PREFACE: BACKGROUND OF THE EKERN-WILSON ARTICLE

Steinar Ekern

The choice of my contribution to this Festschrift honoring Bob Wilson may seem somewhat odd: It does not fall within game theory, it is a jointly written paper, it is an old paper, and the journal is a respected one but hardly at the very top tier. On the other hand, it illustrates Bob's breadth of interest and insight outside his traditional major fields, shows how he cooperated with a doctoral student and provided the essentials for successful publication, and the coauthored article was frequently cited for more than a decade in the major journals of economics and business.

Coming from the Norwegian School of Economics and Business Administration (NHH) — nicknamed the Norwegian School of Uncertainty — in Bergen, my interest in the broad subject area of the economics of uncertainty was nurtured by the seminal works of faculty members such as Karl Borch, Jan Mossin, and Agnar Sandmo. At Stanford, I had finished my course work and was developing a dissertation proposal, when I experienced any doctoral candidate's nightmare: In an article in the *Journal of Economic Theory*, Drèze and Modigliani reported major results that I had hoped to develop in my dissertation. After I had struggled extensively to find another suitable dissertation topic, Bob, as my advisor, simply told me "I think I'll assign you a topic." He then suggested that I explore the relationships between capital markets and decision making under uncertainty in the firm. In particular, he recommended studying the objective of the firm in decision problems with incomplete markets, with respect to optimality properties, decision rules, information requirements, and valuation functions.

At first look, the answers seemed obvious. The expected utility hypothesis for individual decision-making, value maximization by firms, and Pareto optimality of competitive resource allocations were all well established pillars. Bob was less than enthusiastic about assuming that firms have utility functions. He stressed that the actual decision maker in a firm must have an incentive to act according to the stockholders' preferences. The failure of the market value rule to bring about a Pareto optimal allocation of investment had recently been pointed out by Stiglitz and by Jensen and Long (see references at the end of the paper itself).

In an unpublished comment on Stiglitz, Bob argued that to show the market value maximizing investment to be non-Pareto optimal did not say anything about whether investments would be Pareto optimal, unless it was demonstrated that it would be rational for the decision maker to maximize stock value. Bob then showed that the decision maker, who might be any stockholder of the firm, in mean-variance models would voluntarily, out of self-interest, choose a Pareto optimal level of investment for the firm rather than a value maximizing investment. A well-known economist stated that he wavered back and forth in trying to decide whether that result was a brilliant insight concerning motivation in managerial decision making or whether it came close to being a tautology.

The joint paper to follow and my subsequent dissertation originated in Bob's suggestion to me to attempt to generalize such a unanimity property to a state-preference model. A slight generalization of Diamond's earlier model and Leland's concurrent one provided unanimity at a capital market equilibrium. Noting that, in this case, the firm's marginal state-dependent return could be written as a linear combination of the returns to the riskless firm and to the firm itself, the extension was straightforward. First, assume the system is evaluated at a capital market equilibrium, such that each individual's implicit valuation of the returns of any firm equals the firm's equilibrium value. Second, write out the condition for any stockholder to change the decision variable of the firm. Third, invoke the spanning condition that the available state-dependent returns in the whole economy span the marginal state-dependent return for the firm whose decision will be evaluated. Fourth, show that the sign of the decision criterion is the same for all stockholders holding positive fractions. Finally, note that the criterion coincides with market value maximization only when individuals' implicit state-prices are fixed independently of the firm's decision.

The jointly authored paper to follow contains what was later referred to as "the Ekern-Wilson unanimity theorem," "the Ekern-Wilson spanning condition," or "an Ekern-Wilson equilibrium." The article appeared in print as a part of a "Symposium on the Optimality of Competitive Capital Markets" in the Spring 1974 issue of the *Bell Journal of Economics and Management Science* (from 1975 simply the *Bell Journal of Economics* and, since 1984, the *RAND Journal of Economics*). The symposium issue contained companion papers by Leland and by Merton and Subrahmanyam, as well as an extension by Radner (who seems to have been a referee for the joint paper). My own extensions of the joint work with Bob can be found in my 1973 Stanford dissertation, partly published in the *Swedish Journal of Economics* (1974) (later renamed the *Scandinavian Journal of Economics*) as well as in an addendum in the *Bell Journal of Economics* (1975).

Over the years the joint paper generated a triple-digit number of citations in the literature, which is another testimony to Bob's standing in the economic profession, as the paper is not among the ten articles he has selected for mentioning in the reference book *Who's Who in Economics*. It has been quoted, discussed, and criticized in papers on financial markets, equilibrium models, resource allocation, optimal investments, production decisions, competitive versus monopolistic pricing, objective functions, decision theory, incentives, financial strategies, majority voting, corporate control, international trade, product differentiation, accounting, information, financial intermediaries, and internal organization, among others.

Bob ends his self-biographic entry in *Who's Who in Economics* by writing "Working with doctoral students is a great pleasure." I feel confident that all of his former doctoral students will reciprocate with something like "Working with Bob as a doctoral student was a great privilege." As for myself, it is obvious that I have a great intellectual debt and a profound academic gratitude to Bob. He directed me into the area of my dissertation, patiently listened to my ideas, gave me more good advice than I was able to absorb, and from time to time exercised a gentle pressure on me to get the research done within a reasonable time. Also, as evident from our joint paper to follow, Bob contributed his remarkable insight and generously gave me the opportunity to be a coauthor of a widely read paper.

I am not aware that Bob has any Scandinavian ancestors, but for some unknown reason a disproportionate number of Scandinavian economists have benefited from being taken in under Bob's wings — some people talk humorously about "the Wilson Scandinavian mafia." In addition to the ones for whom he has served as a principal dissertation advisor, he has been a frequent member of dissertation committees, a useful informal discussion partner, and an agreeable sponsor for visiting scholars. In 1986 he was awarded the honorary *dr. oecon.* degree at NHH in recognition of his services, and he has continued to visit the School on academic business since. There is a widespread hope that when — or if — he retires from Stanford, we'll be able to attract him for more frequent visits to Bergen to stimulate and enhance our research.