

Entrepreneurship and Transition in Agriculture: Imagining the Future

Vincent Amanor-Boadu, PhD¹

Abstract

This paper explores the meaning of entrepreneurship and its role in enhancing competitiveness and managing transition in the agricultural sector. It argues that the farm income situation will remain unsolved as long as all producers choose to follow the same strategy of specialization and scale economies. The paper provides a solution to the farm income problem by suggesting the adoption of an entrepreneurial mindset among producers, where they choose to profit from taking advantage of uncertainty. Finally, the paper provides a model for searching for opportunities and bringing them to market successfully.

Introduction

Farmers and ranchers in the business of agriculture are very familiar with the problems, threats and challenges that confront them. They are aware that average age of producers is increasing. They are aware of the changes in public policies directly affecting their operations and challenging them to seek new approaches to their businesses. They are aware of changing international trade conditions and global geopolitical structures which are introducing significant downward pressures on their prices, enterprise portfolio and business performance (Burfisher, 2004). Particularly in the Great Plains, farmers and ranchers in the business of agriculture are aware of their location limitations, e.g., their remoteness from metropolitan areas and high population centers and their lack of natural amenities that offer alternative enterprises (McGranahan, 1999).

Amid these challenges, threats and problems are farmers and ranchers who are effectively positioning themselves to perform better than the average. They are developing innovations in their production processes, their marketing activities and their operational systems. Oregon-based Stahlbush Island Farms (www.stahlbush.com), for example, has integrated forward, adding value to its “organic” and “sustainable agriculture” fruits and vegetables through processing and marketing in sixteen international markets. Similarly, Kansas-based Smoky Hill Vineyards and Winery (www.kansaswine.com) has transformed a grape growing activity into entertainment by hosting wine master’s dinners that draw guests from Colorado, Nebraska and Oklahoma. A small dairy farm in Washington, Pennsylvania, owned by the Minor family, has transformed itself from shipping its milk to dairies into making ice cream and cheese on its farm premises, and serving them in its family-style restaurants. In all cases, the farmers are focusing on extracting the highest value from their products even as they train their eyes on the specific market gaps they are filling.

¹ The author is the Director of the Ag Innovation Center and an Assistant Professor in Agribusiness Management, Department of Agricultural Economics, Kansas State University. He may be reached by email at Vincent@agecon.ksu.edu or by telephone at (785) 532-3520.

These innovative approaches to doing business in the agriculture sector are not limited to these highly differentiated and branded products. Many farmers and ranchers in the business of agriculture are competitive in the commodity marketplace. Rich Porter has been effectively running cattle in the Flint Hills of Kansas using as much knowledge and science as possible to minimize his production and operations cost while Jay Armstrong of Armstrong Farms in Muscotah, Kansas, has focused on production process efficiency to sustain his competitiveness in grain and oilseed commodities. Bestifor Farms in Belleville, Kansas, operated by Thayne Larson, is focusing on increasing and sustaining market share by enhancing customer service in the alfalfa hay market.

This paper discusses the importance of entrepreneurship in navigating the increasingly treacherous terrain of this business of agriculture. It argues that by consciously enhancing their entrepreneurial mindset, farmers and ranchers in the business of agriculture can effectively deal with the farm income situation. Hence the motivation of this paper is to provide a better understanding of the entrepreneurial process so that agricultural producers can effectively enhance their entrepreneurial mindset. The paper's objectives are two-fold: (1) Provide a clear explanation of entrepreneurship and the role of the entrepreneur in the creation of new wealth; and (2) Provide a process for enhancing entrepreneurial mindset in the agricultural industry.

Entrepreneurship and Entrepreneurs: A Review

Classical economics tasked itself with understanding the creation and distribution of wealth in the economy. That our capitalist economic system is characterized by private ownership of resources allows classical economics to contribute to explaining the role of the entrepreneur as an economic agent. For classical economists, such as Smith (2003) and Say (1981), the entrepreneur is involved with the production and distribution of products and services as well as wealth creation. The entrepreneur emerges under the classical school as an arbitrageur who exploited the imperfect information in the market to create wealth. As an arbitrageur, the entrepreneur capitalized on superior use of information to differentiate products on the basis of time, location or form and features. For example, classicists considered the person who purchased a commodity product and stored it to sell at a different time or transported it to a location of short supply and high demand as an entrepreneur. Similarly, they considered the process of transforming a commodity product by increasing its features as entrepreneurial. For the classicists, then, entrepreneurship involved the creation of positive value, V_i , defined as the difference between the price they receive in the market, P_1 , and the price everybody else receives, P_0 and the cost of arbitrage, k . That is, $V_i = P_1 - P_0 - k > 0$. The entrepreneur, for the classicist, focused on maximizing the value of V_i through the maximization of P_1 and minimization of k .

