In 1929, the departments of general, agricultural and industrial economics were consolidated into one department of economics under the leadership of Albert Black. Albert Black received his PhD degree from the University of Minnesota. His thesis examined and restructured all the agricultural indexes used by the State of Minnesota. Black earned an outstanding reputation as an economic researcher. In cooperation with his mentor, John D. Black, Black published two books and numerous articles.

Black was keenly aware of the importance of a good staff in determining the stature of a department. As such, Black heavily recruited outstanding young economists to the department at Iowa State College. However, money for new faculty was scarce as the country was in the midst of what would later be referred to as the Great Depression. But, in spite of these financial limitations, Black successfully recruited Theodore Schultz from Wisconsin and Wallace Wright from Stanford.

Under Black's leadership from 1929 to 1933, the academic research and extension programs outlined by Nourse and Holmes continued. In 1929, the first PhD degree in agricultural economics was granted to Adrian H. Lindsey. Lindsey wrote under Black and the title on his dissertation was "The Nature and Causes of the Growth of Iowa Land Values". Lindsey went on to become the head of the Agricultural Economics department at the University of Massachusetts at Amherst.
Research and extension work within the economics department increased significantly with the onset of the depression. In the early 1930s, the U.S. economy collapsed -- it was an era of high employment and bankruptcies. In industry, more than one third of the work force was idle. The farm economy was devastated as thousands of farms were lost because of falling farm prices. Farm prices dropped 60 percent from the 1920s to the 1930s. Economic relief and solutions were demanded by the general population and by representatives in Washington, including President Roosevelt. In response to the public outcry, the Iowa State College President, R. M. Hughes, recommended that the economics department author a series of circulars stating the causes of the existing economic crisis and possible corrective measures. The result was a series of ten circulars entitled *The Agricultural Emergency in Iowa* released in 1932. The authors of the circulars were Albert Black, Theodore Schultz, William Murray, Geoffrey Shepherd, John Hopkins and Wallace Wright.

The authors argued that during WWI the U.S. changed from a debtor nation to a mature creditor nation but the U.S. failed to act like a creditor nation. The message in these circulars caught the attention of the nation, including the Congress, and provided the needed stimulus to launch a vigorous extension program in Iowa contributed to programs like Secretary of State Cordell Hull's Reciprocal Trade Agreements, and the Agricultural Adjustment program.

Also during this period, the corn-hog program was established by Secretary of Agriculture Henry A. Wallace and the Congress. State governments quickly took advantage of the corn-hog program. Iowa State economists were instrumental in collecting and assimilating corn-hog program data. Iowa State's involvement in the corn-hog program was strongly encouraged by Black. In 1933, Albert Black accepted a
position in the corn-hog section of the Agricultural Adjustment program in Washington, D.C.

Significant changes occurred within the economics department during the 4 years Albert Black was head of the department. First, the economics department was united as a team, allowing the staff to specialize and synchronize its efforts. Second, there was a 40 percent increase in the number of faculty members and a corresponding increase in course offerings at the undergraduate and graduate level. Third, research and extension programs flourished, with the research becoming more policy-oriented.

There was no immediate successor to Albert Black. President Hughes did not have adequate funds to hire a mature scholar and administrator to assume the role of department head. George Fuller served as acting head of the economics department until 1935 when President Hughes reluctantly appointed T. W. Schultz, age 32, to head the economics department. President Hughes' reluctance is best captured in this bit of dialogue between Hughes and Schultz on the day of Schultz's appointment: "This is a tough job," Hughes said, "You are all that I've got. For heaven's sake make good at it." Schultz did rise to the occasion.

Schultz was awarded a PhD degree in agricultural economics from the University of Wisconsin in 1930 and subsequently joined the staff at Iowa State. For his dissertation, Schultz examined the economic implications of U.S. tariffs on barley, oats and corn. He was particularly knowledgeable of the effects of the Smoot-Hawley tariff program and the trade restrictions in the 1920s. Schultz was encouraged to continue his work on foreign trade in farm products while Black was department head. Farm organizations, congress persons and legislators were interested in foreign trade policy effects on the economy. Schultz's work attracted wide-spread attention within the state of Iowa, the cornbelt and
the nation. Schultz's many writings helped to alter public opinion on "correct" trade and monetary policies and helped to formulate public policy.

