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TWIN THEMES OF THEODORE W. SCHULTZ

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During this academic year, South Dakota State University (SDSU) is celebrating the life and works of 1979 Nobel Laureate in Economics and SDSU alumnus, Theodore W. Schultz (b. 1902 – d. 1998). The signature event was the Schultz Symposium on the theme “Investing in People” held October 6 and 7, 2009 on the SDSU campus. Panel discussions, lecture series and classroom studies have been held throughout the year. This author was one of many SDSU faculty, staff, and students involved in planning and participating in various events related to the Schultz celebration.

The remainder of this article is about the twin themes developed by Schultz that led to his receiving the Nobel Prize in Economics. These themes are:

1. Agricultural modernization is a major contributor to economic growth, and
2. Investing in people (human capital) is the main source of economic growth in a modern economy.

These inter-related themes were first discussed by the author at an SDSU Honors Colloquium class held on Sept. 29, 2009. In this author’s view, these themes are as important in today’s global political economy as

the ideas were in the time period (1930’s – 1970’s) that Schultz developed them.

Background Influences on Schultz’s Work

T.W. Schultz, the oldest of eight children, was born in 1902 and raised on a family farm near Badger, South Dakota. His farm work experiences, rural schooling, completing “aggie school” and later a bachelor’s degree (in 1928) at South Dakota State College were formative factors influencing his professional interests in agriculture and economics.

Completion of a Masters (also in 1928) and PhD (1930) from the University of Wisconsin set the stage for his brilliant career as a teacher, researcher, and administrator at Iowa State University (1930–1943) and the University of Chicago (1943–1972). He continued his professional writings until the early 1990’s.

Schultz lived during an era of incredible transformation of U.S. production agriculture with enormous influences on increasing food supplies, rural – urban migration, changes in rural and urban life, and other factors related to economic growth.

Schultz initially studied economic issues involved in the transformation of U.S. agriculture and later broadened his studies to examining the processes of agricultural modernization around the world. His key insight was that investing in human capital among farm people was essential for achieving agricultural modernization. This insight was quickly expanded to the more general idea that widespread human capital formation is essential to economic development and modernization in all nations.

Schultz is widely recognized as an “agenda setter” for research and teaching programs in agricultural and applied economics (Ruttan, 1981). His research program attracted many top graduate students who later became influential in universities, government, and international agencies. His research program and professional writings continue to impact the fields of agricultural policy, rural poverty, international agriculture and rural development, and the economics of education (AJAE, 2010). His professional writings and speeches often emphasize his agrarian “roots” and his high regard for the potential of ordinary people.

Agricultural Modernization and Economic Growth

From Schultz’s perspective, traditional agriculture is characterized by subsistence, labor intensive activities, reliance on human or animal power, low levels of mechanization, minimal use of commercial inputs, and low output per person. Even today, most farmers in developing nations are engaged in traditional agriculture, although the majority of global agricultural production is from modern commercial farming systems.

Schultz characterized most farmers engaged in traditional agriculture as “poor but efficient”. In other words, farm households made good allocation decisions with regard to the meager resources and traditional technologies available, but were poor due to lack of sufficient resources. He “firmly rejected the notion that small farmers were poor due to cultural characteristics” and stated that these farmers “needed new knowledge and skills to adopt new technologies, but also to cope with changing economic environments...” (AJAE, April 2010, p. 454).

He was optimistic that global agriculture has the potential capacity to produce more food for the world’s growing population and could greatly improve the income and welfare of poor people in both rural and urban areas. However, substantial investment in modern capital inputs and in human capital was required to achieve these beneficial results.

Since agriculture is the main livelihood in most developing nations, transforming traditional

agriculture to a modern commercial enterprise is an essential ingredient of long-term economic growth and development. Agricultural modernization requires considerable investment in: (1) new scientific and technical knowledge which requires both public and private sector funding of agricultural research, (2) industrial capacity to produce new inputs and the institutions (market or governmental) to make the inputs accessible to farm households, and (3) education of farm people to increase their capacity to invest and make management decisions for proper use of new technology.

Schultz recognized that modernizing agriculture creates a lot of uncertainty and requires making rapid adjustments on the farm and throughout the agri-food sector. In his view, entrepreneurial talent was required to constructively handle rapid change. He advocated further education and training to enhance entrepreneurial talent and also provide the specialized skills needed in our ever changing economic environment.