Classical economics gave way to neoclassical economics in the last quarter of the 19th century with the works of such economists as Leon Walras (1954) and Alfred Marshall (1997). Neoclassicists aimed to create a mathematically predictable model of the economy using some very stringent assumptions. For example, they assumed that the market was made up of many sellers and many buyers and none of them could influence the outcome of the market independently. They also assumed perfect information, available to all participants in the market who used it equally efficiently in their decision making processes. Given these assumptions, neoclassicists were able to develop an

elegant behavior of the economy, suggesting a market-clearing price at which the economy for every commodity was in equilibrium in terms of supply and demand. Generally, this is true for most agricultural commodities which are traded as homogeneous products and their markets, e.g., Chicago Mercantile Exchange, work hard at maintaining them so.

The absence of information gaps and the presence of homogeneity of all economic agents caused the entrepreneur to become irrelevant in neoclassical economics. That is, with perfect knowledge about the present and the future about all activities in the market, everyone knows which offer is best, and competition ceases, and a stable equilibrium persists. Any departure from this equilibrium, according to neoclassicists, is an aberration requiring an intervention. Similarly, any attempt for any economic agent to gain a superior position in the market is as an anomaly requiring a quick correction. Neoclassical economics continues to be a major economic school, influencing the development of many economic policies. Its attractiveness lies largely in its *mathematical neatness*. However, the elegance of mathematical rigor under neoclassical economics is maintained at the cost of incomplete understanding of how *real* wealth is created and distributed.

A group of economists emerged in Austria in the early part of the 20th century, challenging the over-dependence of neoclassical economics on mathematical rigor and the associated simplicity of its assumptions. On a broader scale, the Austrian School of economic thought argued that human actions are too complex to be reduced to mathematical equations and proposed the study of human economic activities and relationships through introspective process called praxeology.² In this sense, Austrian economists accused neoclassicists of treating economic behavior and outcomes as they *should be* instead of as *they are*. They argued, among other things, that entrepreneurship was far too important to be ignored for the sake of predictability through mathematical rigor. Ludwig von Mises (1996, p. 248) makes this point in his book, *Human Action*:

For it is impossible to eliminate the entrepreneur from the picture of a market economy. The various complementary factors of production cannot come together spontaneously. They need to be combined by the purposive efforts of men aiming at certain ends and motivated by the urge to improve their state of satisfaction. In eliminating the entrepreneur one eliminates the driving force of the whole market system.

On the question of who the entrepreneur is, von Mises argues that economic theory does not perceive the entrepreneur as a person, but as an “embodiment of distinct functions in the market” (p. 252). He referred to these distinct functions as *catallactic* categories. Within the context of catallactic theory, then, the term ‘entrepreneur’ refers to an economic agent exclusively within the context of uncertainty inherent in the market environment and in every action of the entrepreneur. In using the term ‘entrepreneur,’ he reminds us to “never forget that every action is embedded in the flux of time and

² Praxeology is the science of human action and is fundamental in the work of Ludwig von Mises, a leading member of the Austrian School of economic thought. In his attempt to find the conceptual root of economics, von Mises, like other Austrian and classical economists, rejected the use of observation, saying human actors are too complex to be reduced to their component parts and too self-conscious for their behavior to be immune to observation. Hence, according to praxeology, because human action is not natural science, observation of human action or its extrapolation from historical data, would always be contaminated by overlooked factors in the way that the natural sciences would not be.

therefore involves a speculation” (p. 253). This is because the inability to know the future suggests that every action is conceived of and executed under uncertainty, thereby making each actor a speculator. In essence, von Mises and the Austrian scholars believed and accepted uncertainty and the resultant effects of speculation as integral components of the economy. From this discourse, the working definition of the entrepreneur we get from the Austrian scholars is this: those especially eager to profit by adjusting production to the expected changes in conditions, those with more initiative, more audacity, a quicker eye than others, the pushing and promoting pioneers of economic improvement.