Like his predecessors, Schultz recruited some of the most brilliant young economists in the United States. During his tenure, Schultz hired Gerhard Tintner, George Stigler, A. G. Hart, Rainer Schikele, Walter Wilcox, Kenneth Boulding and Earl Heady, each of whom made significant contributions to the economics department at Iowa State and to economics as a discipline.

Economics as a science dramatically changed between 1926 and 1939. Prior to 1926, economic science was based on one dominant theory -- the theory of general, perfectly competitive, full employment static equilibrium. "Tranquility" economics was cast aside when the economic maladies of the 1920s and early 1930s unearthed the tenuous and fallacious theoretical underpinnings of earlier economic reasoning. As a result, modern economic science began. By 1939, there were at least six major innovations in economic theory which revolutionized the discipline. Modern economic theory and econometrics as formulated by Frisch, Tinbergen, Hicks, Allen, Chamberlin, Robinson, Keynes, Leontief, Samuelson and others, borrowed heavily from the disciplines of mathematics and statistics. Major innovations and new developments in economic theory were quickly integrated into the economics program at Iowa State.

The astute leadership of T. W. Schultz and the outstanding theorists and econometricians on staff helped to bring Iowa State "up to the minute". Some of the important Iowa State leaders in this transformation were George J. Stigler, Gerhard Tintner, William Nicholls, Kenneth Boulding, A. G. Hart and Leonid Hurwicz.

One of the most brilliant and creative innovators during this time was Gerhard Tintner. Tintner studied economics, statistics and law at the University of Vienna and
took his doctor's degree from that university in 1929. He joined the staff at Iowa State in 1937 where he remained until 1962. Tintner was hired to teach mathematical economics. While at Iowa State, he wrote prolifically on his pioneering work in the areas of econometrics, mathematical programming and mathematics and statistics for economists. By 1968, Tintner had published approximately 135 scientific papers and 9 books. New ideas, new articles, and new books reached Iowa State as fast as they reached Harvard because Tintner was the book review editor for *Econometrica*. Tintner is also remembered for his macabre sense of humor. According to Geoff Shepherd, Tintner's favorite remark after a PhD oral examination, when the candidate is called back in to hear the committee's final verdict, was to say "Congratulations: zey outvoted me."

William Nicholls was on staff from 1937 to 1944. He authored a book entitled *Imperfect Competition Within Agricultural Industries* in 1941. His book was an adaption of E. H. Chamberlin's theory of monopolistic competition to the agricultural sector.

Kenneth Boulding served on the Iowa State staff from 1943 to 1949. The Index of Economic Journals shows that Boulding published 8 articles from 1934 to 1939 and 18 additional articles from 1940 to 1949, nearly all on economic theory. Boulding received the John Bates Clark Medal of the American Economic Association in 1949, his last year at Iowa State.

A. G. Hart, also, was highly involved in the 1939 to 1945 economics revolution at Iowa State. During the 1940s, Hart published 11 articles, 7 of which were in the American Economic Review.

Leonid Hurwicz was an associate professor at Iowa State between 1945 and 1949. During this time he published three articles in *Econometrica*, one in the American

In 1937, the PhD program in general economics was established. The first PhD degree in general economics was conferred to Alison Comish Thorne in 1938. Thorne's dissertation entitled "Evaluations of Consumption in Modern Thought" was written under Elizabeth Hoyt. Thorne currently teaches part-time in the Home Economics and Sociology department at Utah State University.

Research activities and publishing increased dramatically under Schultz's leadership. In 1940, Schultz took on the editorship of the Journal of Farm Economics. He strongly encouraged staff members in the department to submit articles to the Journal. The frequency and the quality of the articles by Iowa State economists in the Journal brought quick national recognition to the quality of the program underway at Iowa State. The publication record at Iowa State is documented in this quotation taken from an informal report to Dean Andre by Karl Fox:

"One indication of the level of excellence which E. G. Nourse and T. W. Schultz established and maintained at Iowa State College is indicated by a summary of the articles published in the Journal of Farm Economics from 1919 through 1953. This journal has always been an official journal of the American Farm Economics Association and one with the highest prestige among agricultural economists. During that thirty-five year period Iowa State contributed 170 articles to the Journal of Farm Economics, standing head and shoulders above any other university. Its nearest rivals were Minnesota -- 126 articles -- University of California at Berkeley -- 125, the University of Wisconsin -- 120 and Cornell University -- 110."
Lauren Soth joined the economics staff in 1934. Soth was trained as a journalist and agricultural economist. He was responsible for starting the Iowa Farm Economist, which later became the Iowa Farm Science. He also published a Base Book of Iowa which contained the most important economic and statistical background data on Iowa; and also published and edited the Farm Policy Forum which discussed national agricultural policies. Soth’s publications had a wide circulation, reaching leaders inside and outside the state. In 1947, Soth left Iowa State taking the position of editor of the Des Moines Register editorial pages.

