_\_30% in profits.
5. A 10% drop in sales has reduced the profit\_\_\_\_ 40%.
6. During 1999/2000 we increased retail floor space\_\_\_ 5% \_\_\_ a total\_\_\_ 48,000sq m.
7. They expect to create 1,450 jobs worldwide \_\_\_ the end of next year, at the latest.
8. Capital investment for the year stands\_\_\_ £6,000.
9. Pre-tax profits reached a peak\_\_\_\_ $5m two years ago but have been lower since.
10. Weekly sales have levelled off\_\_\_\_£34,000.
11. Increased efficiency has resulted in a lowering of the break-even point from 2,770 \_\_\_ 2,500 units.
12. The rise in raw material prices is expected to be\_\_\_3.5% and 4.5% this year.

**13 Choose the proper form of the word to complete the sentence**

to rely

1 We should not be so \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on imported oil.

2 It is a pretty \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ source of information.

3 I place complete \_\_\_\_\_\_\_\_\_\_\_\_\_\_ on his judgment.

4 Do not \_\_\_\_\_\_\_\_\_\_\_ on the bank lending you the money.

to apply

1 The rule is only \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to UK citizens.

2 We had 250 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for the lob.

3 Have you filled in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ form for a new passport?

4 The science of numbers developed for particular purposes is called \_\_\_\_\_\_\_\_\_\_ Mathematics.

5 Scientific discoveries are often \_\_\_\_\_\_\_\_\_\_\_\_ to industrial processes.

to flaw

1 Your argument has one fatal \_\_\_\_\_\_\_\_\_\_\_\_\_.

2 The mistake \_\_\_\_\_\_\_\_\_\_\_\_\_\_ his report and made it less valuable.

3 Her \_\_\_\_\_\_\_\_\_\_\_\_\_\_ performance made everybody happy.

4 The work done \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has brought satisfaction to the audience.

**14 Look at the following pair of words, spot the difference and do the task.**

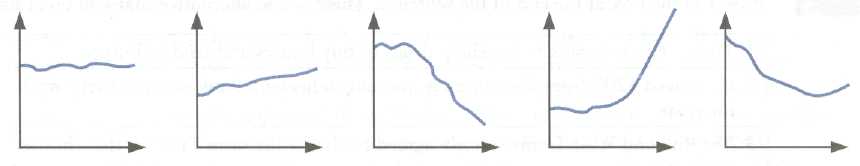
figures ≠ numbers

|  |  |
| --- | --- |
| * a symbol for a number or an amount expressed in numbers; * number that expresses an amount, especially in official documents. | * a symbol or word used in a counting system or used to show the position or order of something; * a group of numbers that represents something. |

**Insert the proper word *figure* or *number***

* 1. Can you read this \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_? Is it a three or an eight?
  2. Think of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ smaller than 100.
  3. Look at item \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ three on your agenda.
  4. Write the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in both words and figures.
  5. I looked quickly down the column of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
  6. Pablo's favourite \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is seven.
  7. The Prime Minister lives at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 10, Downing Street.
  8. Each person receives a membership \_\_\_\_\_\_\_\_\_\_\_\_\_\_ when they join.
  9. Government \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ show a rise in unemployment.
  10. What's your phone \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_?

**15 A. Choose the graph (A-E) which best fits each sentence. You can use each graph more than once.**



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **A** | **B** | **C** | **D** | **E** |

1 'Oil prices skyrocketed last week as fears over supplies grew.'

2 'The dollar-euro exchange rate remains steady at about 0.98.'

3 'Telecom shares plummeted on warnings of bad sales figures.'

4 'The FTSE 100 fell yesterday but bottomed out at 7,900.'

5 'Advent! Corporation shares advanced to $2.80.'

6 'Sales at Super Mart have stagnated over the past year.'

7 'Micro Sun shares soared yesterday on news of a possible bid.'

8 'The Hang Seng dived yesterday and closed at a five-year low.'

**15 B. Choose the best word from the brackets to fill the gap.**

1 The CAC 40....................at 3,051 before falling back to 2,992. (advanced/peaked/soared)

2 Anglia Agro......................to 121 pence from a high of 123. (eased/leapt/jumped)

3 Our share price rose in the morning but then it levelled.....................at 62 pence. (up/down/off)

4 Internet dealers say they will......................the price of a new car by over 10%. (slash/slump/bust)

5 It's not bad enough to call it a slump, but we are in a...................... (depression/repression/recession)

6 ................. means that growth is slow, but prices are rising quickly. (Stagnation/Stagflation/Inflation)

7 United Foods announced it is going to.............................1,500 jobs. (axe/dive/close)

8 As temperatures rise, the.......................for air-conditioning units increases. (boom/surge/demand)

Text 2.

Современную статистику отличает от «государствоведения» прошлых столетий не только значительно выросшая полнота и разносторонность содержащихся в ней сведений. В отношении характера сведений к ней теперь относят только то, что получает количественное выражение. Например, количественные данные о численности населения, пользующегося тем или иным языком в качестве своего разговорного, количественные данные о распределении населе­ния, промышленности по регионам, и т.д.

Общая черта сведений, составляющих статистику, — они все­гда относятся не к одному единичному (индивидуальному) явле­нию, а охватывают сводными характеристиками целый ряд та­ких явлений, или, как говорят, их совокупность. Индивидуаль­ное явление отличается от совокупности своей неразложимостью на самостоятельно существующие и аналогичные друг другу составные элементы. Совокупность же состоит именно из таких элементов. Исчезновение одного из элементов совокупности не уничтожает ее как таковую.

Таким образом, статистика имеет дело, прежде всего, с ко­личественной стороной явлений и процессов общественной жиз­ни. Одной из характерных особенностей статистики является то, что при изучении количественной стороны общественных явле­ний и процессов она всегда отображает качественные особеннос­ти исследуемых явлений, т.е. изучает количество в неразрывной связи, единстве с качеством.

Качество в научно-философском понимании — это свойства, присущие предмету или явлению, которые отличают данный пред­мет или явление от других. Качество — это то, что делает предме­ты и явления определенными. Пользуясь философской термино­логией, можно сказать, что статистика — это наука, изучаю­щая количественную сторону массовых общественных явлений в неразрывной связи с их качественной стороной, количествен­ное выражение закономерностей общественного развития.

Теоретической основой предмета статистики являются по­ложения социально-экономической теории и принципы диалектического метода познания.

**1 Translate the underlined words and word combinations in the text.**

**2 Translate the following words and phrases without looking back to the text of the interview.**

теоретическая основа - to reflect – полнота и разносторонность информации - numerical data – статистика имеет дело - isolated event – положения социально-экономической теории - population – отличать - mass public phenomena – неразрывная связь - distribution of the population – закономерности общественного развития - public activity – качество - object’s inherent features – сводная характеристика

**3 Write a short summary of the text in English (80-100 words).**

**4 Study the following number writing rules.**

Rule 4

The simplest way to express large numbers is best. Round numbers are usually spelled out.

Example: You can earn from one million to five million dollars.

Rule 5

Write decimals in figures. Put a zero in front of a decimal unless the decimal itself begins with a zero.

Examples: The plant grew 0.79 of a foot in one year. / The plant grew only .07 of a foot this year because of the drought.

Rule 6

With numbers that have decimal points, use a comma only when the number has five or more digits before the decimal point. Place the comma in front of the third digit to the left of the decimal point. When writing out such numbers, use the comma where it would appear in the figure format. Use the word and where the decimal point appears in the figure format.

Examples: $15,768.13: Fifteen thousand, seven hundred sixty-eight dollars and thirteen cents. / $1054.21: One thousand fifty-four dollars and twenty-one cents

**Note:** If the number has no decimal point, authorities disagree on whether to begin using the comma with four-digit numbers or to begin using the comma with five-digit numbers. When writing out these numbers, it is recommended using the comma where it appears in the numerical form.

1,054 schools **OR** 1054 schools: one thousand, fifty-four schools **OR** one thousand fifty-four schools

12,154 schools: twelve thousand, one hundred fifty-four schools

**Practice: Decide whether the following sentences are correct or incorrect**

|  |  |  |
| --- | --- | --- |
|  | **correct** | **incorrect** |
| 1) Last year sales rose by zero point five percent. |  |  |
| 2) $2,309.65 - two thousand, three hundred nine dollars and sixty five cents. |  |  |
| 3) You can earn from one million to $5,000,000. |  |  |
| 4) Total revenues of the manufacture increased by 0.09 percent. |  |  |
| 5) $10,124.12 - ten thousand one hundred twenty four dollars and twelve cents. |  |  |
| 6) You can earn from five hundred to five million dollars. |  |  |
| 7) 4203 students - four thousand, two hundred three students. |  |  |
| 8) 2,304 managers - two thousand three hundred four managers. |  |  |
| 9) 2,108 reports - two thousand, one hundred eight reports. |  |  |
| 10) The income tax has been increased by .03 percent. |  |  |

**Listening “Economic Performance” (Part 2)**

**1 You will hear the continuation of the interview with Vladimir Leonidovich Sokolin, Head of the State Statistical Agency in 2003. As you listen, find English equivalents of the following words and phrases.**

*Question #5*

теневая часть экономики, источник средств существования, в нашей теневой экономике нет никакого криминала

*Question #6*

правительственный прогноз, не по нашей прихоти, иначе была бы вакханалия

*Question #7*

перепись, повод для беспокойства, пенсии по старости, за выслугу лет, по инвалидности, по случаю потери кормильца.

*Question #8*

каково семейное положение России, лица, со­стоящие в незарегистрированном браке, спокойно проанализировать итоги переписи, половозрастная структура населения, сужаю­щийся книзу конус

*Question #9*

психологи уверяют, человек не может расслабиться, для того чтобы население просто сохранилось

**2 Listen to the interview once again and complete the sentences using a word or a number of words.**

*Question #5*

1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a very important source of income.

2 18 million people being interviewed form \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3 Our shadow economy is out of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ according to Mr Sokolin.

*Question #6*

1 The index of consumer prices excludes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2 International and Russian statistical services use absolutely the same \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

*Question #7*

1 A new category of people who get incomes from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has been registered

2 According to the recent census 2 million people took a great interest in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3 Rises worries the fact that 50 million people rely mostly on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

*Question #8*

1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ without marriage became economically efficient nowadays.

2 Russia is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Western Europe in the number of *out-of-marriage* indicators.

3 According to the age and gender breakdown we have more \_\_\_\_\_\_\_\_\_\_\_\_\_\_ than \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4 Male \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has declined recently.

*Question #9*

1 Life expectancy rose in Europe when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ was raised.

2 In 10-15 years \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will strike future 15 years old individuals.

3 Many questions will find their answers after \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Reading File

Text 1

**Accuracy in samples**

If you attempt to study an entire population and its size is too large for timely and accurate reporting, your approach will lack the efficiency that sample studies provide. Many populations (including the number of transactions occurring in a large company, units of production, or the number of customers you serve) are too diverse and too large for detailed study; thus, the use of a representative sample is a logical and time-saving alternative.

Entire populations cannot always be studied, not only because they are large, but because the purpose itself might not be served by a thorough analysis. For example, a plant manager wants to determine how long employees can work without the rate of defects increasing. If one shift produces 20,000 units per hour, it would be very expensive to work that shift for many hours without pause to find the point at which defect rates begin to rise. Similarly, a stress test applied to a sample of products would indicate the point of breakage; it would serve no purpose to apply that test to every unit manufactured.

Although it is not necessary to test entire populations, the sample must be broad enough to be fair and accurate. A key criterion in using an isolated sample is: The sample must fairly represent the popula­tion. Although this point may seem obvious, it is often ignored in sample testing. A manager may select a sample likely to help draw a predetermined conclusion—even on an unconscious level. Thus, the proper use of sampling techniques must also involve an impartial mecha­nism for selection.

Example: An auditor wants to select a sample of disbursements over the past year. The first approach is to pick 200 checks from a population of 10,000; however, the auditor picks each one by hand and unintention­ally concentrates on only one type of disbursement. It does not necessar­ily reflect the error rate of the population. As an alternative, the range of check numbers is isolated, and 200 are selected at random.

Example: A customer service manager wants to study the response time to customer requests. She first makes the selection according to the type of call; however, this approach is flawed, because response times vary by complexity of request. The sample is revised to study every twentieth call received.

Example: A company conducts a survey of existing customers to determine whether a new product will find acceptance. The first sample, however, is of customers who buy from the company regularly. Man­agement realizes that this is not representative of the "typical" or "average" customer and conducts another survey at random that is not limited to a particular type of customer.

In the last example, the flaw is obvious. It might be that repeat customers were selected in the belief that they would be most likely to respond to a survey. But that very selection made the sample unrepresen­tative. For the sample to be fair, it must be selected for the right reasons, and not for the purpose of increasing response or affecting the sample's outcome.

