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## KEYFITZ, NATHAN

(1913– )

Nathan Keyfitz was born and educated in Montreal, Canada. In 1936, two years after receiving a Bachelor of Science degree in mathematics from McGill University, he joined the Dominion Bureau of Statistics, now Statistics Canada, as a clerk, reaching the post of senior research statistician in 1950. He also found time to seek a Ph.D. in sociology from the University of Chicago (1952). In 1959, Keyfitz's career veered toward academia—a professorship at the University of Toronto. In 1963, he was appointed professor of sociology at the University of Chicago where, at age fifty, his exceptionally productive career as a researcher in demography began. Subsequently, he held successive appointments as professor of demography at the University of California, Berkeley, and as professor of sociology at Harvard University (from 1972 to 1981). After his retirement from Harvard, he taught at Ohio State University. Subsequently, for ten years (until 1993) Keyfitz led the population program at the International Institute for Applied Systems Analysis (IIASA) in Laxenburg, Austria.

At various times, Keyfitz also consulted, taught, or conducted research in many countries, but foremost in Indonesia—where his research and consulting activities began in the 1950s and continued intermittently over four decades. Keyfitz was president of the Population Association of America in 1970–71, and he received the Association's Mindel C. Sheps award in 1976. He is a member of the Royal Society of Canada, the American Academy of Arts and Sciences, and the U.S. National Academy of Sciences.

Keyfitz is best known for his work in mathematical demography, a branch of demography that his books largely defined for generations of students. In the early 1960s, he began to gather the literature on the application of mathematics to population, dispersed in the journals of many disciplines, and set out the findings in a uniform notation. Keyfitz gave his formulas meaning and interest by applying them to real data, making early use of the mainframe computers that were just then appearing. This work yielded his book, *Introduction to the Mathematics of Population* (1968), and a systematic compilation of country-level demographic estimates produced by his models, *World Population Growth* (1968, co-authored with Wilhelm Flieger). Somewhat dissatisfied with the rather abstract character of his initial effort, Keyfitz went on to write another book, *Applied Mathematical Demography* (1977), in which he examined “a great number of questions that could be dealt with mathematically and that involved techniques needed by demographers” (Van der Tak 1991, p. 287).

Keyfitz's influence on the field of demography and population studies is not limited to mathematical demography. Once immersed in demographic research, he broadened his research interests to substantive issues raised by population dynamics. His book *Population Change and Social Policy* (1982) collects a number of his articles and essays on topics ranging from the environmental effects of population growth to the socioeconomic implications of population aging.

**See also:** *Demography, History of; Renewal Theory and Stable Population Model.*

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JACQUES LEDENT

**KEYNES, JOHN MAYNARD**

(1883–1946)

British economist John Maynard Keynes was a civil servant in the India Office from 1906 to 1908, and a lecturer in economics at Cambridge University from 1908 to 1913. He was the editor of the *Economic Journal* from 1912 to 1945.

He joined Britain's Treasury in 1915 and was its principal representative at the Versailles Peace Conference in 1919. Believing the Versailles proposals on borders and reparations to be destructive and counter-productive, he resigned in 1919, setting out his objections in *The Economic Consequences of the Peace* (1919).

Keynes was closely associated with the Liberal Party; his influential and brilliantly written works attacked laissez-faire economics and the return to the gold standard, proposing a radically new approach to economic management. He returned to the Treasury in 1940, and in 1944 played a leading part in the Bretton Woods Conference that set up the International Monetary Fund and the International Bank for Reconstruction and Development (better known as the World Bank).

Keynes wrote extensively and influentially, producing, among others, the *Treatise on Money* (1930) and the controversial *General Theory of Employment, Interest and Money* (1936), arguably the most influential work on economics since Adam Smith's *Wealth of Nations*. The *General Theory* showed how aggregate demand, and therefore unemployment, was determined, and that economic systems at equilibrium had no necessary tendency toward full employment, not even with the most depressed wages. Because individual consumer spending could not create sufficient demand, unemployment must be cured by state demand management funded by a budget deficit.

Keynes devoted no major work specifically to population issues, but population concerns recur in his work. A neomalthusian view is prominent in the *Economic Consequences of the Peace*. There he noted that before World War I, Europe's dense population had enjoyed a high standard of living without self-sufficiency in agriculture or raw materials, relying instead on manufactured exports. He feared that such large populations could no longer be sustained following the destruction of industry and in the absence of opportunities for mass emigration.

Keynes was thus initially concerned with what he called the "Malthusian devil O of Overpopulation." This, chained up when productivity was rising, would be released when the temporarily advantageous conditions ended. Keynes campaigned against the then current pronatalist opinion, fearing that population growth would tend to reduce the standard of living, although he also feared adverse eugenic consequences if the more prudent nations, and classes, reduced their fertility before others. These views were summarized in a 1912 lecture, *Population*, not published until 2000 (in Toye's *Keynes on Population*).

In the late 1920s, Keynes changed his mind, rejecting his earlier economic pessimism and some of