During WWII, Iowa State's economists began work on a series of eleven bulletins entitled Wartime Farm and Food Policy Pamphlets financed by the Rockefeller Foundation. This series of pamphlets, like the series of pamphlets during the Depression, identified the Economics Department at Iowa State as one of the foremost departments in the country.

Unfortunately the overall importance of the series is frequently overlooked because of the controversy generated by Bulletin No. 5 entitled Putting Dairying on a War Footing authored by Oswald Brownlee. There are three major points made in Bulletin 5. First, resources could be used more efficiently in the production of fats from soybeans than from dairy products. Second, in wartime, when labor is scarce, more reliance should be placed on vegetable fat production. Third, vegetable fats were near perfect substitutes for dairy fats. More specifically Brownlee argued "oleomargarine compares favorably with butter in nutritive value and palatability". The Bulletin goes on to charge that "in spite of the food value and efficiency of margarine, dairy interests have been rather effective in supressing its use".
The reaction to Bulletin 5 was highly antagonistic. The most discordant voice came from the dairy interests. The American Dairy Association distributed a poster asking if Iowa State supported "issues rocking the very foundation of diversified farming -- a system that has made America the food basket of the world". The dairy interests immediately demanded withdrawal of the controversial pamphlet, its repudiation by the college, and the immediate dismissal of the 5 faculty members who published it. The economics department, on the other hand, argued that while Bulletin 5 did contain sweeping statements and minor errors, its major conclusions were essentially accurate, honest and technically correct. Hence, Bulletin 5 became a nationally recognized controversy and a major problem for the college, especially for President Friley.

The resolution of the "butter-oleomargarine" controversy was not clearcut. In the rush to release the bulletins and the preoccupation of Schultz and Soth with wartime duties, Bulletin 5 was released with an unfortunate footnote stating that the supporting data came from certain projects of the Iowa Agricultural Experiment Station. According to standard procedures within the Experiment Station, publications by the Station must be reviewed by an Experiment Station review committee. The footnote within the bulletin implied that Bulletin 5 was an Experiment Station Publication; hence, subject to review internally prior to publication. But Bulletin 5 and all Bulletins in the series were financed by the Rockefeller Foundation and technically did not require internal review by the University. The dairy interests argued that Bulletin 5 was released incorrectly.

After a two-hour meeting with 100 dairy representatives in which Elizabeth Hoyt recalled one of the speakers at the meeting saying "Oleomargarine. What are we doing with oleomargarine? It can't be good, it isn't mentioned in the Bible," Dr. Friley suggested two committees be formed to "review this bulletin paragraph by paragraph to determine
by objective evidence the accuracy of its contents". President Friley named six faculty members to represent Iowa State in the the joint study on the controversial oleomargarine pamphlet. The committee consisted of Dr. Buchanan, director of the Agricultural Experiment Station; Professor Iverson, head of Dairy Industry Department; Dr. Murray of the Economics and Sociology Department; Dr. Nelson, head of the Foods and Nutrition Department; Dr. Schultz, head of the Economics and Sociology Department and Dr. Shepherd of the same department. Representing the Dairy interests were 6 members from various dairy associations.

In the end, the university capitulated; the bulletin was withdrawn, rewritten and re-released under the title Revised Bulletin 5.

In response to the university's decision Professor Schultz tendered his resignation on the grounds that the withdrawal and subsequent revision of Bulletin 5 restricted academic freedom. In 1943 Schultz joined the staff at the University of Chicago. The Bulletin 5 incident and Schultz's resignation prompted a mass resignation one year later by A. G. Hart, Walter Wilcox, Bill Nicholls, Margaret Reid, John Hopkins, Rainer Schikele, D. Gale Johnson, Oz Brownlee and Arthur Bunce.