A sample cannot be expected to produce accurate results if condi­tions have changed since the sample information was gathered. This is a critical point, and one that is often forgotten by those who depend too heavily on statistical information without a corresponding review of the nonstatistical facts and conditions.

Example: A manager conducts a statistical study to determine how quickly newly hired employees are trained to perform their jobs. He studies a sample of employees hired last year. However, overlooked in this study is the fact that new training techniques have been put into place since those employees were hired.

We cannot always know for certain that a particular sample will be truly representative of the population, even when that sample is taken at random and current conditions are identical to the time that the sample was taken. However, random sampling docs remove all preconditions and assumptions that may be present with other methods. An auditor may unconsciously select only the largest transactions; or the customer service manager may believe that a certain type of request is representa­tive when, in fact, it is not. Even with an attempt to achieve objectivity, a poorly drawn sample will mislead and cause an inaccurate result.

Text 2

**The probability factor**

The reliability of a sample can be estimated with reasonable certainty under the rules of probability. In a sense, probability is the mathematical opposite of statistics: A probability is the study of results when a process

is well understood; a statistic shows us the result when we're not sure how the process occurs.

Example: If you flip a coin 100 times, heads is likely to come up 50 times. We understand that the chance is 50-50. The process is under­stood.

Example: A review of 100 coin flips shows that in one instance heads came up 53 times; in another, it came up 49 times; and in a third test, heads appeared 48 times. From these results, it may be statistically concluded that, on average, heads appears half the time. From this information, the future number of heads can be estimated statistically, even if we do not understand the process that determines the result.

You use probability estimates to judge the risk in a decision or to protect against the chance of a future loss. Even if the loss is unlikely to occur statistically, probability may demand protection.

Example: Your company owns a warehouse and stores its inventory there. The total value of the facility and goods exceeds $12 million. With the science of probability, your insurance company can tell you that a fire or other loss will occur in one of every 10,000 warehouses; thus, your chances of suffering a loss are very low. However, your company could not afford a loss of that magnitude, so it purchases insurance and pays premiums to protect its assets. Statistically, companies that install sprinkler systems suffer fewer losses than those that do not. So, your company is able to reduce its insurance costs by installing sprinklers.

In this case, probability and statistics both apply. First is the remote probability of a catastrophe—one that is unlikely to occur but that would represent a serious loss of value. Second is the statistical fact that risk— to the company and to the insurer—is drastically reduced with safety measures.

In the evaluation of business risk in many forms, probability and statistics are closely related ideas.

Using the concepts of statistical inference—carefully selecting a representative sample of a larger population—will help reduce the anal­ysis of any task to a manageable level. And as long as you select a sample on an impartial basis, the probability that it is representative will increase. Thus, the basic principles of probability can be applied to the very process you use in approaching a large-population problem and in developing a statistical base for study.

This idea is best demonstrated by referring again to the example of insuring business assets. The insurance company sets its premium rates according to historical incidents of loss. The premium charged to each policyholder must be adequate to cover the expected losses of the population of businesses with warehouses, as well as the insurer's own overhead and profit requirements. As statistical information changes, premiums are adjusted to reflect newer, updated information.

At any given time, the probability of a loss must be calculated on the likely rate of loss. However, the statistical information available to the actuaries setting rates constantly changes those rates. If more losses occur with certain types of properties, materials, or locations, that statistical information must be incorporated into the probability study. And if, by taking safety measures, a company reduces its exposure to loss, the rates may be reduced.

Text 3

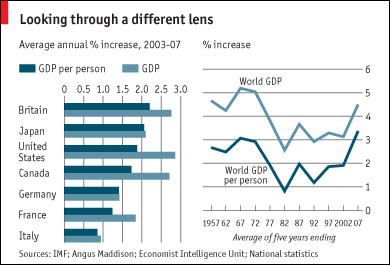
# Grossly distorted picture

## If you look at GDP per head, the world is a different—and, by and large, a better—place

WHICH economy has enjoyed the best economic performance over the past five years: America's or Japan's? Most people will pick America. The popular perception is that America's vibrant economy was sprinting ahead (albeit fuelled by credit and housing bubbles that have now painfully burst), whereas Japan crawled along at a snail's pace. And it is true that America's average annual real GDP growth of 2.9% was much faster than Japan's 2.1%. However, the single best gauge of economic performance is not growth in GDP, but GDP per person, which is a rough guide to average living standards. It tells a completely different story.

GDP growth figures flatter America's relative performance, because its population is rising much faster, by 1% a year, thanks to immigration and a higher birth rate. In contrast, the number of Japanese citizens has been shrinking since 2005. Once you take account of this, Japan's GDP per head increased at an annual rate of 2.1% in the five years to 2007, slightly faster than America's 1.9% and much better than Germany's 1.4%. In other words, contrary to the popular pessimism about Japan's economy, it has actually enjoyed the biggest gain in average income among the big three rich economies. Among all the G7 economies it ranks second only to Britain (see left-hand chart).

Using growth in GDP per head rather than crude GDP growth reveals a strikingly different picture of other countries' economic health. For example, Australian politicians often boast that their economy has had one of the fastest growth rates among the major developed nations—an average of 3.3% over the past five years. But Australia has also had one of the biggest increases in population; its GDP per head has grown no faster than Japan's over this period. Likewise, Spain has been one of the euro area's star performers in terms of GDP growth, but over the past three years output per person has grown more slowly than in Germany, which like Japan, has a shrinking population.

Some emerging economies also look less impressive when growth is compared on a per-person basis. One of the supposedly booming BRIC countries, Brazil, has seen its GDP per head increase by only 2.3% per year since 2003, barely any faster than Japan's. Russia, by contrast, enjoyed annual average growth in GDP per head of 7.4% because the population is falling faster than in any other large country (by 0.5% a year). Indians love to boast that their economy's growth rate has almost caught up with China's, but its population is also expanding much faster. Over the past five years, the 10.2% average increase in China's income per head dwarfed India's 6.8% gain.

Focusing on GDP per person also affects comparisons of economic health over time. During the past five years, world GDP has grown by an average of 4.5% a year, its fastest for more than three decades, though not as fast as during the golden age of the 1960s when annual growth exceeded 5%. But the world's population is now growing at half of its pace in the 1960s, and so world income per head has increased by more over the past five years than during any other period on record (see right-hand chart above). Mankind has never had it so good.

**UNIT 3. DISCRIPTIVE STATISTICS**

**READING/SPEAKING**

Text 1.

**Calculating central tendencies**

1 You've been given an assignment that will involve reporting on trends in your department. You will have to summarize the numbers and explain what they mean, and although the task is complicated, you'll be given only five minutes to present your facts.

2 This is typical of the problems you face every day. With a huge amount of information available, you need to quickly identify the significance behind a group of numbers, tell other people what those numbers mean, and achieve these goals without the luxury of time.

3 Much of the work you do in communicating with others involves descriptive statistics—methods of studying and summarizing a series of numbers. Not only do you need to summarize the meaning of today's numbers, you also need to relate the information as part of a trend. Are the numbers better or worse than they were last month or last year? And what is likely to happen in the future?

4 Even more challenging is the need to tell others how predictable your estimates are. For example, you must project financial information for the coming year. Are your estimates fairly certain, or are they more difficult to pin down? The degree of predictability can be defined and compared by use of statistical techniques.

5 The process of estimating and defining begins with the collection of the numbers you will use. For example, to study trends in sales by division, you need to gather sales figures. To report on the cost of hiring new employees, you will start with information on salaries and benefits. And to study production trends, you will first gather records of shift performance for a period of weeks, months, or years. So, when your data has been carefully chosen what to do then? The answer is to deal with the central tendency. Central tendency is a summary of raw data calculated to identify a significant trend or tendency in a distribution.

6 Of the three central tendencies (mean, median, and mode), the best known is the mean, more popularly called the average. A mean is calculated by adding up the values in the distribution and then dividing the total by the number of values. So, *mean* is the average of distribution, calculated by adding all the values and dividing that total by the number of values.

7 The mean (or, average) is a common form of statistical work in business. But it does not always give you the exact information you need. In some cases, exceptionally large or small values in your distribution will skew the average to the point that it is not meaningful.

8 The median presents an alternative. The median is the exact middle value in a distribution; half the values are greater and half are less than the median. In some instances, the median will give you a more accurate central tendency than the mean will. The average is most useful when your task is to spot growing trends over time. The median may be used when you want to find out what the representative middle number for a distribution is. Calculating the mean and median is fairly simple. Your real challenge is deciding which to report and how to interpret your results. And that depends on the conclusions you want to reach.

9 The third measure of central tendency is the mode, which is the value that appears most frequently in a distribution. As a supplemental test, the mode is helpful in deciding whether conclusions are accurate. *Mode* is the value that appears most often in a distribution. If a list contains no values that appear more than once, there is no mode. An example is the number of transactions processed during each of six months in your department. Because no single value was repeated, there is no mode. When more than one value appears more than once, they are both modes. An example is the list of absent days per employee during the year. On that list, the values 9 and 4 each appeared twice; this is a bimodal distribution.

10 The mode can be used to calculate likely future events in a way similar to the median. In some cases, the median will be an inaccurate representation of what is likely to occur in the future.

EXERCISES

**1. Read the following words paying attention to the proper pronunciation of the underlined vowels, consonants, and the stress.**

assignment, to present, typical, these/this, series, to project, fairly, techniques, mode, to skew, greater, whether, per employee, bimodal, inaccurate, to occur

**2. Answer the following questions.**

1. What does the term *trend* mean? How to identify a trend?

2 What information you need to study trends in:

1. death accidents on roads with Harley-Davidson motorbikers;
2. cancer incidents among young Chinese sex workers;
3. smoking habits among Moscow’s high school female teenagers.

3 What role do average values play in Statistics?

4 How to make sure that an average value is accurate and represents the nature of the population?

5 Why do analysts need three average indices: mean, median and mode, and not the mean only?

6 How do analysts decide which type of average to choose in their analysis?

7 Using the distribution given below calculate: mean, median, mode.

During the first 9 months of the year, the customer service department got a varying number of complaints:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Jan** | 207 | **Jun** | 174 |
| **Feb** | 193 | **Jul** | 92 |
| **Mar** | 88 | **Aug** | 106 |
| **Apr** | 122 | **Sep** | 188 |
| **May** | 93 |  |  |

**3 Decide whether the following statements are true or false.**

1. The degree of estimates’ predictability cannot be defined by use of statistical techniques.
2. All average figures are of the same mathematical nature.
3. Mean, median and mode are substitutes, they can be used interchangeably.
4. The mean always gives you exact information.
5. The median helps to spot growing trends over time more accurately.
6. The Dow Jones Index is calculated by use of the mean.
7. There is no difference in calculating the median for the distribution with odd or even number of values.
8. The mode can be found in any list of values.

**4 Complete the following sentences using your own ideas**

1. Descriptive statistics is …
2. It’s not enough in most cases to simply report the raw data because…
3. The best way to present raw data is …
4. Average figures are commonly used in Statistics because…
5. Reporting on trends involves such kind of activities as…
6. To deal with a huge amount of available information you need…

**5. Find English equivalents in Text** **1.**

|  |  |
| --- | --- |
| **para 1**  сделать доклад на тему, трудное задание | **para 6**  средняя арифметическая величина, мода, медиана, суммирование, значение (величина), деление |
| **para 2**  большой объем доступной информации, определить важность, достичь цели | **para 8**  более точный, определить (заметить), выяснить, типичный, истолковать результат |
| **para 4**  оценка (калькуляция), предстоящий год, достаточно надежный, точно определить, статистические приемы | **para 9**  часто, дополнительный, проведенные сделки |
| **para 5**  сбор данных, наем новых сотрудников, среднее значение, распределение |  |

**6. Match terms on the left with their corresponding definitions on the right.**

|  |  |
| --- | --- |
| 1. raw data | 1. the average of distribution, calculated by adding all values and dividing that total by the number of values |
| 1. distribution | 1. a list of raw data that can involve a small number of values or a large number of values |
| 1. range | 1. the middle value in distribution, so that one-half of the values are greater and one-half are less |
| 1. mean | 1. a list of related numbers that have not yet been summarized or interpreted |
| 1. median | 1. the value that appears most often in a distribution |
| 1. mode | 1. a summary of raw data calculated to identify a significant trend or tendency in a distribution |
| 1. central tendency | 1. the difference in value between the smallest and the largest values in a distribution |

**7. Find partners among the following words to make up a collocation.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| complicated | growing | supplemental | sales | exact | exceptionally |
| large | figures | information | task | trend | test |

**8. Translate the following sentences using terms and collocations from the text and the previous tasks.**

1. *Средняя арифметическая величина* представляет собой самый распространенный вид *средней величины*.
2. *Мода* – это наиболее часто встречающаяся в *совокупности* *величина варианта*.
3. Чтобы определить *медиану*, необходимо найти середину ранжированного *статистического ряда*.
4. *Подсчет* средних величин не является *трудной задачей*.
5. *Данные об объёме продаж* являются ценным источником информации об успешности компании на рынке.
6. Наиболее *точную информацию* и возможно получить только после *обработки* полученных *данных*.
7. *Процесс оценки* деятельности компании начинается со *сбора* данных.
8. В отдельных случаях *слишком большие величины* могут негативно повлиять на *точность* получаемой средней величины.
9. *Издержки* компании, связанные с поиском и *приемом новых сотрудников*, имеет *общую тенденцию к повышению*.
10. *Большой объем доступной информации* является условием успешного проведения экспертной оценки.