Unlike the arbitraging entrepreneur who benefited mainly from imperfect information, the Austrian entrepreneur is presented as more active in the search for opportunities, actively speculating on future conditions and adjusting production to meet such conditions and audaciously promoting economic activities that created value to himself and in the economy as a whole. According to Kirzner (1973), entrepreneurship is more than the possession of knowledge of price differences because such knowledge can be acquired in the market by hiring someone who has it. The person who does the hiring is the entrepreneur. Also, the hiring of people with the knowledge can be hired (e.g., to someone skilled in human resources management), in which case the one who hires the hirer is the entrepreneur. The Austrian entrepreneur, then, is the one who spots the opportunity that engenders the aggregation of resources to produce a product or service. The Austrian entrepreneur transforms uncertainty into an ally in the creation of new wealth (McGrath and MacMillan, 2000).

Joseph Schumpeter (1934) presented another perspective of entrepreneurship by linking the entrepreneur not only to uncertainty, but to innovation. Schumpeter’s entrepreneur has the function of reforming or revolutionizing the patterns of production by exploiting inventions or untried technological possibilities for producing new products or producing old ones in new ways. In his book, *Capitalism, Socialism and Democracy* (1950), Schumpeter makes the case for entrepreneurs to *creatively destroy* existing processes and introduce new processes from which they can depose incumbent dominant players. Schumpeter (1950, p. 83) observes that:

The opening up of new markets, foreign or domestic, and the organizational development from the craft shop and factory to such concerns as U.S. Steel illustrate the same process of industrial mutation — if I may use that biological term — that incessantly revolutionizes the economic structure *from within*, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism. It is what capitalism consists in and what every capitalist concern has got to live in. [Emphasis Schumpeter’s]

Unlike the Austrian scholars, Schumpeter did not believe that entrepreneurship was inherent in all humans. Indeed, he notes that only a few people are endowed with the ability to act with confidence under uncertainty and the ability of these people to resist the urge to play it safe, so to speak, defines the entrepreneurial type as well as the entrepreneurial function. This entrepreneurial function, Schumpeter observes, “does not essentially consist in either inventing anything or in otherwise creating the conditions which the enterprise exploits. It consists in *getting things done*” (1950, p. 132).³ Schumpeter (1939) explicitly defines entrepreneurs as individuals who carry out innovations. It is this perspective of entrepreneurs that led Drucker (1993) to insist that

³ Emphasis mine.

Schumpeter believed that innovation – i.e., moving resources from old and obsolescence to new and more productive employments – is the very essence of economics, and most certainly of a modern economy.

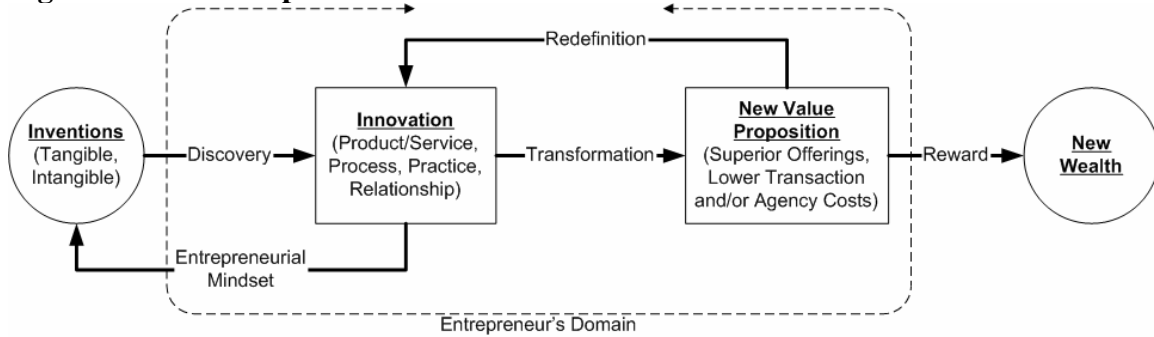
Innovation, then, is a fundamental requisite in Schumpeterian entrepreneurship because it erodes the position enjoyed by incumbent firms and creates new opportunities in the market. Successful innovations alter the status quo in the market by recombining resources to create new products or services, develop new processes and practices and/or build new relationships. Entrepreneurs who are able to bring such innovations to market create new demands for the products or services or make new value propositions to existing customers to shift them from incumbent suppliers permanently. These activities happen at the microeconomic level instead of the macroeconomic level through policies. This prompted the *Economist* magazine (October 7, 2000, p. 21) to observe thus:

If the past century of economic policymaking has taught us anything, it is that achieving strong long-term growth often has less to do with macroeconomic policies than with good microeconomics, including fostering competitive markets that reward innovation and restricting government to only a limited role.

Like the Austrian entrepreneur and the arbitraging entrepreneur, Schumpeterian entrepreneurs exploit uncertainty and asymmetric information in their attempts to bring innovation to market (Figure 1). They consistently search for inventions, be they tangible (such as products) or intangible (such as patents and intellectual property), that they can combine with other resources to create innovations that are exploitable in identified markets. Entrepreneurs who develop the skills and capabilities of an entrepreneurial mindset dwell in the discovery space, constantly looking for new discoveries that could lead to *new* innovations. They transform innovations they discover into value propositions superior to those offered by incumbents in their selected markets. These may be related to presenting customers with new offerings or reducing or eliminating certain transaction and/or agency costs associated with the exchange. If their value proposition is indeed superior to that which exists in the market, then they will be rewarded with new wealth. Monsanto exploited biotechnology and recombined its resources to create Bt Corn and Roundup-Ready soybeans, and presented a superior value proposition to corn and soybean producers, i.e., they could reduce their pesticide use in the case of Bt Corn and reduce their pesticide slate in the case of Roundup-Ready soybeans. That this value proposition resonated with producers is reflected in the adoption rates of both products: Bt corn acreage reached 32 percent of total planted acreage and Roundup-Ready soybeans reached 85 percent in 2004 (Fernandez-Cornejo, 2004).⁴ The same is true of Stahlbush Island Farms' offering of organic and sustainable agriculture products to its customers are superior value propositions for which it is rewarded with higher prices and higher volumes. It is also true for Bestifor in its operations of supplying chopped up hay to the specification of customers. As long as Monsanto, Stahlbush Island Farms and Bestifor are able to transform these rewards into wealth, then they have been successful.

⁴ Monsanto Corporation is not the sole player in this market although it was one of the first movers in herbicide-tolerant and Bt crops.

Figure 1: The Entrepreneur's Domain



It is also a characteristic of good entrepreneurs to determine when their value proposition is inferior. This allows them to step back and redefine it or develop a new transformation process for the innovation. This happened in the case of Coca-Cola's disastrous introduction of its New Coke in 1985 to replace its traditional Coca-Cola because of taste tests that suggested a preference for "sweeter cola" by cola drinkers. After realizing the innovation failed to present a superior value proposition to its customers, the company pulled back the new product immediately and re-introduced the old product, calling it Classic Coke.⁵

Deciphering Innovation

We have argued that the entrepreneur's domain stretches from the continuum where a discovery occurs through the development of innovation and its transformation into new value propositions that are superior in some form to existing ones in the market. This construction of the entrepreneur's domain facilitates a routinization of the entrepreneurial process and function by delineating the activities involved in entrepreneurship. From the foregoing, it is evident that we take inventions as a given in the economy. This is a deliberate effort to distinguish the inventor from the entrepreneur in Schumpeterian tradition. Invention is, in its very lay terms, a new device, material or technique or process. Inventions are argued to emerge out of necessity – as in "Necessity is the mother of invention." Another school of thought argues that inventions are a by-product of excess resources. Regardless of how they emerge, inventions do not necessarily have practical applications or lead to any beneficial outcomes either for the inventors or society. Thus, while an invention is merely theoretical, an innovation is an invention that has been put into practice.⁶ It is the discovery of inventions that may be put into practice, and not the inventions themselves, which is of interest to the entrepreneurial process and function, hence the delimitation of the entrepreneur's domain (Figure 1).