Subsequent review of the case by Iowa Civil Liberties Union found no violations of academic freedom but still a heavy cost had been exacted upon the department. According to relevant Iowa State College catalog information, approximately 50 percent of the staff with ranks of instructor to professor were lost between 1943 and 1944 as a result of the 'oleo-butter' controversy and the war. Also, there was a sharp cut in the department's budget.

But the department's solid foundation and long-established tradition of excellence in economics withstood the storm. In 1943 William Murray was appointed department
head by President Friley. Murray received his Master's Degree from Harvard in 1925 and his PhD degree from the University of Minnesota in 1931. Dr. Murray was also well recognized in the field of research. He had authored two textbooks and collaborated on two others. His books focused on farm appraisal and management, agricultural finance and land problems and policies.

Murray had a formidable task ahead of him -- he had to rebuild the department, and divert attention away from the past problems and redirect it to more productive ends. The first issue at hand was how to rebuild the staff. Margaret Reid of the economics department suggested rebuilding from within. She argued that "there was nothing unusual about eminent people departing from departments. How else could younger men and women develop? Grow your own." Murray concurred and urged Friley to accept a "grow your own" strategy. In the end, Friley said "rebuild the economics department around Murray, Shepherd and Hopkins". The home-grown approach served the department well; with a few newly hired staff members and the already hired staff the department developed to mature stature at Iowa State and carried Agricultural Economics to the preeminent position it now holds.

One of the key players in this time of rebuilding was Earl O. Heady. Heady attended the University of Nebraska where he received BS and MS degrees. He arrived at Iowa State University in 1940 with a full-time job as instructor and intentions to earn a PhD. Five years later, he received his doctorate. He became a full professor in 1949 having developed a strong research program with a large graduate student following. He has developed into one of the most distinguished agricultural economists in the world. Two years after receiving his PhD, Heady was senior author of 30 American Farm Economic Association papers and Iowa Agricultural Experiment Station bulletins, and 11
of those included junior authors from other Iowa State University departments. The outstanding achievement by the department during the period 1943 to 1955 was, in large part, a result of Heady's progress in publications, research and teaching. He quickly established a reputation as an outstanding scholar in the areas of Production Economics, Linear Programming and problems of Agricultural and Economic Adjustment. In his career, Heady wrote or co-authored 21 books and over 800 journal articles. Heady received numerous international awards and honors. For example, he was elected to the Soviet Academy of Agricultural Sciences.

A living testament to Heady's work has been the Center for Agricultural and Rural Development, established in 1957 by the Iowa Legislature. During its twenty-eight year history, the center has produced valuable analyses for American leaders and helped to train hundreds of economists. It has helped farmers, rural communities, governments and businesses adjust to the changes in agricultural productivity and technology.

Geoff Shepherd joined the economics department in 1925 as a research assistant and was named professor in 1943. Shepherd received his Master's Degree from Iowa State in 1925 and took his PhD from Harvard in 1932. In the 40 years Shepherd was on staff, he earned an international reputation in the field of farm marketing, farm prices and price policy. He was a productive scholar, researcher, teacher and government servant. During his career, he authored 5 books and over 200 scientific papers.

John Timmons was hired by Murray in 1946. Timmons' specialty was land economics. Timmons received his PhD from the University of Wisconsin in 1945. By the age of 34, John Timmons was regarded as one of the outstanding land economist in the United States. Since the 40s, Timmons has focused his research on soil conservation,
water quality and land use problems at the international level. He has published over 140 articles, bulletins, monographs and books on national resource issues.

Karl Fox was appointed head of the Economics Department in 1955. Fox graduated from the University of Utah in 1937 with a BA in English and minor in Mathematics. He received a Master's Degree in Sociology from University of Utah in 1938 and his PhD in Economics from University of California at Berkeley in 1954. Prior to joining the staff at Iowa State he worked for the War Food Administration during WWII and later he became head of the Division of Statistical and Historical Research of the Bureau of Agricultural Economics in the USDA. In 1954 and 55, Fox was the USDA representative on the President's Council of Economic Advisors. During his career, Fox has achieved world wide renown for his work in the areas of statistics and policy analysis.

During Fox's 17 years of leadership, the department experienced many significant changes. First, in 1957, the Iowa Legislature appropriated $100,000 to establish the Center for Agricultural Economic Development, later renamed Center for Agricultural and Rural Development, and more commonly known as CARD. The center was guided by Earl Heady for over 25 years.