**9 Fill in the gaps using words from the box**

*procedure trends calculation inaccurate distribution affect variables values range spot*

In practice, seasonal variation, growth \_\_1\_\_, and other internal changes could make simple average figures \_\_2\_\_. For this reason, you may want to use one of several other averages that take into account such \_\_3\_\_.

One of these is the simple *moving average*. Moving average is a series of calculations used to \_\_4\_\_ trends that develop over time. This technique offsets the effect of a widely varying \_\_5\_\_ by identifying the typical past experience and likely future experience. In other words, this \_\_6\_\_ stabilizes the range when the individual \_\_7\_\_ vary considerably, or when you believe that averages are changing over time and you need to project how that trend will \_\_8\_\_ the future.

A moving average is appropriate when your \_\_9\_\_ involves a time study such as monthly transactions. The moving average is calculated by (1) figuring the mean for a limited number of values, (2) adding one new value and dropping one old value for the next calculation, and (3) repeating this \_\_10\_\_ through the entire distribution.

The moving average helps even out a trend, even when the distribu­tion has a very wide range. Still, it's sometimes necessary to add more weight to some of the values on your distribution list.

**10. Choose the correct letter.**

|  |  |
| --- | --- |
| 1 The median \_\_\_accurately represents what is likely to happen in the future.  a) dis  b) un  c) in  2 Luxury products are \_\_\_available to a wide market.  a) non  b) un  c) in  3 This decision might have some \_\_\_predictable consequences.  a) a  b) un  c) in  4 It was a mere detail which seemed \_\_\_significant at that time but later proved to be crucial.  a) dis  b) un  c) in  5 Sales figures showed \_\_\_exceptional upward movement.  a) dis  b) un  c) in  6. The government’s decision became extremely \_\_\_popular with common people.  a) dis  b) un  c) in  7 The tax will be a \_\_\_incentive to industrial development.  a) dis  b) un  c) in | 8. As a \_\_\_interested observer, who do you think is right?  a) dis  b) un  c) in  9 The President said in no \_\_\_certain terms what would happen to corrupt officials.  a) dis  b) un  c) in  10 This is \_\_\_representative of the general quality of his work; he is a brilliant analyst indeed.  a) dis  b) un  c) in  11 Sociology is \_\_\_exact science.  a) non  b) un  c) in  12 The board are known for their \_\_\_standard strategic decisions.  a) non  b) un  c) in  13 The company’s accounts are rather \_\_\_organized.  a) dis  b) un  c) in  14 Their government is bankrupt, and public services are now practically \_\_\_existent.  a) non  b) un  c) in  15. The act of taking one’s money out of the business in which one has previously invested it is known as \_\_\_investment.  a) dis  b) un  c) non |

**11 Choose the correct preposition.**

1. Our specialists came back to report *about / on / over* progress.
2. This book gives a lot of useful information *about / on / over* how to calculate average figures.
3. 15 divided *on / at / by* 3 is 5.
4. Add *on / with / up* these figures for me, please.
5. We know there is corruption in the organization but it is difficult to pin it *through / down / off*.

**12 Choose the proper form of the word to complete the sentence**

accurate

1 The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of his account makes bank managers loyal towards him.

2 Her report on what happened was \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in every detail.

3 The work has been done so \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, that the manager was granted with the charter.

representative

1 She \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ her fellow-worker at the union meeting.

2 They made \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the University authorities about the bad accommodations.

3 Are your opinion \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of those of the other students?

4 I could not be present myself, but I sent my \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the meeting.

to calculate

1 These \_\_\_\_\_\_\_\_\_\_\_\_\_\_ are based on the latest statistics.

2 The government has to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the likely effect on revenues of a big drop in the oil price.

3 I took a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ risk when I bought those shares.

4 When dealing with these figures don’t forget about the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rules.

**13 Identify which mathematical term (a-i) describes the examples (1-9).**

|  |  |  |  |
| --- | --- | --- | --- |
|  | 74% |  |  |
|  | f = **√ (2YV)** |  |  |
|  | *2009*  JAN 2.4 JUL 3.5  FEB 2.5 AUG 4.7  MAR 3.9 SEP 6.9  APR 4.6 OCT 6.3  MAY 3.4 NOV 6.8  JUN 3.6 DEC 3.4  Monthly = 4.33 |  | formula |
|  | multiplication |
|  | division |
|  | percentage |
|  | 1.623 + 3.004 = 4.627 |  | average |
|  | 302 x 6.2 = 1,872.4 |  | ratio |
|  | 9.260 – 1,111 = 8.149 |  | addition |
|  | 1.505  -------- = 301  5 |  | rate |
|  | subtraction |
|  |  |
|  | Direct costs 724  Indirect costs 200  *Costs*  Direct : Indirect = 3.62 |  |  |
|  | $ 12.24 ∕ hour |  |  |

**14 Look at the following pair of words, spot the difference and do the task.**

effective ≠ efficient

|  |  |
| --- | --- |
| * successful or achieving the results that you want | * working or operating quickly and producing good results by using the available time, money etc in the most effective way |

**Insert the proper word *effective* or *efficient***

* 1. It's an extremely \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cure for a headache.
  2. The most \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ way too plan is to put your tasks in order of priority.
  3. The lighting for the production made a very \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ use of shadow.
  4. She's a very \_\_\_\_\_\_\_\_\_\_\_\_\_ teacher.
  5. The new machine is far more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than the old one.
  6. You need \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ communication in your organization.
  7. The troops should be deployed where they will be most \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
  8. Humour is often far more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than shouting.
  9. The city's transport system is one of the most \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in Europe.
  10. We need someone really \_\_\_\_\_\_\_\_\_\_\_\_\_\_ who can organize the office and make it run smoothly.

**15 Match the numbers and symbols with their names**

|  |
| --- |
| + x ÷ 3 4 8 9 10 11 23 ¼ 3¾ 0.78 342 |

|  |  |
| --- | --- |
| 1 odd numbers \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 8 compound numbers \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2 even numbers \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 9 decimal numbers \_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3 prime numbers \_\_\_\_\_\_\_\_\_\_\_\_\_ | 10 single digit numbers \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 4 addition \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 11 three digit numbers \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 5 multiplication \_\_\_\_\_\_\_\_\_\_\_\_\_ | 12 fraction \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 6 division \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 13 mixed fraction \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 7 single numbers \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 14 whole numbers \_\_\_\_\_\_\_\_\_\_\_\_\_ |

Text 2.

Описательная статистика позволяет с помощью специальных методов осуществить удобное представление данных для последующего анализа в виде частотных распределений, графических изображений и различных характеристик.

Общей чертой сведений, составляющих статистику, служит то, что в каждом конкретном случае объектом статистического изучения является статистическая совокупность, состоящая из качественно однородных единиц, но отличающихся по каким-то другим признакам. Качественная однородность элементов совокупности определяется исходя из цели исследования. Генеральной совокупностью называются все изучаемые однородные объекты, выборка - специально организованная часть генеральной совокупности.

Задача получения необходимой информации решается с помощью двух взаимно дополняющих принципов: выборочного метода и свертки информации. Первый предусматривает отказ от генеральной совокупности в пользу выборки, второй - заменяет всю выборку несколькими числами (ее характеристиками). Статистические характеристики различают как для генеральной совокупности, так и для выборки. Необходимо сделать несколько замечаний по применению статистических методов:

1. результаты статистического анализа могу противоречить действительности, это происходит тогда, когда исследователь не понимает проблемы либо применяемых статистических методов.
2. существует возможность умышленно вводить в заблуждение с помощью статистики.
3. в последнее время специалисты стараются применять все более тонкие статистические методы. Такой практики следует избегать, так как цель анализа не показать знание сложных аналитических методов, а правильно решить задачу.

Статистические методы в современной жизни находят свое применение в самых разнообразных областях: в экономике (исследования рынка и производства, контроль качества продукции, подбор кадрового персонала, предсказания конъюнктуры рынка и т.д.), в управлении (аппарат которого нуждается в информации о народонаселении, совокупном общественном продукте, внешней торговле). Без применения статистических методов практически невозможно никакое социально-научное исследование. С появлением компьютера, статистика проникает и в медицину, биологию, психологию и другие науки.

В зависимости от учреждений, использующих статистические методы, различают официальную и неофициальную статистику. Под официальной статистикой понимают статистические исследования и меры по сбору информации, предпринимаемые в соответствии с правительственными распоряжениями. К неофициальной статистике относят исследования, проводимые в фирмах, институтах общественного мнения и на предприятиях.

**1 Translate the underlined words and word combinations in the text.**

**2 Translate the following words and phrases without looking back to the text of the interview.**

statistical techniques – описательная статистика – the purpose of analysis - сбор информации – values - совокупный общественный продукт – frequency distribution - выборка – foreign commerce - генеральная совокупность – to collect data - графическое изображение – in accordance with the government’s regulations - конъюнктура рынка – mutually complementary principals- проводимые исследования – informal statistics.

**3 Write a short summary of the text in English (80-100 words).**

**4 Study the following number writing rules.**

Rule 7

When expressing decades, you may spell them out and lowercase them.

Example: During the eighties and nineties, the U.S. economy grew.

Rule 8

If you wish to express decades using incomplete numerals, put an apostrophe before the incomplete numeral but not between the year and the s.

Example: During the '80s and '90s, the U.S. economy grew.

Rule 9

You may also express decades in complete numerals. Again, don't use an apostrophe between the year and the s.

Example: During the 1980s and 1990s, the U.S. economy grew.

**Practice: Decide whether the following sentences are correct or incorrect**

|  |  |  |
| --- | --- | --- |
|  | **correct** | **incorrect** |
| 1) During the '80's and '90's, the U.K. economy grew. |  |  |
| 2) In the Eighties the economic growth reached a peak. |  |  |
| 3) During the 70's and 80's, the U.S. economy went up. |  |  |
| 4) In 1980's there was an economic downturn. |  |  |
| 5) During the 1960s and 1970s, export figures grew. |  |  |
| 6) During the '80 and '90, import figures grew. |  |  |
| 7) During the 60s' and 70s' the country imported more then exported. |  |  |
| 8) During the nineties a lot of enterprises were mushrooming. |  |  |
| 9) In 1990s' the company experienced a rapid growth. |  |  |

**Listening “State integrated monetary-credit policy”**

**1 You will hear the interview with Oleg Vyacheslavovich Iudin, ex-deputy Chairman of the Central bank. As you listen, find English equivalents of the following words and phrases.**

*Question #1*

семимиллиардный рост золотовалютных резервов, по итогам года, прогноз, ссылаться, умеренный сценарий, среднегодовая цена на нефть, заложенная в бюджете, делали предположение, приток или отток капитала, фактически, краткосрочный капитал

*Question #2*

споры, председатель центрального банка, торговый баланс, точно спрогнозировать, придерживаться консервативного подхода, накопления в долларах, класть на депозит, наличная валюта, на сумму порядка 5-6 миллиардов долларов

*Question #3*

ЦБ может немножечко ошибаться, гибкость в текущей политике, прогноз внешних и внутренних условий не сбывается

*Question #4*

безобразный дефицитный бюджет, краткосрочные займы, рынок ГКО, будущий курс рубля

*Question #5*

сбалансированный бюджет, дефицитный бюджет, ничем не обеспеченные деньги, бюджетники

**2 Listen to the interview once again and complete the sentences using a word or a number of words.**

*Question #1*

1 The actual price per barrel which was not set out into the government’s plans was \_\_\_\_\_\_\_\_\_\_\_\_\_.

2 The conservative plan did not take account of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3 Short-term capital was finally \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

*Question #2*

1 The reason for heavy inflows of capital was \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2 Russian companies took advantage of the situation and started \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3 When Russian people change dollars to rubles, they are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the Russian economy.

