

## **Living with Statistics**

“The Composite CPI rose by 1.3% in July this year over the same month a year earlier”, “The latest seasonally adjusted unemployment rate is 4.2%”, “GDP increased by 6.5% in real terms in the second quarter this year from a year earlier”.....Starting from the morning newspapers to the evening TV news reports, we are surrounded by various statistical figures. Nowadays statistics exist in every aspect of our daily lives, but have you ever thought of the origin of Statistics?

There are different sayings about the origin of Statistics. One of them is that Statistics originated from the method used by philosopher Aristotle to study the population, resources and wealth of states over two thousand years ago in ancient Greece. Hence, up till now, the word “Statistics” still retains the root “State”.

Statistics had no major breakthrough for quite a long time after the ancient Greece, until the scientific revolution in Europe in the 17th and 18th centuries. During this period, mathematical methods integrated with Statistics gradually, and people started deploying the concept of probability into social statistics, such as mortality rate, birth rate, crime rate and etc. This formed the early basis of Modern Statistics. After hundreds of years of development, more emerging research theories were introduced and developed in the subject of Statistics. From the era of agricultural economy, industrial economy, to today’s knowledge-based economy, Statistics is now applied in all sectors.

Mrs Ou-yang Fong Lily, Deputy Commissioner for Census and Statistics, has been engaging in official statistical work for over thirty years. When talking about the application of Statistics, she said that Statistics is closely related to our daily lives, and has widespread applications in every sector.

She said, “For industrial production, Statistics is often used for quality control in the production process. A sample of products selected using statistical methods are inspected to determine whether their quality fall within a predetermined range, so as to decide whether to accept the entire lot. This method enhances the cost-effectiveness of the production process through reducing production costs as well as ensuring the quality of goods.”

“In the medical field, Statistics is applied in clinical research, epidemiology, forensic medicine and many other areas. Professionals make use of statistical methods like experimental design to test new drugs and therapies.”



Statistics has widespread applications in the medical field.

Mrs Ou-yang pointed out that application of Statistics is certainly indispensable in a business community like Hong Kong. Sample surveys and forecasting methods are most commonly used.

She added, “Sample survey is a key step in the field of market research, in which questionnaires are used to collect market information and to keep abreast of market prospects, in order to facilitate the formulation of marketing strategies. Statistical techniques like econometric models, mathematical models and time series are used in forecasting data.”

“Econometric models are used by the Government to project the trends of major economic indicators, which serve as the basis to formulate fiscal, monetary and other economic policies. Financial and commercial institutions also make use of time series forecasting techniques to analyse and forecast trends of indices. A typical example is the 250-day moving average of the Hang Seng Index.”



Hong Kong as an international financial centre, application of statistics is indispensable.

Besides, when people purchase insurance, the required premium is calculated by actuarial analysts using mathematical models to analyse various types of risk, and making reference to the life tables, prevalence rate, etc.

Mrs Ou-yang concluded that Statistics is an indispensable part of the community, and part of our daily lives. Statistics truly and accurately reflect the objective world.

To acknowledge the importance of reliable, timely statistics, the United Nations has decided to designate 20 October as World Statistics Day. The World will celebrate the first World Statistics Day on 20 October this year by organising various

celebration activities. For details, please visit [unstats.un.org/unsd/wsd/](https://unstats.un.org/unsd/wsd/).