Chapter 3
KONÜS, ALEXANDER ALEXANDROVICH*

W.E. Diewert

Konüs, Alexander Alexandrovich (born 1895). Konüs was born in Moscow on 2 October 1895 and died recently in 1991. During the war years 1914–17, he served in the army and was wounded twice. In 1920, he graduated from the Cooperative Institute in Moscow as a statistician. During the years 1923–30, he worked in the price index section of the Business Cycle (Conjuncture) Institute directed by N.D. Kondratiev and had E.E. Slutsky as a colleague. During the years 1931–45, he taught statistics and undertook analyses of the quality of metal production. In 1945–60, Konüs worked at various research institutes including the Research Institute of Communication. From 1960 to 1982, he was at the Institute of Economic Research in Moscow. He has written over 100 research papers in index number theory, consumer demand, the labor theory of value, statistics and probability theory.

Konüs has made a number of fundamental contributions. In his 1924 paper, he established a revealed preference theory result, he provided the definition of a consumer's true cost of living index as a ratio of cost functions evaluated at different prices but at the same utility level, and he showed that there exists a utility level between the base and current period utility levels such that the true cost of living index evaluated at this intermediate utility level lies between the Paasche and Laspeyres price indexes.

In his 1926 paper written jointly with Byushgens, the idea that preferences can be represented dually in terms of tangential coordinates (i.e. in terms of prices and income instead of quantities) was made, the indirect utility function was introduced and a homogeneous quadratic utility function was shown to be exact for Irving Fisher's ideal index number formula. This is a truly remarkable paper which was well ahead of its time.

The best English language discussion of his later work on consumer demand and index number theory is Konüs [1968].

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Chapter 4
LASPEYRES, ERNST LOUIS ETIENNE*

W.E. Diewert

Laspeyres, Ernst Louis Etienne (1834–1913). Laspeyres was born at Halle, Germany, on 28 November 1834 and died on 4 August 1913 at Giessen, Germany.

From 1853 to 1857, he studied at the universities of Tübingen, Berlin, Göttingen and Halle. He received a law degree from the University of Halle in 1857. He studied at the University of Heidelberg from 1857 to 1859, and in 1860 he obtained his PhD from Heidelberg for the thesis, 'The Correlation between Population Growth and Wages'.

From 1860 until 1864 he worked as a lecturer at Heidelberg, where he wrote a history of the economic views of the Dutch (Laspeyres [1863]). In the following ten years, he taught at four different universities: 1864 – Basel; 1866 – the Polytechnic at Riga; 1869 – Dorpat; 1873 – Karlsruhe. Finally, from 1874 to 1900, he taught at the Justus-Liebig University at Giessen.

Laspeyres' main contribution to economics was his development of the index number formula that bears his name. Let the price and quantity of commodity n in period t be p_n^t and q_n^t respectively for $n = 1, \ldots, N$ and $t = 0, 1, \ldots, T$. Then the Laspeyres price index of the N commodities for period t (relative to the base period 0) is defined as

$$P_L \equiv \sum\nolimits_{n=1}^{N} p_n^t q_n^0 \left/ \sum\nolimits_{n=1}^{N} p_n^0 q_n^0 \right.$$

Laspeyres wrote his classic paper [1871] which suggested the above formula partly as an outgrowth of his empirical work on measuring price movements in Germany and partly to criticize the index number formula of Drobisch [1871]. Using the notation defined above, the Drobisch price index for period t is defined as

$$P_D \equiv \left(\sum\nolimits_{n=1}^{N} p_n^t q_n^t \left/ \sum\nolimits_{n=1}^{n} q_n^t \right. \right) \left/ \left(\sum\nolimits_{n=1}^{N} p_n^0 q_n^0 \left/ \sum\nolimits_{n=1}^{N} q_n^0 \right. \right) \right.$$