*Question #3*

1 Most forecast mistakes come from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

*Question #4*

1 The default was the result of the Central bank and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ activities.

2 The huge budget deficit was financially provided with \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_.

3 The “corridor” was supported to attract \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the market.

*Question #5*

1 Budget deficit financing through credits is called to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.Reading File

Text 1

**Applying statistical information**

Statistics has some techniques which can be used to summarize information and draw conclusions about likely future events. An example of this is isolating average dollar volume produced by each salesperson in each classification by years of service. This form of statistics involves the methods of summarizing a group of related abso­lute values and is referred to as descriptive statistics.

Beyond the techniques for summarizing and studying absolute values is statistical inference, which is a conclusion drawn by studying a small sample. The best-known example of this is an opinion poll or survey, in which a very small group is questioned and a generalized conclusion is derived to represent a much larger population.

* descriptive statistics—methods of studying and summarizing a series of numbers.
* statistical inference—the isolated study of a small sample, used to draw conclusions about a larger population.

Whenever you approach a task, the first step must be to gather the right information. So many of the errors made in business derive from the failure to take this first step. For example, a problem is posed and the solution is based on a series of facts that simply don't address the problem. The proper use of statistics must be based on a careful selection and organization of the facts you will use.

Three methods for reporting numerical information in response to a question or to solve a problem are: gathering facts, arranging facts, and clarifying the question being asked.

1. Gathering facts. In some cases, the mere accumulation of the right data will solve the problem. For example, the president of the company wants to know how much money was spent on salaries last year; or the accounting department assigns rent on the basis of square footage for each section.

2. Arranging facts. Beyond gathering the right facts, the arrangement of information may also answer someone else's question. A sales man­ager, asked to prepare a report showing the most productive and least productive salespeople, need only arrange information in the order of volume.

3. Clarifying the question. The gathering and arrangement of facts to give to someone else is a basic, although common, form of reporting. But in most instances, the request is made for a purpose beyond the mere conveyance of information. By asking what information the other person wants, you will be able to provide more than raw data. That's where the combination of statistical techniques and your own insight will improve your management and reporting skills.

Example: A word processing department manager was asked to prepare a report summarizing turnaround time for documents of various lengths. She asked for clarification and discovered the purpose of the request. Management was considering upgrading the current system and replac­ing it with one believed to be more efficient. With the problem clearly understood, the manager was able to provide the information needed— a report of the changes in turnaround time that occurred as the volume of work increased.

Example: The president of a marketing company was considering expanding into a new territory. He hired a consultant to study the likely demand for the company's product. Because the president did not limit the scope of the report, it was expensive and largely useless. All the president had really needed was a summary of population trends and competitive factors. Chances are, the information could have been ob­tained with a call to an area's library or chamber of commerce.

Text 2

# Where do the millions go?

## It costs more to keep up the lifestyle

IT is rarely a bad time to be rich, but now is better than most, especially in London. Over the past few years the city has become a magnet for the global plutocracy, attracted by lavish nightlife, luxuries of all sorts, easy access to the rest of the world and, most of all, a comparatively benevolent taxman. Russian oligarchs mix with American tycoons and Middle Eastern oil magnates in what Forbes magazine, bible of the global super-rich, described last year as “a magnet for the world's billionaires”.

But a study published on November 5th suggests that not all the news is good. According to Stonehage, a firm of financial advisers to London's multi-millionaires, it is costing the capital's many plutocrats much more to maintain their standard of living than it used to. They reckon that prices of luxury goods and services increased by 6% in the 12 months to July, more than twice the 2.3% rise registered on the official consumer-price index (CPI).

Existing government inflation measures do not quite capture the upper-crust experience, Stonehage says. The CPI, for example, ignores many housing costs that rich and poor alike must pay, and the more comprehensive retail-price index excludes the richest 4% of consumers. Stonehage's new Affluent London Living Index is designed to fill the gap.

The details are enough to make an investment banker splutter into his increasingly expensive caviar (the price of which rose 28% over the year). Rents in central London have increased by 25% since 2002. A top-line Range Rover today costs 20% more than last year's model. Fees for day pupils at Westminster (a fancy independent school) are up by 7%, and the price of a case of Lafite Rothschild by an eye-watering 117%. Leisure has grown pricier as well: two days of grouse shooting costs 8% more this season than last and an executive box at Chelsea Football Club, London's most fashionable, has risen by 25%. Robby Hilkowitz, a director of Stonehage, blames a rapid increase in the ranks of the mega-rich for pushing up prices.

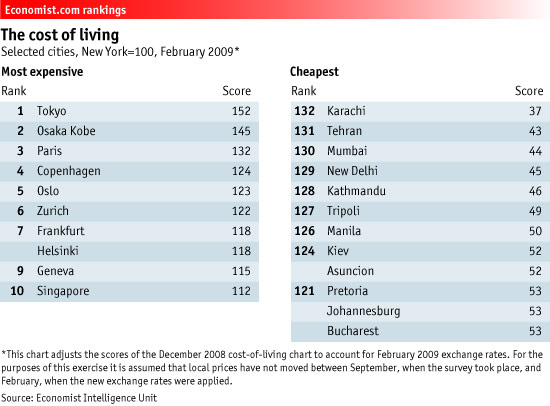
Exceptions there are: cars may be getting pricier but chauffeurs are no dearer than they were. Nor are fancy haircuts or membership of gentlemen's clubs. Entry-level private jets are actually 7% cheaper, although high oil prices could make the fuel bills painful. Breast implants for the high-earning woman are down 10%.

Yet rising consumption costs tell only half the tale. Most of the ultra-rich have the bulk of their wealth invested, so they have benefited handsomely from the sustained boom in asset prices. The same central London house that costs 25% more to rent is worth 150% more on the market. And sympathy for the plutocrats' plight may be hard to find among the great hordes of the salaried unwashed (many of whom also live in London), whose real disposable incomes are being squeezed.

Text 3

# A lot of yen

## Japanese cities head the Economist Intelligence Unit's latest ranking of cost of living in cities around the world

Sharp shifts in exchange rates in recent months have altered the relative cost of living in cities around the world. The Economist Intelligence Unit’s Worldwide Cost of Living ranking (above), is based on price data collected in September 2008, then adjusted for recent exchange-rate movements. It shows Tokyo as the world’s most expensive city, with a score of 152, closely followed by Osaka Kobe. The cheapest city is Karachi in Pakistan, with a score of 37.

This result contrasts with the ranking of September 2008 (below), which showed Oslo as the world’s most expensive city, followed by several other European cities and two in Japan: Tokyo (at sixth place) and Osaka Kobe (at eighth, shared with London).

The disparity in the rankings makes it possible to see which cities have been relative winners or losers as a result of the currency dislocation. The main changes in the ranking occur among the most expensive cities. The decline of European currencies, most notably the euro, pound and the Norwegian krone, has driven a significant weakening in the relative cost of living for many European cities. Conversely, a stronger yen now means that the Japanese cities of Tokyo and Osaka have become the most expensive cities in the survey.

**UNIT 4. INFORMATION SOURCES**

**READING/SPEAKING**

Text 1.

**Gathering raw data**

1 It's very hard for a statistician to give an absolute answer, because probabilities are never absolute. The best you can hope for is a "reason­able expectation."

2 That doesn't mean you can't use statistical techniques to make decisions, or that a probability study is worthless. Trying to answer a question may only make the question itself more complicated than you thought at first. The real value of statistical techniques is that they help you to narrow down the field of possible outcomes. Those most likely to occur can then be isolated and used for estimates of the future.

3 You may break down analysis into two categories. First is analysis of the past, the routines practiced in the field of accounting and book­keeping—recording and classifying transactions and then preparing fi­nancial statements. Second is analysis of the likely or possible future, which may include budgeting and forecasting, business planning, market planning, product testing, and all other questions dealing with the unknown outcome of future events.

4 Just as accountants gather information to prepare financial state­ments, you can gather raw data to help with the task of predicting probable future events. A financial statement is based on certainties—the actual transactions experienced during a period of time and the current value of assets and liabilities. These facts lead to absolute conclusions. The future, though, is not as clear. Business transactions depend on how a set of raw data is interpreted, the hypothesis applied to the situation, and the estimation of likelihood for one or more possible outcomes.

5 The process of gathering information for statistical work is similar to the process of recording entries in the books. The accountant needs to capture and record every transaction for income, costs, and expenses; to arrange and report their meaning; and to anticipate the future (through planning and budgeting). Thus, the accountant works from a well-understood set of raw data.

6 The task you face in accumulating raw data may involve much less certainty. First, you must decide what raw data are valid for the projec­tions you are asked to make. Second, your role as interpreter is not as structured or widely understood as the accountant's role.

Example: You expect your company to automate the processing that takes place in your department within the next year. Accordingly, you begin keeping records of transaction load—time required to complete tasks, average number of transactions processed, exceptions to general procedures, probable levels of future transactions, and so forth.

7 Even with a very detailed file of raw data, you won't know whether or not it will help in answering questions likely to come up in the future—because you can't know how a problem will be addressed by someone else. For example, by keeping files on transactions, you assume that the method of automation will be based on a study of existing work load. But that doesn't ensure that it will be the approach actually taken, or that your recommendations based on transaction records will be considered valid in the decision-making process.

8 Here's a suggested approach to gathering raw data: Anticipate the questions likely to be asked in the future, the problems you expect to encounter. Then prepare accordingly. Part of your task in estimating the future involves anticipating methods for solving problems—assuming those problems are universal. These may include dealing with variances in expense accounts, hiring to avoid understaffing in the department, or changing service procedures to respond to customers during periods of sales expansion.

9 Another part of your job should deal with looking to the future to anticipate questions that haven't yet been asked. If you're able to perform this task well, you will be prepared to provide answers based on a body of facts, rather than having to do a lot of research under the pressure of deadline. You may need to overlook the possibility that your approach won't help and be ready to take a leading role in how the issue is addressed. In other words, gather your facts so that your solution simply makes sense.

Example: You have had problems budgeting accurately in the past because of incomplete assumptions about some elements of certain accounts. So this year, you begin keeping records detailing what goes into the accounts you've had problems with in the past. When your next budget is prepared, you use your raw data file to prepare a more complete estimate of future expenses.

EXERCISES

**1. Read the following words paying attention to the proper pronunciation of the underlined vowels, consonants and the stress.**

thought, routine, transactions, to gather, certainties, liabilities, though, hypothesis, to capture, expenses, certainty, whether, to ensure, variances

**2. Answer the following questions.**

1. What does the phrase *reasonable expectation* mean?
2. What is the real value of statistical techniques?
3. What does the analysis of the past / future include?
4. What is a financial statement? What is a financial statement based on?
5. Given uncertainty of the future are absolute statistical conclusions possible?
6. How does accountants’ work differ from one of statistical analysts?
7. How to succeed in anticipating questions which have not been asked yet?

**3 Decide whether the following statements are true or false.**

1. Studying probability is useless.
2. Decision-making process cannot be based on statistical techniques.
3. In business a lot of decisions depend on the way raw data is interpreted.
4. Accountants, in comparison with analysts, deal with a different sort of raw information.
5. Gathering raw data is worthless in terms of its perspective usage.
6. To be a good statistical analyst you must be a genius seer.

**4 Complete the following sentences using your own ideas**

1. It is reasonable to break down statistical analysis into categories because …
2. Bookkeeping has much in common with statistical work because …
3. Even a detailed file of raw data is not a guaranteed support in future decision-making because…
4. The advice for those who gather raw data is …
5. Anticipate what questions can appear in the future in the following business situations:
   * your management forecasts a big increase in sales volumes;
   * data processing operations are being changed within Personnel Department;
   * your management is thinking of exporting to Mozambique;
   * your driving company is planning to switch from oil fueling to gas one;
   * your soft-drink company is going to change a supplier of a red drink dye.

**5. Find English equivalents in Text** **1.**

|  |  |
| --- | --- |
| **para 1**  точный ответ, приемлемое объяснение | **para 5**  учетные статьи, фиксировать и записывать операции, систематизировать и докладывать, предсказать будущее |
| **para 2**  сузить, вероятный результат, вероятно появится, отдельный | **para7**  появиться в будущем, заниматься проблемой, объем работ, гарантировать |
| **para 3**  разделить, привычный порядок, бухгалтерский учет, подготовка финансового отчета | **para8**  столкнуться, соответственно, статьи расхода, реагировать на обращения клиентов |
| **para 4**  собирать информацию, предсказание вероятных событий в будущем, факты, активы и пассивы, расшифровать, предположения, оценка вероятности | **para9**  предвидеть вероятность, решения, иметь смысл |

**6. Match verbs on the left with their corresponding definitions on the right.**

|  |  |
| --- | --- |
| 1. **assume** /v/ | 1. to preserve in an unchanging form |
| 1. **anticipate** /v/ | 1. to make smth certain to happen |
| 1. **ensure** /v/ | 1. to suppose; to believe smth to be true without having proof |
| 1. **capture** /v/ | 1. to guess or imagine in advance (what will happen) and take the necessary action in order to be ready |
| 1. **forecast** /v/ | 1. to judge or calculate the value, amount etc. of smth, especially roughly |
| 1. **encounter** /v/ | 1. to understand the likely meaning of a statement, actions, figures |
| 1. **interpret** /v/ | 1. to predict; to say, especially with the help of knowledge (what is going to happen at some future time) |
| 1. **estimate** /v/ | 1. to meet or have to deal with (smth bad, especially a difficulty) |

**7** **Fill in the blanks using words from Task 6.**

1. He confidently \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ a big increase in sales, and he turned out to be right.
2. In business, you’ve got to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ how your competitors will act.
3. A change in law will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ fair treatment for people of all races.
4. We have not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the proper price for the contract yet.
5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that you are right, what shall we do?
6. During negotiations we \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ a lot of opposition.
7. In his book he tried to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the essence of Statistics.
8. I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ his silence as a refusal.