Amabile et al. (1996, p. 1154-1155) defined innovation in its relation to creativity: "All innovation begins with creative ideas...creativity by individuals and

⁵ For more on the New Coke story, see Oliver (1986).

⁶ Unlike business and economics, social anthropology views innovation as anything new to a culture. The innovation does not need to have been adopted. This definition of innovation is reflected in Everett Rogers (1962) book, *Diffusion of Innovation*, in which he classified adopters of innovation into five categories: innovators, early adopters, early majority, late majority and laggards.

teams is a starting point for innovation; the first is necessary but not sufficient condition for the second” (p. 1154-1155). Schumpeter (1934, p. 66), on the other hand, presents a definition of innovation that embodies his concept of “carrying out new combinations,” which is defined to cover the following five cases:

- (1) The introduction of a new good—that is one with which consumers are not yet familiar—or of a new quality of a good. (2) The introduction of a new method of production, which need by no means be founded upon a discovery scientifically new, and can also exist in a new way of handling a commodity commercially. (3) The opening of a new market, that is a market into which the particular branch of manufacture of the country in question has not previously entered, whether or not this market has existed before. (4) The conquest of a new source of supply of raw materials or half-manufactured goods, again irrespective of whether this source already exists or whether it has first to be created. (5) The carrying out of the new organization of any industry, like the creation of a monopoly position (for example through trustification) or the breaking up of a monopoly position.

We argue that innovation is the process and the result of discovering and implementing an invention.⁷ The discovery process is enhanced by the development of an entrepreneurial mindset (McGrath and MacMillan, 2000) and the implementation process and outcomes are influenced by the skills and capabilities of the entrepreneur to recombine resources to create superior value propositions. We can classify innovation into three distinct categories: (1) Product innovation; (2) Process innovation; and (3) Organizational innovation. The nature and characteristics of the different innovation categories are presented in Table 1.⁸

Table 1: Classification of Innovations

Innovation Category	Description
Product Innovation	Introduction of a new and/or substantially improved product or service. The newness and improvements may involve technical and use functionality.
Process Innovation	Implementation of new and/or significantly improved processes in the value chain of the organization (inbound logistics, processing or manufacturing, outbound logistics, marketing and sales, and customer care).
Organizational Innovation	Creation of new organizations, relationships, business practices, and/or ways of managing and/or leading organizations. Organization innovation tends to be intangible but nonetheless create disruptions in the marketplace as product, process and marketing innovations.

Christensen (1997) and Christensen and Raynor (2003) presented a classification of innovations according to their impact on the market: (a) sustaining innovation; and (b) disruptive innovation. Sustaining innovations are incremental improvements in existing value propositions that sustain the competitive advantage of the firms undertaking them

⁷ See Figure 1 above.

⁸ This classification combines (2), (3) and (4) of Schumpeter’s definitions to form process innovation.

