

Topic Page: [Vickrey, William S. \(William Spencer\), 1914–1996](https://search.credoreference.com/content/topic/vickrey_william_1914_1996)

Summary Article: **Vickrey, William S**

From *The Hutchinson Unabridged Encyclopedia with Atlas and Weather Guide*

Canadian-born US economist. A Quaker and conscientious objector during World War II, Vickrey spent his alternative service designing a new inheritance tax for Puerto Rico, which he later submitted as a PhD dissertation to Columbia University as an *Agenda for Progressive Taxation* (1949). With the Scottish economist James Mirrlees, Vickrey won the Nobel Prize for Economics in 1996 for contributions to the economic theory of optimal taxation under asymmetric information.

Vickrey's work also considered the pricing of public utilities. One of the most cited of his papers in that area was his 1952 proposal for revising the fare structure on the New York subway, which was responsible for introducing higher fares at peak times to pay for the congestion costs of rush-hour travel.

He is best known for his contributions to the theory of auctions, the type of market where potential purchasers bid for goods rather than simply paying the price posted by the seller. The central question in auction theory is how to design an 'efficient' auction, that is one that awards the goods being auctioned to the bidder with the highest willingness to pay, while at the same time maximizing the revenue of the auction for the owners of the goods. There are two kinds of auctions: ordinary open bid and special sealed bid, the first where everyone bids publicly up to their true willingness to pay, and the second where each bidder can bid only once without knowledge of the bids of others. Open bid auctions in turn consist of English or Dutch auctions, the former being one where the auctioneer starts at the reservation price set by the seller and asks for successively higher bids, the goods eventually going to the highest bidder, and the latter one where the auctioneer starts at an arbitrary high price and then offers lower and lower prices until someone agrees to pay that price.

In a series of pioneering articles in the 1960s, Vickrey designed a mechanism for sealed bid auctions that are 'efficient' despite the fact that each bidder makes his bid in ignorance of all other bidders. These are dubbed 'second price auctions' or 'Vickrey auctions' because strategic bidding causes the highest bidder to pay a price that is actually equal to the second highest bid. He showed that both English and Dutch auctions not only are 'efficient' but also strategically equivalent from the point of view of the bidders. Moreover, if the bidders are risk neutral, all open and closed auctions are not only strategically equivalent for bidders but also equivalent to sellers in terms of returns of revenue earned. These conclusions have ever since served as the alpha and omega of auction theory.

He studied undergraduate mathematics at Yale University and then economics as a graduate from 1935 to 1937 at Columbia University, where he received his MA and PhD. He then worked for the National Resources Planning Board in Washington, DC, and the Division of Tax Research in the US Treasury Department. In 1996 he began teaching at Columbia University, becoming a full professor in 1958. He was chair of the department of economics from 1964 to 1967 and retired as professor emeritus in 1979. He was a member of the 1950 Shoup mission to Japan that developed a comprehensive post-war tax system for that country. He was a distinguished fellow of the American Economic Association in 1978 and served as its president in 1992. He died only two days after learning that he had been awarded the Nobel Prize.

His publications include *The Revision of the Rapid Transit Fare Structure of the City of New York* (1952), *Microstatics* (1964), *Metastatics and Macroeconomics* (1964), and *Public Economics* (1994; co-edited with R Ainott *et al*).

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