**8. Find partners among the following words to make up a collocation.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| absolute | work | real | financial | suggested | expense |
| value | approach | statement | answer | accounts | load |

**9. Translate the following sentences using terms and collocations from the text and the previous tasks.**

1. *Сбор первичных данных* является неотъемлемой частью работы аналитика.
2. Статистика не может *предложить* *единственно верный ответ* на вопросы, которые ей задает бизнес, поскольку существует такое понятие как *вероятность*.
3. *Особая ценность* статистических приемов состоит в том, чтобы *ограничить круг* *возможных исходов* принятия того или иного *бизнес решения*.
4. Полученная информация может быть с успехом использована для *последующих оценок* *вероятных событий в будущем*.
5. *Подготовка финансовой отчетности* является важной составляющей работы *бухгалтера.*
6. В обязанности бухгалтера входит *фиксация и регистрация* каждой проведенной *сделки*.
7. *Автоматизация процесса обработки информации* начинается с изучения существующего на сегодня *объема загруженности* того или иного департамента.
8. *Предлагаемый вариант обработки информации* предполагает применение определенных статистических методов.
9. *Статьи расходов* предприятия могут включать операционные, управленческие или коммерческие виды затрат.
10. Многое зависит от того насколько *точными* окажутся *статистические прогнозы*, а также *оценка вероятности наступления* тех или иных событий.

**10 Fill in the gaps using words given below.**

budget scientifically occur compile forecast plan constantly suppliers loan estimate monthly

Outside Sources

The information you \_\_1\_\_ today may come from a source outside your department. For example, a marketing director gives information concerning recruitment, contact activity, and average volume to the accounting department; accounting prepares a \_\_2\_\_ and sends it back to marketing. The exchange of information goes on \_\_3\_\_.

The same type of activity can take place between any two depart­ments, divisions, subsidiaries, or sections. Exchanges of information can also \_\_4\_\_ between you and people outside the company.

Example: You are preparing a section of the current year's business \_\_5\_\_ involving expenses in a new region. You contact \_\_6\_\_ and ask for current prices on a range of supplies and materials.

Example: You are working on a \_\_7\_\_ for the treasurer's office. During the next year, management plans to seek a \_\_8\_\_ for $50,000. You call the company's bank to find out the probable interest rate and \_\_9\_\_ payments.

In each instance, an outside source was contacted and asked to supply raw data. But could an \_\_10\_\_ be done more accurately, or more \_\_11\_\_ , by building a file of raw data that is more compre­hensive?

**11. Match the following phrasal verbs with a synonym on the right.**

|  |  |
| --- | --- |
| 1 **go ahead** | a arrange/display |
| 2 **run into** | b proceed |
| 3 **go over to** | c understand |
| 4 **put forward** | d cause to happen |
| 5 **bring in** | e avoid |
| 6 **get out of** | f encounter |
| 7 **set out** | g change |
| 8 **make out** | h submit |
| 9 **bring about** | i earn |

**Fill in the missing phrasal verbs in the sentences below. Choose from the list (1-9) above.**

1 The increase in raw material prices will a reduction in profits.

2 The contract to refit the cruise liner will much needed revenue.

3 Include all the relevant figures on the performance report and then *\_\_\_\_\_\_\_\_\_\_* it *\_\_\_\_\_\_\_\_\_\_\_\_* for senior management.

4 The company have problems of setting realistic budgets because they have a poor accounting system.

5 The department managers have to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ their budgets by the end of this week.

6 Because of incomplete records, it is impossible to how the final figures were calculated.

7 It's amazing what some firms will do to\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ paying corporate tax.

8 Profits over the last three years have increased steadily and the firm has decided to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with the expansion of the business.

9 Because of large variances between the budgeted and actual costs, they should \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ a different method of calculating the variance.

**12 Choose the correct preposition.**

1. The directors are interested *on / in / for* the prospects of future developments in South America.
2. At the meeting they will decide *to / in / on* financial targets for the next six months.
3. We look forward *in / on / for* receiving a detailed plan of the project.
4. The director gave a brief account *for / on / of* the company's recent performance.
5. Future dividends will depend *for / on / of* the success of the new product.
6. The director stressed the importance *for / on / of* effective control on spending.
7. The marketing strategy is to concentrate *for / on / of* developing markets in Europe.
8. There is a need *for / on / of* a full risk assessment before going into these markets.
9. We must be aware *for / on / of* the attitude towards foreign investors.
10. There may be difficulties *for / in / of* enforcing contracts.
11. For the site construction we will rely *for / on / of* local contractors.
12. We have already reached agreement *for / on / of* local short-term credit.
13. It is necessary *for / on / of* everyone involved in the project to show respect *for / on / of* local customs.
14. We are proud *for / on / of* recent successes in these markets.
15. The sale of the building has been agreed subject *for / to / of* contract.
16. We are all involved *for / on / in* finding solutions to the current problems.

**13 Choose the proper form of the word to complete the sentence**

reasonable

1 He decided not to accept the job, but without giving any \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2 We \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that the terrorists would not negotiate unless we made some concessions.

3 Be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - you cannot expect her to do all the work on her own!

4 They tried to make students behave \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

hypothesis

1 She asked me how I would deal with the problem if I were the president, but that is a purely \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ situation.

2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ I could become the president of a big multinational company.

3 If we accept this \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, it may provide an explanation for the recent oil price change.

to suggest

1 Your \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are unworkable.

2 I would like to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ an alternative plan.

3 She is five years old and she is very \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4 It is an abstract painting \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a desert island.

**14 Look at the following pair of words, spot the difference and do the task.**

SENSIBLE ≠ SENSITIVE

Someone who has “common sense”, and does not make stupid decisions is called\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Someone who feels things easily or deeply, and may be easy hurt is called\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. Yesterday it was a *sensible / sensitive* increase of temperature.
2. Do not shout at her – she is very *sensitive / sensible*.
3. This is such a *sensitive / sensible* issue that perhaps the press should not be told.
4. It was very *sensitive / sensible* of you to bring your umbrella.
5. “I want to buy this dress”. “Be *sensible / sensitive*, dear. You have not got much money.”
6. Have you got a sun cream for *sensitive / sensible* skin?
7. Do not be so *sensitive / sensible* – I am not criticizing you.
8. She is very *sensitive / sensible* about money.
9. We will be doing a lot of walking, so you’d better bring some *sensible / sensitive* shoes with you.

**15 Think of the verbs which match to the following definitions, the initial letter is given, and then use the verbs to fill in the gaps in the sentences.**

1 The committee of inquiry will no \_\_\_\_ this information until next year.

2 Personnel information is \_\_\_\_ in alphabetical order.

3 Your application for a credit is being \_\_\_\_ now.

4 To \_\_\_\_ statistical information you need to use some techniques.

5 The department gradually \_\_\_\_ a large body of operational information.

6 Information about this car accident is not \_\_\_\_.

Text 2.

Н. Мкртчян

**Статистические источники информации о миграции населения в России**

Изучение миграционных процессов базируется в настоящее время на обширной статистической информации. В России существуют различные источники статистических данных о миграции населения. Основными из них являются переписи населения (включая микропереписи) и текущий учет. Важное значение имеет ведомственная статистика. При углубленном изучении миграции следует применять данные всех источников, добиваясь их сопоставимости и идентичности, т.к. все эти данные имеют существенные ограничения в плане полноты охвата мигрантов и миграционных потоков.

Перепись населения - процесс сбора демографических и социальных данных, характеризующих каждого жителя страны или отдельного региона по состоянию на определенный момент времени. Она дает как бы моментальный снимок населения. При Всероссийской переписи населения 2002 года сведения собирались по состоянию на 0 часов 9 октября.

В числе получаемых в результате проведения переписи сведений о населении, о каждом человеке (пол, дата рождения, владение языками, гражданство, национальность, брачное состояние, образовательные характеристики, источники средств к жизни, занятие, экономическая активность и т.п.) входят сведения и о миграции населения. Вопросы, на основе которых получались сведения о миграции населения, входили в программу выборочного наблюдения, в которое попадало каждое 4-е домохозяйство (или 25%).

Перепись позволяет не только получить полную и достоверную информацию о населении на определенный момент времени (в соответствии с рекомендациями ООН, переписи проводятся не реже 1 раза в 10 лет), но и сопоставить между собой различные характеристики населения. Например, данные о миграции можно получить в разрезе отдельных возрастных групп, национальностей, по лицам, состоящим (не состоящим) в браке и т.п. Однако программа разработки переписей из-за больших затрат на обработку и публикацию их результатов включает ограниченные данные о миграции населения. Так, опубликованные данные о миграции, полученные в ходе проведения Микропереписи населения 1994 года, в разрезе отдельных регионов России, содержали сведения о продолжительности проживания населения в месте постоянного жительства по отдельным когортам (менее 2 лет, 2-5 лет и т.п.), по продолжительности проживания и отдельным возрастным группам (моложе трудоспособного, трудоспособного и старше трудоспособного возраста). Данные о продолжительности проживания отдельных национальностей разрабатывались только по республикам, автономным областям и округам в составе Российской Федерации. Сведения о предыдущем месте жительства и причинах миграции публиковались только для населения, проживающего в месте постоянного жительства менее 4 лет.

Переписи населения регулярно проводились в России с 1897 года. В большинстве из них большое внимание уделялось получению сведений о миграции населения. В условиях практически полного отсутствия иных данных о миграции населения переписи долгое время служили практически единственным достоверным источником получения статистической информации.

**1 Translate the underlined words and word combinations in the text.**

**2 Translate the following words and phrases without looking back to the text of the interview.**

перепись населения – place of permanent residence - трудоспособный возраст – on regular basis - достоверный источник – life expectancy - обработка и публикация результатов – overall and reliable information – миграционные потоки – nationality - полнота охвата – ethnic origin - сопоставимость – a large body of information - возрастная группа – expenses on processing and publicizing – в соответствии с рекомендациями ООН - source of living

**3 Write a short summary of the text in English (80-100 words).**

**4 Study the following number writing rules.**

Rule 10

Normally, spell out the time of day in text even with half and quarter hours. With o'clock, the number is always spelled out.

Examples: She gets up at four thirty before the baby wakes up. / The baby wakes up at five o'clock in the morning.

Rule 11

Use numerals with the time of day when exact times are being emphasized or when using A.M. or P.M.

Examples: Monib's flight leaves at 6:22 A.M. / Please arrive by 12:30 sharp. / She had a 7:00 P.M. deadline.

Rule 12

Hyphenate all compound numbers from twenty-one through ninety-nine.

Examples: Forty-three people were injured in the train wreck. / Twenty-three of them were hospitalized.

Rule 13

Write out a number if it begins a sentence.

Examples: Twenty-nine people won an award for helping their communities.