Fox secured a larger budget and increased the staff in general economics. From 1955 to 1971, there was almost a 100 percent increase in the economics staff. The number of full professors increased from 17 to 40.

Official registrar enrollment data shows that undergraduate enrollment in the economics department increased by approximately 160 percent during this period. Furthermore, nearly 85 percent of the PhD and approximately 60 percent of MS and BS degrees awarded by the department have been granted since Karl Fox joined the staff in 1955.
Prior to 1966 Sociology and Economics were united in one department located in East Hall. Fox labored to create two separate administrative units, and in 1966 the official separation occurred. And, on the sixty fifth anniversary of the economics department, the new building, East Hall addition was completed and occupied by the department.

Fox resigned his position as department head in 1971. Raymond Beneke was named department chair in 1972. Beneke received his BS and MS degrees at Iowa State and his PhD from the University of Minnesota in 1949. He joined the Iowa State University faculty in 1948 as an assistant professor and attained the rank of full professor of economics in 1959.

After joining the Iowa State staff, Beneke immediately began a research and teaching program focusing on farm management and production economics.

Ray Beneke has a reputation of being a leader and outstanding professor in agricultural economics teaching, advising and applied research. He was one of the principal staff members responsible for organizing the Agricultural Business curriculum in 1953. The rapid growth in this curriculum has frequently been attributed to Beneke's effective teaching and advising. His outstanding teaching was recognized in 1968, when Beneke was one of the first recipients of the Distinguished Undergraduate Teaching Awards awarded by the American Agricultural Economics Association. Beneke also wrote two books and one manual on farm management for undergraduates. In addition, he has published over 30 journal articles, notes, experiment station bulletins and reports.

Also, Beneke has been keenly interested in the international aspects of agricultural economics. While he was Department chair, Iowa State took on research projects in Thailand, Indonesia, Zambia, and Peru.
As the department grew in number and stature, there was a corresponding increase in administrative and clerical details and responsibilities. This void was filled by an ever-growing competent clerical staff and the appointment of an administrative assistant. In 1959, Karl Fox hired Wesley Ebert as his Administrative Assistant. Ebert remained in that capacity for twenty-five years. While administrative assistant, Ebert's efficiency, dedication, and conscientiousness facilitated the growth of the department and relieved the chairman from much of the everyday worries of the department.

During Beneke's tenure, the department also made major technological advancements. For instance, the first micro computer was purchased, word processing was introduced and the mini-computer lab was established.

The Cooperative Extension program has also been very active over the years. Extension economists have offered special assistance to the State of Iowa for over 80 years. Some of the key extension economists include Wallace Ogg, Herbert Howell, Francis K. Kutish, I. W. Arthur and Gene Futrell. Extension services include educational programs on farm and business management; applied research on retail trends, land values and farming practices; and the provision of up-to-date information on prices, price relationships and economic trends. A very important extension project has been the broadcast of market information over the Iowa State University-owned radio station, WOI. Iowa State pioneered farm market reporting in 1922. At that time, market reports came in by Morse code and were transmitted by voice over the radio. Since 1943, market reports have been skillfully and professionally reported by R. C. Bentley and Dallas McGinnis.

In 1982, East Hall Addition was dedicated in honor of Earl O. Heady. At that time, the department was represented by a staff of 60 professors, and 100 graduate student
teaching and research assistants. Undergraduate economics and agricultural business majors numbered almost 800 and the graduate population neared 200. In a matter of roughly 100 years, the department experienced a 5000 percent increase in its faculty. Also, there have been dramatic increases in the number of undergraduate and graduate degrees conferred by the department. Research activity has flourished and the field of study now encompasses a wide range of state, regional, national, and international problems.

The economics department at Iowa State holds a respectable rank among the leading universities of the United States thanks to the astute and skillful leadership of the department heads, the brilliant and innovative scholars comprising its faculty over the years, and the dedication and conscientiousness of the administrative and clerical staff. The economics department's reputation for excellence in educational instruction and research stands as a tribute to its founding scholars.

On July 1, 1984, Dennis Starleaf became Chair. He brings years of experience and a broad perspective of the economics profession to his new role. Current generations of Iowa State scholars and students of economics under his leadership will strive for even higher levels of excellence and achievement.