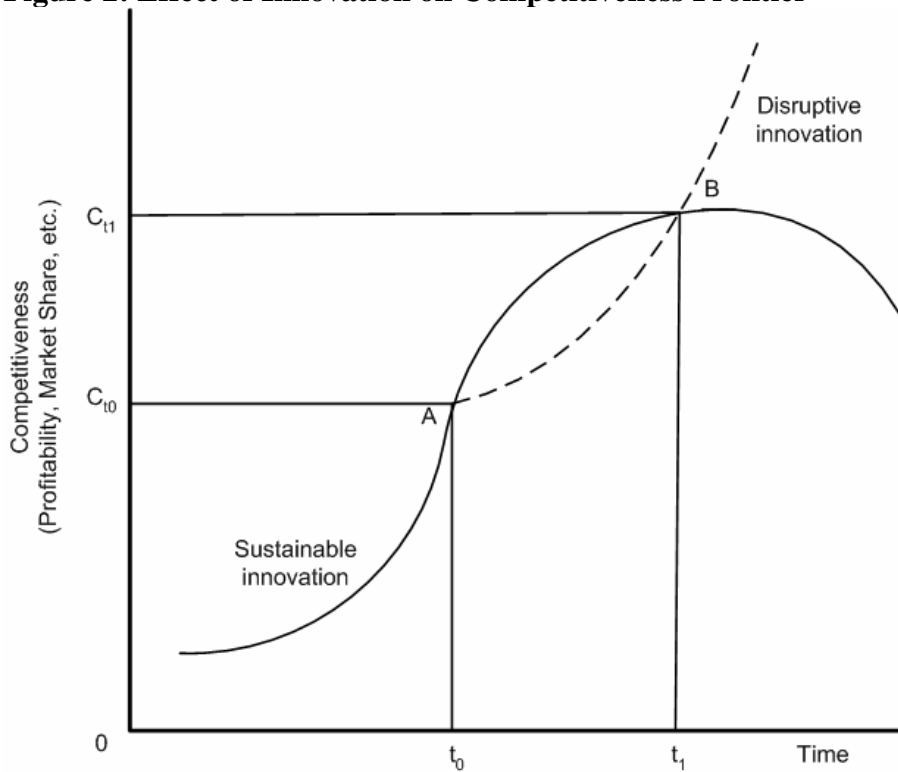
without any radical change in the nature and performance of the industries they operate in. Disruptive innovations, on the other hand, alter the nature of the markets and industries and engender new sources of competitive advantage for the firms implementing them. These innovations create new tangents of operation on the competitiveness frontier for the implementing firm in its industry.

Figure 2 illustrates the effects of sustaining innovations and disruptive innovations on the competitiveness frontier for a firm. The figure shows that at the onset of new innovation, a firm can rapidly increase its competitiveness for a long time as long as it maintains a sustaining innovation alertness, i.e., ensure that its products, processes and organization are performing as well as its competitors'. However, as other firms in the market continuously innovate in their search of their incremental competitive advantage, the firm's ability to improve its competitiveness (create new wealth) increases only at a declining rate, until it becomes negative because of various factors, such as maturity of the market and migration of value. Firms that are vigilant about changes in the munificence of their environment constantly evaluate the impacts of these changes on their competitiveness growth rates.⁹ The lack of such vigilance explains the downfall of many companies that were pioneers in their industry, e.g., Sears in the retail industry, IBM in the computer industry and General Motors in the automobile industry. In the figure, the decline in the growth rate begins around point A in time t_0 when competitiveness is estimated at C_{t_0} . Because competitiveness is still growing, many firms are unable to establish the need for disruptive innovations at t_0 . This difficulty is exacerbated by the fact that the introduction of disruptive technologies at this point may actually lead to a reduction in competitiveness.¹⁰ The courage to endure the risk of this reduction in competitiveness (the period between t_0 and t_1) with a confidence that the superior growth rate engendered by the innovation will generate a new competitiveness frontier is the differentiating resource of entrepreneurs. Indeed, Schumpeter (1950) identified this courage to endure uncertainty and resistance to "play it safe" as the definition of the entrepreneurial type and entrepreneurial function.

⁹ Indeed, the growth rate of competitiveness is more important than the level of competitiveness in an uncertain environment – the sort that provides the fermenting ground for entrepreneurial activity – as an indicator of changes in the environment.

¹⁰ Christensen (1997) refers to this reduction in competitiveness resulting from the introduction of a disruptive innovation as the "innovator's dilemma."

Figure 2: Effect of Innovation on Competitiveness Frontier



From the foregoing, it is obvious that the fundamental role of innovation is a primary competitive weapon. However, for firms to successfully use this to achieve their competitiveness objectives, it is important for innovation to be routinized so that it is transformed “from a sequence of fortuitous occurrences into a businesslike activity that can be relied upon and is reasonably predictable” (Baumol, 2002, p. 55). The routinization Baumol talks about relates to the process of embedding the innovation process in firms’ strategic planning. This often occurs in larger firms, and may seem to suggest that such innovations are the most important. However, he is quick to point out that most of the revolutionary innovations have emerged from independent innovators or entrepreneurs. But as a process, Baumol argues that once an innovation achieves its objective of creating new wealth, it transforms the independent innovator into an “organization” that must, by default, routinize its innovations to ensure its ability to sustain its competitiveness and possibly create disruptive innovations.¹¹

Innovation ceases to be innovation once it has been implemented. For this reason, innovation is said to be “a heterogeneous product par excellence” (Baumol, p. 58). That only one unique innovation has contributed to the difficulty economists have had formalizing it into economic theory. The entrepreneur is the one engaged in innovation, causing bold and imaginative deviations from established business patterns and processes, invading new markets and creating new organizational forms. The essence of innovation in the sense as it relates to the entrepreneur is to facilitate the creation of new wealth.