**Practice: Decide whether the following sentences are correct or incorrect**

|  |  |  |
| --- | --- | --- |
|  | **correct** | **incorrect** |
| 1) That 29 people won an award for helping their communities was fantastic! |  |  |
| 2). That twenty-nine people won an award for helping their communities was fantastic! |  |  |
| 3) He went to bad at 5, so he did not hear you calling. |  |  |
| 4) Our classes usually begin at 9 o’clock. |  |  |
| 5) Come home at nine thirty, please! |  |  |
| 6) We had a meeting at ten p.m. |  |  |
| 7) Fifty five reports have been sent to our department. |  |  |
| 8) The secretary arrives at work at nine o’clock. |  |  |
| 9) The train leaves at 7:20 a.m. |  |  |
| 10) 10 companies went bankrupt last year. |  |  |

**Listening “A census” (part 1)**

**1 You will hear the interview with Vladimir Leonidovich Sokolin, Head of the State Statistical Agency in 2003. As you listen, find English equivalents of the following words and phrases.**

Question #1

перепись, заглянуть в будущее, тенденция сокращения численности населения, воспроизводство, старение населения, быстро, смертность, трудоспособный возраст, по нашим прогнозам, итоги переписи, естественная убыль населения, продолжительность жизни

*Question #3*

уровень жизни, охрана окружающей среды, неестественные причины смертности

*Question #5*

по данным текущего статистического учета, мигранты из ближнего зарубежья, чрезвычайно высокий уровень рождаемости, данные текущей статистики, миграционные потоки

*Question #6*

сколько мозгов и рабочих рук утекло, миграционный обмен с дальним зарубежьем, кандидаты и доктора наук

*Question #7*

временно находившихся на территории РФ, но постоянно проживающих, коммерсанты, сезонные рабочие

**2 Listen to the interview once again and complete the sentences using a word or a number of words.**

*Question #1*

1 According to Mr Sokolin Russia’ population will not become \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2 To maintain population’ reproduction we need \_\_\_\_\_\_\_\_\_\_\_\_\_ times more births than Russia has now.

3 Considering all the facts Mr Sokolin concludes that the situation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4 Probably \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ will determine the demographic situation in the future.

5 Now we have those who take care of the elderly because \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ is low.

*Question #3*

1 Low life expectancy occurs due to some factors, first - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, second - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, third - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

*Question #5*

1 Among CIS countries \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has very high birth rates.

2 Russia takes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ after some developed countries in terms of the number of migrants.

3 With time passing by the number of “visitors” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

*Question #6*

1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ people migrated from Russia from 1991 to 2003.

2 There is no sign of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to our distant neighbours.

3 People with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ constitute only about 15% of migration from Russia.

Reading File

Text 1

# Myths and migration

## Do immigrants really hurt American workers' wages?

EVERY now and again America, a nation largely made up of immigrants and their descendants, is gripped by a furious political row over whether and how it should stem the flood of people wanting to enter the country. It is in the midst of just such a quarrel now. Congress is contemplating the erection of a wall along stretches of the Mexican border and a crackdown on illegal workers, as well as softer policies such as a guest-worker programme for illegal immigrants. Some of the arguments are plain silly. Immigration's defenders claim that foreigners come to do jobs that Americans won't—as if cities with few immigrants had no gardeners. Its opponents say that immigrants steal American jobs—succumbing to the fallacy that there are only a fixed number of jobs to go around.

One common argument, though not silly, is often overstated: that immigration pushes down American workers' wages, especially among high-school dropouts. It isn't hard to see why this might be. Over the past 25 years American incomes have become less equally distributed, typical wages have grown surprisingly slowly for such a healthy economy and the real wages of the least skilled have actually fallen. It is plausible that immigration is at least partly to blame, especially because recent arrivals have disproportionately poor skills. In the 2000 census immigrants made up 13% of America's pool of workers, but 28% of those without a high-school education and over hIn fact, the relationship between immigration and wages is not clear-cut, even in theory. That is because wages depend on the supply of capital as well as labour. Alone, an influx of immigrants raises the supply of workers and hence reduces wages. But cheaper labour increases the potential return to employers of building new factories or opening new valet-parking companies. In so doing, they create extra demand for workers. Once capital has fully adjusted, the final impact on overall wages should be a wash, as long as the immigrants have not changed the productivity of the workforce as a whole.

However, even if wages do not change on average, immigration can still shift the relative pay of workers of different types. A large inflow of low-skilled people could push down the relative wages of low-skilled natives, assuming that they compete for the same jobs. On the other hand, if the immigrants had complementary skills, natives would be relatively better off. To gauge the full effect of immigration on wages, therefore, you need to know how quickly capital adjusts and how far the newcomers are substitutes for local workers.

## City to city

Empirical evidence[\*](http://www.economist.com/finance/#footnote1) is as inconclusive as the theory. One method is to compare wage trends in cities with lots of immigrants, such as Los Angeles, with those in places with only a few, such as Indianapolis. If immigration had a big effect on relative pay, you would expect this to be reflected in differences between cities' wage trends. David Card, of the University of California, Berkeley, is one of the leading advocates of this approach. His research suggests that although there are big differences between cities' proportions of immigrants, this has had no significant effect on unskilled workers' pay. Not everyone is convinced by Mr Card's technique. His critics argue that the geographical distribution of immigrants is not random. Perhaps low-skilled natives leave cities with lots of immigrants rather than compete with them for jobs, so that immigration indirectly pushes up the supply of low-skilled workers elsewhere (and pushes down their wages). Mr Card has tested the idea that immigration displaces low-skilled natives and found scant evidence that it does.

An alternative approach, pioneered by George Borjas, of Harvard University, is to tease out the effect of immigration from national wage statistics. Mr Borjas divides people into categories, according to their education and work experience. He assumes that workers of different types are not easily substitutable for each other, but that immigrants and natives within each category are. By comparing wage trends in categories with lots of immigrants against those in groups with only a few, he derives an estimate of immigration's effect. His headline conclusion is that, between 1980 and 2000, immigration caused average wages to be some 3% lower than they would otherwise have been. Wages for high-school drop-outs were dragged down by around 8%.

Immigration's critics therefore count Mr Borjas as an ally. But hold on. These figures take no account of the offsetting impact of extra investment. If the capital stock is assumed to adjust, Mr Borjas reports, overall wages are unaffected and the loss of wages for high-school drop-outs is cut to below 5%.

Gianmarco Ottaviano, of the University of Bologna, and Giovanni Peri, of the University of California, Davis, argue that Mr Borjas's findings should be adjusted further. They think that, even within the same skill category, immigrants and natives need not be perfect substitutes, pointing out that the two groups tend to end up in different jobs. Mexicans are found in gardening, housework and construction, while low-skilled natives dominate other occupations, such as logging. Taking this into account, the authors claim that between 1980 and 2000 immigration pushed down the wages of American high-school drop-outs by at most 0.4%.

None of these studies is decisive, but taken together they suggest that immigration, in the long run, has had only a small negative effect on the pay of America's least skilled and even that is arguable. If Congress wants to reduce wage inequality, building border walls is a bad way of going about it.

Text 2

# Guests v gatecrashers

## The uncomfortable economics of immigration reform

HOW much of a jerk do you have to be to oppose immigration? That question is mischievously posed, and ingeniously answered, in a recent post on “YouNotSneaky”, an economics blog.

The blog's author points out that a low-skilled worker can make $9.34 an hour in America, compared with just $2.56 in Mexico. He also assumes that migrants depress the wages of low-skilled Americans by 5%—a widely cited estimate. Thus Mexican workers gain dramatically by moving north, whereas low-skilled Americans lose out slightly at worst. To justify opposing immigration, the blog concludes, you must attach at least 20 times more weight to the well being of a native-born American than to a Mexican.

Such calculations will not trouble America's politicians, who are busy trying to solve the “problem” of illegal immigration. Congress's fix promises a sorely needed path to citizenship for the 12m or so people already in the country illegally. But it could prove worse than the status quo for future migrants and native-born Americans alike.

The “compromise plan”, hashed out by a bipartisan group of senators, offers would-be illegals—the 500,000 or so low-skilled workers who sneak across the border every year—a legitimate route into America, through a temporary guest-worker programme. Guest-worker visas would last for two years and could be renewed up to three times. The idea is that if the front door is ajar, no one will feel the need to break in at the back.

Unfortunately, the senators' plan ignores the economics of illegal immigration. Its laws of motion are set out in a recent paper by Gordon Hanson of the University of California, San Diego. He points out that unskilled labour is increasingly scarce in America. Since 1960 the share of native-born workers with less than a high-school diploma has fallen from 50% to 12%. In response, illegal immigration has proved to be a fairly efficient system for matching willing workers with eager employers. Some 24% of farm workers, 17% of cleaners and 14% of construction workers are foreigners doing their jobs illicitly.

This workforce is geographically mobile, and sensitive to economic conditions in America or at home. One study in the 1990s showed that a 10% drop in Mexican pay relative to American wages prompted a 6% increase in attempts to steal across the border. More recently, the incentives have shifted the other way. A slowdown in remittances to Mexico and other Central American countries suggests the housing bust, and home-building slump, may have reduced the pace of illegal immigration.

Such efficiency is sadly absent from Congress's guest-worker scheme. The senators' original compromise envisaged some 400,000 visas a year, not far off the estimated figure for illegal entrants. But the number has already been slashed to 200,000 and will not vary with economic conditions. Employers will have to prove that they cannot find a willing American worker before they apply for the visas. And would-be migrants must undergo background checks and a medical exam before they arrive. Changing employers once in America involves more bureaucratic hoops.

In short, neither American employers nor would-be migrants are likely to find the guest-worker channel as appealing as the illegal routes they already ply. Not surprisingly, therefore, the senators want to make illegal immigration less appealing. The compromise bill promises some 6,000 extra border guards, hundreds of miles of new fencing and a huge database for checking workers' legal status.

Is all this policing and picketing worth it? Illegal immigration, after all, is a boon to the economy as a whole, much as freer trade yields a net economic gain. An influx of low-skilled workers may squeeze the wages of their competitors, but it benefits the businesses who hire them, and profits consumers, who get their lawns mown and children minded at lower costs.

Set against this economic gain is a fiscal cost, as immigration's opponents are quick to point out. Illegal migrants, with their low skills and large families, are likely to consume more in government services, such as education and health care, than they pay in taxes. The exact fiscal impact is controversial. The federal government is probably a net winner, whereas states, which pay a bigger share of schooling and emergency health care, lose out. Today's taxpayers may suffer—they must pay for educating the children of illegal immigrants. But tomorrow's may gain—these first-generation Americans will likely earn far more than their parents, adding to the pot of taxes in the future.

## YouNotThrifty

In the short term the fiscal burden imposed by illegal immigrants may outweigh the economic gains they bring. In other words, the average native-born American has a higher pre-tax income thanks to the country's “broken” border, but his post-tax income may be slightly lower. All told, Mr Hanson thinks that illegal immigration might cost native-born residents some 0.07% of GDP.

But that net cost, if it exists at all, is clearly less than the price of keeping illegal workers out. Since 2001 Congress has more than doubled the amount of money spent on securing the borders and enforcing immigration laws. Mr Bush's 2008 budget proposes spending $13 billion, or 0.1% of GDP. The senators' plans would be even more expensive. A needlessly cumbersome guest-worker plan and a costly war on gatecrashers are bad ideas—even if you don't give a fig for the welfare of would-be migrants.

**UNIT 5. VISUAL SUMMARIES**

**READING/SPEAKING**

Text 1.

**Basic visual reporting rules**

1 Statistics is extremely valuable in your company. Many decisions are made just on the basis of the numbers that you report. But numbers by themselves are difficult to comprehend, notably so when the variety and significance of trends are complex. When you express statistics visually in a report, it helps the reader to grasp significance, comprehend an idea quickly, and relate your message more readily to the decision-making process.

2 Imagine the task of communicating the relative meaning of numbers, using words alone. It's not easy to explain how one conclusive figure is significant when compared with another unless you can also show it. That means the numbers have to be shown next to other, related numbers—from the past, from other divisions or departments, or from an acceptable norm.

3 Remember that the purpose of graphs is to express statistical information efficiently. Visual summaries give meaning to what would otherwise be flat and uninteresting as well as hard to understand. Your graph should be only as complex as it needs to be, which means that it should contain as little information as needed and should be appropriate to the type of information being reported.

4 Remember these rules for the preparation and reporting of statistical information in visual form:

5 *Keep it simple*. An overly complicated graph is hard to compre­hend and may confuse an issue rather than clarify it. The less complex the graph, the better.

Example: You are preparing a report on your department's budget, and you want to explain some variances in graph form. Trying to combine all the variances on one graph will make it extremely complex; so you choose only the largest ones and prepare a graph for each. You report only two forms of information: actual expenses and budgeted expenses. These are shown for each of the months in your reporting period.

6 *Start by identifying time and value*. Most graphs express informa­tion by reducing a series of values (dollars, units, people, hours). These values are shown over a period of time, or in comparison to past periods or other divisions or departments. Thus, your graph should contain two distinct measurements. First is the value side, which is usually the vertical line of the graph. Second is the comparative, or horizontal, side. Here you show the time periods or comparisons between related factors.

7 *Balance the graph*. Try to keep the shape of your illustration as close as possible to a square. If your graph is six inches wide but only one inch high, it will not be as clear as one that is four inches wide and three inches high. This will require selecting a scale appropriate to the information.

Example: Your report explains expense trends over the last six months for accounts containing the greatest degree of variance. The dollar range is between $20,000 and $110,000 per month. A balanced graph should be as close as possible to a square shape. If it cannot be perfectly square, the length should be slightly greater than the height. You have six periods to report, but the range of values is much greater. Your graph should be set up so that the horizontal side is broken down into six or fewer segments. The closest breakdown involves divisions of $25,000—0, 25, 50, 75, 100, and 125. With these divisions, you will have six horizontal segments and six vertical segments.