Investment in Human Capital

Schultz’s studies on processes explaining agricultural modernization and economic change led to his conclusion that investment in human capital (education, health, and training) is the major long-term factor explaining modern economic growth and development. To achieve and maintain a modern economy, continuous investment in human capital must occur alongside investments in other forms of capital and technology.

Investment in human capital is directly influenced by its major attributes. Paraphrasing Schultz in his 1981 SDSU address Investing in People some major attributes of human capital are: (1) You cannot sell or give away your own “stock” of human capital; (2) It goes with you wherever you go and unlike many other forms of capital, it cannot be confiscated by government; (3) Duration of the value of your own human capital occurs within your lifetime; (4) You must invest your resources and time to acquire it, meaning human capital is not free; but an investment; (5) It is more efficient to invest in your human capital while young as there is a longer time to benefit from it; and (6) Not all forms of human capital turn out to be worthwhile

investments, so it matters whether you choose wisely or not.

Schultz's research on human capital led to rethinking basic ideas in many disciplines and resulted in a much more inclusive concept of what is referred to as "capital". Schultz believed that there are many diverse types of capital, with each form subject to "rates of return" analysis. Thus human capital (specifically education, health care, and training) investments can be examined in an economic – financial framework similar to many other capital investments. Thus, economic growth stems from peoples' search for higher rates of return to investment, which leads to a variety of changes in human behavior, including selection of employment, business, and consumption activities. These changes are so pervasive in developed nations that their predominant economic activity has shifted from agriculture to manufacturing to post-industrial employment and output.

Furthermore, according to Schultz, human capital is a rising proportion of all capital and a rising percent of national income in all modern economies. In the United States and other developed nations, the value of human services (wages, salaries, and proprietors income) increased from 55% to 75% of total economic return during the 20th century. These results occur from long term changes in supply and demand favoring higher skilled human services.

The rising economic value of human time, on a global basis, has several key implications. First, there is an increased demand for educational services at all levels – primary, secondary, and post-secondary – as more formal education is often viewed as a key to higher earnings in the modern economy. Second, the income distribution of a more educated labor force is (usually) less unequal than the income distribution from ownership of physical capital. Third, greater rewards for entrepreneurial behavior are more likely to occur for a larger proportion of households. Fourth, as the value of time for women increases, fertility rates tend to decline resulting in lower population growth rates. Greater investments per child are then made in proper nutrition, health care, and education.

Schultz was instrumental in developing and applying concepts of social and private rates of return by level of education – primary, secondary, and post-

secondary. Rates of return analysis includes assessment of: (a) direct costs of education – tuition, fees, books and materials, and public subsidies, (b) costs of foregone earnings by the student (and family), and (c) benefits of higher earnings and well-being over the remaining life time of the student. This analytical framework led to a wealth of empirical studies on rates of return to education in many nations.

In general, rates of return to education are highest at the elementary education level, where basic literacy skills are taught, followed by returns to secondary education and higher education. Huffman's (2009) summary of human capital investment literature reported that annualized rates of return to education were: (1) extremely high (above 25%) for pre-school programs for disadvantaged children and for obtaining an elementary education diploma, (2) high (10 – 24%) for completion of a high school diploma or four year college degree, or an advanced degree, and medium to low (0 to 9%) for only completing some high school or some college.

Concluding Remarks

This article is intended to provide the reader with some of the major ideas that Schultz contributed to the applied economics literature that led to his receiving the Nobel Prize in Economics in 1979. More importantly, many of his ideas and research results continue to influence thinking and practice in U.S. and global agriculture, business, education and government circles today.

References and Further Reading

Briggs Library at South Dakota State University has a major collection of professional papers written by T.W. Schultz in its archives section. Many of his papers are available in pdf format.

References used in preparing this essay were:

American Journal of Agricultural Economics:
Special Issue Commemorating the Centennial of
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Huffman, Wallace E. 2009. "Investing in People for the 21st Century". T.W. Schultz Lecture, South Dakota State University. Oct. 6.

Selected presentations from a symposium with Theodore W. Schultz: a centennial event at South Dakota State University. Sept. 21-22, 1981. Includes presentations / papers by T.W. Schultz on "Investing in People" and "Agricultural Productivity in Low Income Countries" and by Vernon Ruttan on "Theodore W. Schultz: An Agenda Setter".

The following are suggestions for further study:

Schultz, T.W. 1964. Transforming Traditional Agriculture. New Haven: Yale Univ. Press.

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