¹¹ For an extensive discussion of the effect of successful innovation on the entrepreneur’s evolution, see Gifford (1998).

The Farm Income Situation within the Context of Entrepreneurship and Innovation

The author conducted a survey of attendees at an agritourism conference in Great Bend, Kansas in November 2004. The conference was attended by mostly farmers and ranchers from Kansas and neighboring states. Seventy-eight percent of respondents agreed or strongly agreed with the statement “Farming and ranching alone are not generating enough income to make a living nowadays.” This compared with 66 percent of respondents agreeing or strongly agreeing with the statement “My interest in agritourism is driven by my need for a new income sources.” For the people responding to this survey, it was obvious that there was a greater agreement on the farm income situation than about their interest in agritourism.

The USDA reports that the well-being of farmers has been increasing relative to the non-farm, but as many farm operators and their spouses work off-farm as neither working off-farm. The principal reason for off-farm work reported by both operators and spouses was to increase income available to the household and family. The data shows that few families depend on farm income as a major source of income. Herein lies the farm income situation – i.e., inability of the farm business to generate the necessary income to support the lifestyle producers want for themselves and their families. USDA data shows that while the share of total household income accounted for by off-farm income has been fluctuating, it has been on the increase since about 1960 when they began tracking the data. Figure 3 shows that it increased from about 53 percent in 1960 to more than 90 percent in the early part of the 2000s. Thus, farm families are increasingly meeting their cash needs by working off the farm. USDA survey reports that farmers work in a wide variety of areas off the farm: about half of spouses working off-farm reported administrative or professional types of employment, with another 23 percent reporting technical jobs or self-employment.¹²

How serious is the farm income situation? We compared the trend in real net farm income (without government support) to the trend in the real gross domestic product of the total US economy from 1929 to 2004.¹³ We did this comparison using their 1960 values as reference points, i.e., we set 1960=100. Figure 4 shows that the general economy grew from 35 percent of its 1960 value (\$2.5 trillion) in 1929 to 430 percent of its 1960 value in 2004. However, real net farm income in 1929 was the same in 1960 and was 69 percent of the 1960 value (\$50 billion) in 2004. This implies that while the general economy was growing at about 3.65 percent per annum from 1929 to 2004, real net farm income was declining at an average annual rate of about 0.7 percent. The complexity of the farm income situation for rural communities is embedded in its effect on the sector’s competitiveness in attracting investments, talent and leadership. This challenge is a real for many rural communities across the United States.

¹² For a full discussion of the farm see “Farm Income and Costs: Multiple Well-Being Measures,” available at <http://www.ers.usda.gov/briefing/farmincome/farmchoices.htm>.

¹³ Real GDP and farm income are chained 2000 dollars.

Figure 3: Share of Total Farm Household Income Accounted for by Off-Farm Income (1960 - 2004)