8 If the desirable reporting format makes squaring difficult, you can adjust by extending one side or the other to a greater spacing of divisions. For example, you want to break down your values into ten groups, but will report changes over six months. Make the graph square by allowing more space between months than you allow between values.

9 *Keep your scaling consistent*. Once you identify the best possible scale for your graph, set it up so that each segment has equal value. That's the only way to accurately report your information. If scaling is not consistent, the visual summary of your numbers will be inaccurate.

10 In addition to maintaining the same paper size for each value, also be sure that your graphs start from a zero value. The relative change in values from one period to another is only apparent when this rule is followed.

Example: Your graph shows a change in one account from $65,000 to $85,000. This is best visualized on a graph starting at zero. If your graph starts at $60,000, the change will not appear to have the same degree of significance.

11 *Use the same scale for related graphs.* Whenever your report will contain a series of related graphs, use the same scaling. This helps the reader to understand how one trend is more or less meaningful than another related trend.

Example: You prepare a series of graphs showing actual and budgeted expenses for a number of accounts. By expressing each one on a graph of the same scale, you help your reader to understand the relative degree of variance and dollar amount.

EXERCISES

**1. Read the following words paying attention to the proper pronunciation of the underlined vowels/consonants.**

appropriate, overly, variances, series, square, slightly, length, height, segment, desirable, expenses, readily

**2. Answer the following questions.**

1. How do statistics expressed visually help readers to understand your report?
2. Why is it difficult to communicate the relative meaning of numbers?
3. How complex should be an efficient graph?
4. How to identify time and value for a graph?
5. How to understand the tip *Balance the graph*?
6. What are the rules for proper scaling?

**3 Decide whether you agree or disagree with the following statements.**

1. Graphs are important for those who have limited analytical abilities and poor imagination.
2. Statistics doesn't help professional executives, in decision-making they rely mostly on their experience and intuition.
3. No matter how complex figures are they can be shown using a graph.
4. The format of the graph doesn't affect readers’ comprehension.
5. Robert Half said *The first step to finding something is knowing where to look*. How do you understand his saying?

**4 Complete the following sentences using your own ideas**

1. Numbers by themselves are difficult to comprehend because…
2. Statistics can affect decision-making process in case…
3. The best way to show significance of one conclusive figure is…
4. The main purpose of graphs is…
5. To draw a graph you need to do the following…
6. The best shape for the graph is… because…
7. If the needed format of reporting makes squaring difficult, we should…

**5. Find English equivalents in Text** **1.**

|  |  |
| --- | --- |
| **para 1**  трудны для понимания, наглядно представлять данные, уловить важность, процесс принятия решения | **para 7**  4 дюйма в ширину и 3 дюйма в высоту, долларовый диапазон, разбит на 6 сегментов |
| **para 2**  окончательные цифры, общепризнанная норма | **para 8**  корректировать (настроить), оставить большее расстояние |
| **para 3**  наглядное представление отчета, сложный, соответствующий (подходящий) | **para 9**  масштабирование, не точный |
| **para 5**  слишком сложный, объяснить разницу в величине графически, фактические / сметные расходы, отчетный период | **para 10**  сохранить (поддержать), явный, соблюдать правило |
| **para 6**  отдел и подразделение, разные величины |  |

**6. Find partners among the following words to make up a collocation.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| decision | related | overly | actual | reporting | acceptable |
| factors | norm | period | making | complicated | expenses |

**7 Find the correspondence between the graph (1-8), its name, and description (a-h).**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |  | line graph  frequency diagram  3-D line graph  vertical bar graph  frequency polygon  horizontal bar graph  circle graph  3-D bar graph |  | a graph used to report information that involves comparisons between related units rather tan time periods / this graph shows values from top to bottom and comparative data from left to right |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  | a variation of a bar chart shows the number of vents occurring within a specified grouping of possible ranges |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  | a graph that shows statistical information in a circle, with divisions made for each of the segments in degrees totaling 360 |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  | a graph showing changes in value and movements in time, appropriate for comparative reporting of trends |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  | a graph used to report information that involves comparisons between related units rather tan time periods / this graph shows values from left to write and comparative data from top to bottom |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  | a graph used in place of the frequency diagram in which a trend or statistical average is plotted from one range midpoint to another, with a result similar in appearance to a line graph |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  | an elaborated bar graph |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |  | an elaborated line graph |

**8. Fill in the gaps using words from the box**

*execution rapid information volume suffice flat graphing emphasize*

*ELABORATED GRAPHS*

The circle graph is more involved, and perhaps more dramatic, than other forms of \_\_1\_\_. It expresses \_\_2\_\_ in a way that enables the reader to see its significance. If you will be preparing graphs without professional design help, the line, bar, and circle graphs will \_\_3\_\_ in most situations. But when you want to dramatize or \_\_4\_\_ infor­mation to a greater degree, you can add a three-dimensional effect to the graphs you prepare.

A simple line graph can be made much more interesting than a \_\_5\_\_ rectangle and line by drawing a few extra lines. The resulting 3-D effect does require greater planning and \_\_6\_\_ time than the simpler, more common forms; but in some circumstances, the extra work is worth the effort, if only because it brings flat statistics to life.

For example the growth in sales \_\_7\_\_ and profits for the first of four divisions in your company has been substantial. A section of your report dealing with the \_\_8\_\_ and successful expansion of this division would be enhanced with a three-dimensional summary of sales, direct costs, and expenses over the last six years.

**9. Choose the correct word**

1 The UN headquarters \_\_\_\_\_\_ in New York.

a) is

b) are

2 Police headquarters \_\_\_\_\_ all around the city.

a) is

b) are

3 His series of lectures on Economics \_\_\_\_\_ very informative.

a) was

b) were

4 These series of news \_\_\_\_\_\_ reported on TV repeatedly.

a) was

b) were

5 The works where he used to work \_\_\_\_\_\_ closed down two years ago.

a) was

b) were

6 Some works in this area \_\_\_\_\_\_\_ shut down for a long period of time.

a) was

b) were

7 All means \_\_\_\_\_ been used to help the country out of the crisis.

a) has

b) have

8 The only means \_\_\_\_\_\_ to sell company's shares.

a) is

b) are

9 This graph is seven \_\_\_\_\_\_ high and six \_\_\_\_\_\_ wide.

a) inches / inches

b) inch / inch

10 It is a seven \_\_\_\_\_\_ segment of the graph.

a) inches / inches

b) inch / inch

11 Petrol is twice as \_\_\_\_\_\_\_ as it was 2 years ago.

a) more expensive

b) expensive

12 The prices are about three times as \_\_\_\_\_\_ as they were last week.

a) higher

b) high

13 The secretary gets the same salary \_\_\_\_\_\_ me.

a) as

b) like

14 This graph is of the same format \_\_\_\_ that one.

a) as

b) like

**10. Choose the correct preposition**

1. Please provide all information relating *on / to / with* the claim.
2. Economists always compare actual data *on / by / with* the data of the past periods.
3. Our Marketing manager reports *about / - / on /* recent developments.
4. The values should be shown in comparison *by / to / over* past periods.
5. A committee has been set *on / over / up* to investigate the problem.
6. We can break *upon / with / down* the results of the survey by age and gender.
7. Inaddition*by / with /**to* his report session in London, he gave an interview to Scotland' economic newspaper.

**11.** **Choose the proper form of the word to complete the sentence**

variable

1. Unemployment rates among white-collar workers show much less regional \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than corresponding rates among blue-collar workers.
2. In this equation X is the most \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ value.
3. The data was analysed according to neighbourhoods, but other key \_\_\_\_\_\_\_\_\_\_\_\_\_ like credit rating, job history, savings and marital status were ignored altogether.
4. Some people give a regular monthly donation while others \_\_\_\_\_\_\_\_\_\_\_\_\_\_the amount they give.

relative

1. Researchers are trying \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ low exam results to large class sizes.
2. We discussed unemployment and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ issues.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between the original book and this new film is very faint.
4. Scientists have established the relationship between lung cancer and smoking.

comparative

* + - 1. If you \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ house prices in the two areas, it's quite amazing how different they are.
      2. She's carrying out a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ study of health in inner cities and rural areas.
      3. We couldn't afford it and yet we're \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ well-off.
      4. They made \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of different countries' eating habits.

**12 Look at the following pair of words, spot the difference and do the task.**

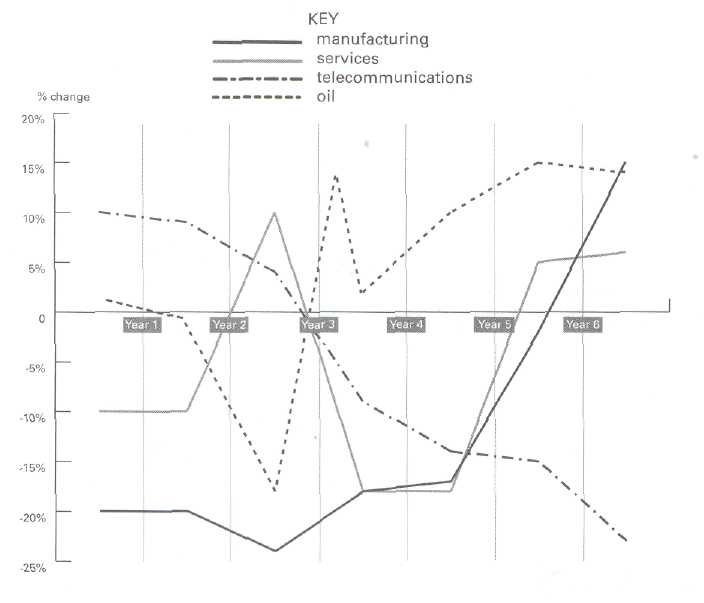
issue ≠ problem

|  |  |
| --- | --- |
| * a subject which people are thinking and talking about. | * a difficult situation, person or thing that needs attention and needs to be dealt with or solved. |

**Insert the proper word *issue* or *problem***

* 1. Don't worry about who will do it - that's just a side \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
  2. When is the government going to tackle the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of poverty in the inner cities?
  3. No one has solved the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of what to do with radioactive waste.
  4. We need to discuss some physiological \_\_\_\_\_\_\_\_\_\_\_\_ which have recently appeared in our group.
  5. I'm having \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with my computer.
  6. As employers we need to be seen to be addressing these \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sympathetically.
  7. The very high rate of inflation is a serious \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for the government.

**13. Look at the graph and describe the trends in time limits given in the task.**



|  |  |  |  |
| --- | --- | --- | --- |
| Manufacturing | | Telecommunication | |
| **1** year 1-2  **2** year 2-4 | **3** year4-6 | **1** year 1-2  **2** year 2-4 | **3** year 4-6 |
| Service | | Oil | |
| **1** year 1-2  **2** year 2-3 | **3** year 3-5  **4** year 5-6 | **1** year 1-3  **2** year 3-4 | **3** year 4-5  **4** year 5-6 |

Text 2.

**Графики в системе представления статистической информации**

В современном обществе статистика стала одним из важнейших инструментов управления народным хозяйством. Она собирает информацию, характеризующую развитие экономики страны, культуры и жизненного уровня народа. С помощью статистической методологии вся полученная информация обобщается, анализируется и в результате дает возможность увидеть стройную систему взаимосвязей в экономике, яркую картину и динамику развития, позволяет делать международные сопоставления.

Современную статистическую науку невозможно представить без применения графиков. Они стали средством научного обобщения.

Выразительность, доходчивость, лаконичность, универсальность, обозримость графических изображений сделали их незаменимыми в исследовательской работе и в международных сравнениях и сопоставления социально-экономических явлений.

Впервые о технике составления статистических графиков упоминается в работе английского экономиста У.Плейфейра “Коммерческий и политический атлас”, опубликованной в 1786 году и положившей начало развитию приемов графического изображения статистических данных.

Значение графического метода в анализе и обобщении данных велико. Графическое изображение, прежде всего, позволяет осуществить контроль достоверности статистических показателей, так как, представленные на графике, они более ярко показывают имеющиеся неточности, связанные либо с наличием ошибок наблюдения, либо с сущностью изучаемого явления. С помощью графического изображения возможны изучение закономерностей развития явления, установление существующих взаимосвязей. Простое сопоставление данных не всегда дает возможность уловить наличие причинных зависимостей, в то же время их графическое изображение способствует выявлению причинных связей, в особенности в случаях установления первоначальных гипотез, подлежащих затем дальнейшей разработке. Графики также широко используются для изучения структуры влияний, их изменения во времени и размещения в пространстве. В них более выразительно проявляются сравниваемые характеристики и отчетливо видны основные тенденции развития и взаимосвязи, присущие изучаемому явлению или процессу.

