

## Ernst R. Berndt receives 2020 Shiskin Award



Ernst R. Berndt, Louis E. Seley Professor in Applied Economics, Emeritus, at the Massachusetts Institute of Technology, has been selected to receive the 2020 Julius Shiskin Memorial Award for Economic Statistics. The award recognizes unusually original and important contributions to the development of economic statistics or to their use in interpreting the economy.

Professor Berndt is recognized for conducting original and influential economic research on the measurement of multifactor productivity and quality-adjusted price change and for his leadership of key groups both within and with linkages to the U.S. economic statistics community. Berndt becomes the 48<sup>th</sup> recipient of the Award. The award is sponsored by the Business and Statistics Section of the American Statistical Association, the National Association for Business Economics, and the Washington Statistical Society.

Professor Berndt (“Ernie”)’s earliest research focused on how to measure energy inputs and outputs in the context of multifactor productivity measurement. He was a pioneer in the use of flexible functional forms, and his findings on energy-capital complementarity in the manufacturing sector remain among the most cited research in this area. This line of research eventually shifted to models of production where in the short run, capital equipment (and nonproduction labor) was a fixed input and resulted in many studies and a novel framework for assessing the impact of capacity utilization on multifactor productivity and its measurement. Ernie next studied how to measure the value of capital service flows when capital was a fixed input and its shadow value of particular interest. His extensive work on alternative measures of capital user costs showed that the choice of user cost formula really mattered, a finding that heavily influenced the U.S. Bureau of Labor Statistics’ (BLS) methods for calculating multifactor productivity.

Recognition that capital may be fixed in the short run, and that much technological change was embodied in the design characteristics of a good led Ernie into efforts to measure the effects of quality change on price measures. In particular, he (along with Zvi Griliches) investigated the effects of the composition of pharmaceutical items sampled by the BLS: they showed that the

basket of goods included in its producer price index (PPI) program oversampled old products and under-sampled new products, resulting in an upward biased price index, in part because prices of older products were generally rising more rapidly than those of newer products, even without making major quality adjustments to the newer goods – it was simply a sampling issue. This line of research initiated an extensive collaboration with the BLS PPI program leading to the agency's recognition that new products needed to be introduced into the sampling basket more quickly to minimize new-goods bias.

In part because of issues raised by the Advisory Commission to Study the Consumer Price Index (the Boskin Commission) on possible bias in the consumer price index, Ernie began studies to incorporate quality change into the measurement of prices for many types of goods. He set out state-of-the-art methods for using hedonic regressions to measure quality-adjusted price change and produced a large number of studies that applied these techniques to goods and services undergoing technological change. Ernie's research included studies in the areas of: (1) personal computer hardware; (2) personal computer software and operating systems; (3) personal desk assistants; (4) prescription pharmaceuticals including anti-ulcer drugs and anti-depressants; (5) treatments for schizophrenia, anxiety, antihypertension, diabetes and anticancer drugs.

Besides helping to educate several generations of economists in economic measurement and other areas of applied economics, Ernie has contributed to economic statistics through his leadership of committees and engagement with staffs of the federal statistical agencies as they tackle the challenges of economic measurement in a changing world. He served on the Census Advisory Committee from 1996 to 2000, including two years as chair. When the Federal Economic Statistics Advisory Committee (FESAC) was created in 2000 to advise the Bureau of Economic Analysis (BEA), the BLS and the Census Bureau on their common challenges, he was selected as the first FESAC chair. Since 2011, he has chaired the BEA Advisory Committee. Among many contributions in these roles, Ernie provided invaluable advice to the BEA on the development of its new health satellite account and to both the BEA and the BLS on price index construction issues.

Ernie also has played an important role in encouraging research by academic economists on issues related to the measurement of economic activity throughout his career. He is a long-serving member of the Executive Committee of the Conference on Research in Income and Wealth (CRIW), an organization created in 1936 to bring together economists from government, academe and the private sector to advance the cause of economic measurement. He has been an active contributor to the work of the organization, not only as an author but also as the co-editor of four separate CRIW volumes that provided important opportunities for the exchange of ideas between academic researchers and government statisticians. Ernie directed the National Bureau of Economic Research (NBER) program on Productivity and Technical Change from 2000 to 2010 and moved quickly to initiate a joint NBER-CRIW annual summer workshop on economic measurement. The workshop has provided additional, enormously constructive interactions between economists from the statistical agencies and the academic community.