**1 Translate the underlined words and word combinations in the text.**

**2 Translate the following words and phrases without looking back to the text of the interview.**

народное хозяйство – standard of living – собирать информацию – стройная система взаимосвязей - international comparisons – динамика развития - succinct – обозримость - to control accuracy – неточность - phenomenon – закономерности развития - causal relations – изменения во времени - original hypothesis – структуры влияния - comparative characteristics – размещение в пространстве - peculiar

**3 Write a short summary of the text (80-100 words).**

**Listening “A census” (part 2)**

**1 You will hear the second part of the interview with Vladimir Leonidovich Sokolin, Head of the State Statistical. As you listen, find English equivalents of the following words and phrases.**

Question #8

национальный состав населения, в ходе подготовки переписи, имеем представление о ситуации в этом регионе

*Question #9*

выражать сомнения, по стечению обстоятельств, статистическая погрешность, сложный состав населения, в условиях полной добровольности, незначительное число отказов, перепись имеет обязательный характер, закрывают глаза на Венскую конвенцию

*Question #10*

сделать перепись обязательной, юристы,

*Question #11*

послужить основанием, серьезный пересмотр, правительственная программа социально-экономического развития, проект (программы)

*Question #12*

социальная, градостроительная политика, трудовые ресурсы, пенсионеры, дорогостоящая операция

**2 Listen to the interview once again and complete the sentences using a word or a number of words.**

*Question #8*

1 There is no point talking about Chinese \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into Russia.

2 The Chinese are selling their goods everywhere, they are very \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

*Question #9*

1 According to their conclusions only a few \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ did not make it into Russian history.

2 Those who refused to answer census questions account to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3 Our people are very census active and have a good sense of \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_.

4 Despite international conventions some countries choose to include \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in their census.

*Question #10*

1 Nowadays a mandatory census is not legal according to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

*Question #11*

1 The government development programme is being created by \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

*Question #12*

1 A census will help the government to take \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of their projects.

Reading File

Text 1

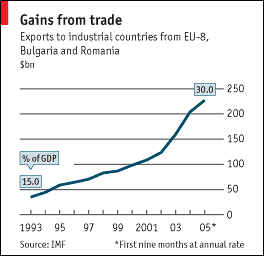
# Lynx economies

## The advanced ex-communist countries have done well—and will do even better

THE best-performing ex-communist economies are setting quite a pace: Estonia and Latvia posted 10% GDP growth in 2005, reminiscent of Asia's “tigers”. The question now is whether the new Europeans can keep it up and catch the richer half of their continent. Few worry about external shocks, though Hungary, with its big current-account and budget deficits, looks vulnerable. For most, basic competitiveness is more pertinent.

A study by the Vienna Institute for Comparative Economic Studies, a think-tank, and Bank Austria Creditanstalt paints an encouraging picture, at least for the eight ex-communist countries that joined the European Union two years ago. They are usually termed the EU-8, but “lynx economies”—in honour of the region's own fierce felines—would be catchier. Their prospects are much brighter than those of the next candidates for membership, such as Romania and Bulgaria. In particular, the lynxes look set to keep their edge against their Asian competitors in the EU market.

The study measures the EU-8's competitiveness in terms of export performance (both size and quality), economic structures (a big share for services is a strength, farming and manufacturing are not) and the friendliness of the business environment (from bureaucracy to infrastructure). On some scores, the lynxes have almost caught up. They gain 65% of their gross value-added from services, only just below rich EU countries, at 69%. The second-rank tigers (Indonesia, Malaysia, Philippines and Thailand) make only 47% through services. They have 13% of value added coming from agriculture; among the lynxes, it is 4.3%, in old Europe, 2.7%.

The growth in the lynxes' exports to rich countries (see chart) beats that of any Asian economy bar China. Those exports are fuelled by sharply rising foreign direct investment. As a share of EU-8 GDP, it was worth 29% in 2000 and 38.1% in 2004. In the second-rank Asian countries, this ratio fell, from 26% to 19%.

Even better, the quality of exports is shifting upwards. The study notes particularly fast growth in what it calls “medium high-tech” industries, which now make up the biggest category of exports. Here the lynxes are raising not only the prices they charge but also market share.

Two big weaknesses remain. One is in the quality of public institutions. The World Bank and others compile detailed scores of business-friendliness on which all European countries, rich and poor, are outshone by the likes of Singapore and Hong Kong. The EU-8 need to make sure that they emulate not stagnant old Europe but its dynamic rivals in Asia.

This is improving, slowly. A bigger problem is in research and development. Most post-communist countries devote puny amounts of money to this: the lynxes average only 0.8% of GDP, compared with 2% in western Europe. Politicians grumble that the foreigners who own most of their industries prefer to shop at home for brainpower that rich countries can afford to subsidise more generously.

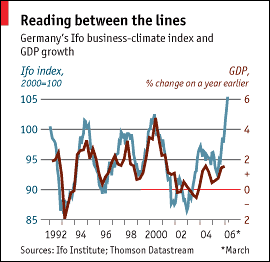
That's partially true, but politicians are slow to recognise another problem: post-communist universities are still largely unreformed, complacent and introverted. There are plenty of ways that ambitious countries could pep them up—for example by paying internationally competitive salaries, teaching in English and encouraging closer links with business.

Text 2

# Leading us astray?

## The link between business confidence and GDP growth seems to have cracked

JUST as some people predict the weather according to the odd behaviour of birds or the leaves of tulips, so Germany's Ifo business-climate index, published each month by a Munich research institute, has long been the most closely watched leading indicator of the country's GDP growth. For the past couple of decades the two series have marched closely in step with one another—until this year, when a large gap seems to be opening up.

In March the index rose to its highest level since 1991 (see chart). Its average for the first three months of this year would, on past experience, signal year-on-year GDP growth of 5%, up from only 1% in the fourth quarter. Other official numbers, such as employment and retail sales, suggest that such heady growth is most unlikely. The consensus forecast for German GDP growth this year is less than 2%. Is the IFO index losing its predictive power?

This question is also relevant in other European countries, where similar surveys have also tended to overstate GDP growth of late. Why are businessmen cheerier than their domestic economies warrant? One reason is that business surveys like IFO's often give too much weight to manufacturing and too little to services, which have been growing much more sluggishly in Germany.

Another explanation, suggested by economists at Dresdner Kleinwort Wasserstein (DKW), is that the relationship between business confidence and GDP growth has been distorted by the drop in Germany's trend rate of growth. Based on the best fit between the two series in the 1990s, the IFO index consistently understated growth in the 1970s and 1980s, when trend growth was much higher; today, with a lower trend, it overstates growth. But even after adjusting for the dwindling average, DKW reckons that the latest IFO numbers still imply that German GDP will grow by an impressive 3.5%.

Perhaps the most compelling explanation of the widening gap between business surveys and official figures is offshoring. Exuberant business confidence may reflect companies' production and employment plans not at home, but in foreign plants in eastern Europe or China, where firms have shifted production to take advantage of lower labour costs. The IFO index may thus tell us more about output and jobs in Budapest than in Berlin.

However, not all firms are moving out of Germany. A recent analysis by Credit Suisse shows that even if average unit labour costs in manufacturing are lower in eastern Europe, Germany still retains a comparative cost advantage in certain industries, including machinery and equipment, and metals. These industries have seen a much smaller flow of direct investment abroad than, say, cars and chemicals. So how optimistic are businesses in these sectors?

Interestingly, much of the rebound in the IFO survey has been in industries that have mainly stayed put in Germany, thanks to their comparative advantage. For example, confidence among machinery and equipment makers has risen to an all-time high, while confidence in vehicle manufacture remains relatively weak. And the biggest improvement in any industry in the past year has been in retailing, which is firmly based at home. This suggests that while the IFO index may somewhat exaggerate Germany's prospects, GDP growth this year could well spring a pleasant surprise.

Text 3

# Sawbones, cowboys and cheats

## Is your doctor, mechanic or taxi-driver cheating you? Economics can help

FIRST do no harm, doctors are wont to say. But some find it hard to sit on their hands. In a number of studies in the 1990s, Gianfranco Domenighetti, an economist at the Cantonal Health Office in Ticino, Switzerland, set out to discover whether surgeons performed more operations than were strictly necessary[\*](http://www.economist.com/finance/#footnote1). He and his colleagues found that the more sophisticated the patient, the less scalpel-happy the doctors. The best informed patients of all are, of course, other doctors. Sure enough, physicians went under the knife much less often than the average Ticino resident. (Lawyers' wives—whom doctors have good reason to fear—had the fewest hysterectomies of all.)

Surgeons belong to a class of experts—including computer engineers, car mechanics, taxi-drivers and others—who enjoy a fortunate position in relation to their customers. Not only do they provide a valued service (a cab ride, a repair, an operation), they also tell the customer what service she needs (a long trip, an engine overhaul, a hysterectomy). Their services are known as “credence goods”, because customers take it on faith that the supplier has given them what they need, and no more.

But as the Swiss studies show, it pays not to be too credulous. Customers can be overcharged—billed for something they did not get—or “overtreated”—given something they did not need. A mechanic might replace a car's gasket, but bill the customer for a new engine. Or he might replace the car's engine, when only a new gasket was needed.

How large do such dangers loom? For those people not married to lawyers, a new paper by Uwe Dulleck of Johannes Kepler University, Linz, and Rudolf Kerschbamer of the University of Innsbruck offers some consolation[†](http://www.economist.com/finance/#footnote1). Customers may not know what the expert knows, but they know the incentives the experts face. If everyone acts on this knowledge, the market should, in theory, eliminate some of the incentives for expert dishonesty.

Suppose a customer can tell if his car has been fixed or not—it works, or it doesn't—but he cannot tell how it was fixed. In such cases, the mechanic has every reason to charge his customer for new brakes, even if he only replaced the brake pads. The customer should anticipate this danger. Indeed, he should resign himself to it: whatever the size of his car's problem, he can be sure his repair bill will be large.

Messrs Dulleck and Kerschbamer pursue this logic another step. If all customers share the same fatalism—as they should—what would the market for experts look like? When punters shop around for a mechanic or a plumber, they will ignore advertised prices for simple jobs. However attractive those rates may be, customers know they will never be lucky enough to pay them. They will instead prefer those experts who charge the least for elaborate procedures: new brakes, not new brake pads.

As a result, experts attract customers by shaving their prices for big jobs, and they do not lose any customers by raising their charges for small jobs. Consequently, the prices for all jobs, big and small, will tend to converge. In the extreme, Messrs Dulleck and Kerschbamer show, experts will charge a flat fee for all their services. In a competitive market, they will undercharge for expensive remedies, and overcharge for simple ones.

Is that extreme ever reached in real-life markets? Some estate agents now charge fixed fees for selling properties, shamed perhaps by the fact (demonstrated by Steven Levitt and Chad Syverson of the University of Chicago) that agents on commission sell their clients' homes more quickly and cheaply than their own.

At the start of their paper, Messrs Dulleck and Kerschbamer repeat some sage advice: if a car mechanic tells you he has replaced a part, ask him to put it in your boot. In many cases, customers can check that the expert really did what he said he did. Even Swiss doctors cannot pretend to remove someone's tonsils without really doing so. In such instances, customers cannot be overcharged. But they can still be overtreated. They know what procedure they received, but not what they needed.

## Patient, heal thyself

Even if self-diagnosis is beyond them, however, customers can still diagnose the incentives experts face from the prices they post. If a surgeon enjoys fatter margins on bigger operations, he can be counted on to favour them. In principle, therefore, customers should flock to doctors who charge a uniform mark-up on all their procedures. In such surgeries, the price for complicated operations will be higher, but the margin will be the same. That way, the surgeon has no incentive to overtreat his customers. Do such surgeries exist in practice? That would be too much to hope. But many car garages now advertise standard job-completion times and then charge a uniform hourly rate. In other settings, the margins for quicker services are actually higher. New York taxis, for example, charge $2.50 the moment you sit in them, and another $2 for every mile covered.

Unfortunately, this pricing solution works only if taxi-drivers and mechanics are fully employed. When they have no trouble finding fares, taxi-drivers have no reason to take you the long way round. If they were not serving you they could be making as much money, or more, serving the next person. In quiet periods, however, the opportunity cost of “overtreating” clueless passengers falls, and the rewards rise. If the driver doubts he can find another fare, he would rather have you in his cab paying $2 a mile, than no one at all. In closing, Messrs Dulleck and Kerschbamer therefore offer advice that would otherwise seem counter-intuitive. If you are worried about being cheated by a taxi-driver or a mechanic, pick the busiest one you can find.

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