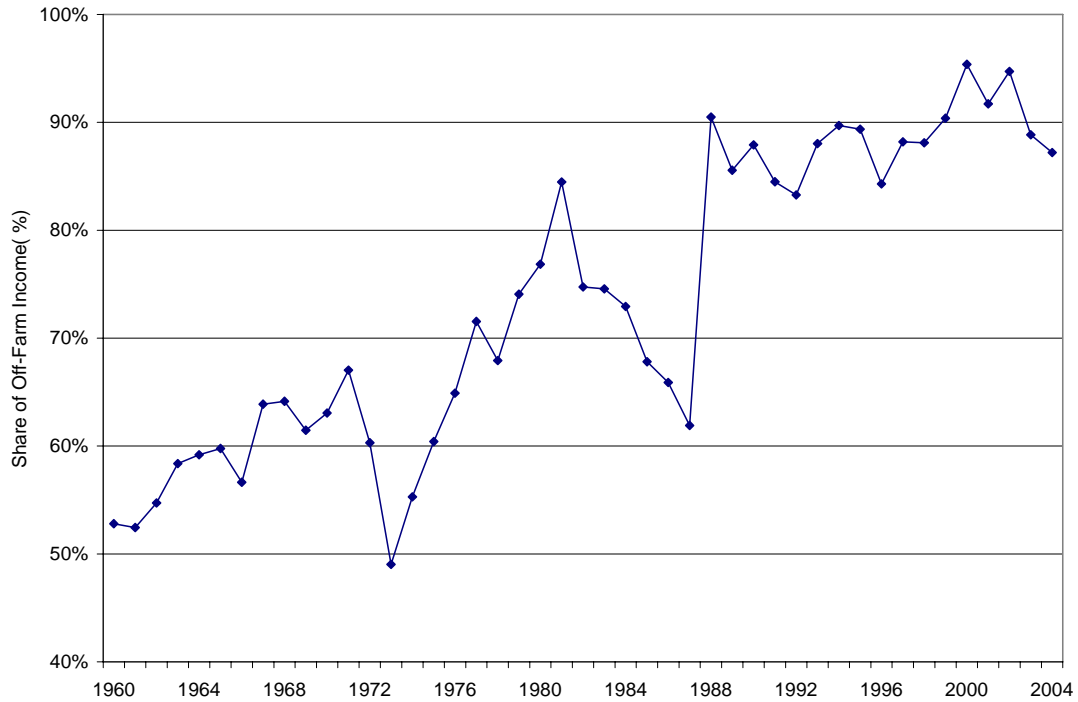
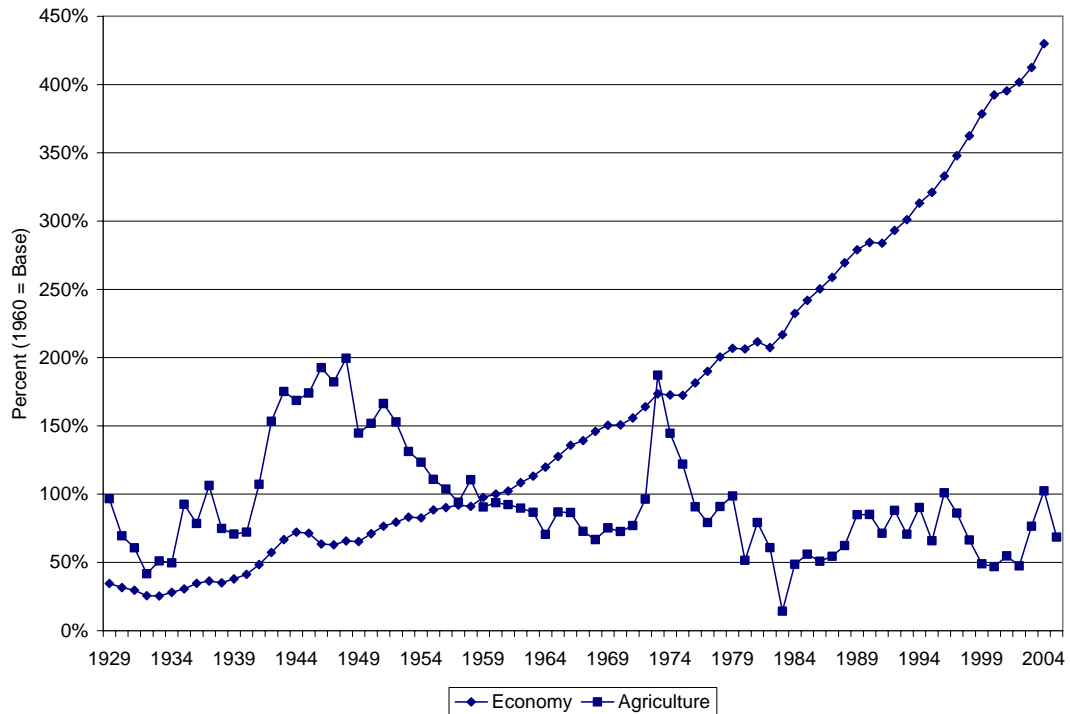


Figure 4: Real Net Farm Income and Real GDP in 2000 Dollars Using 1960 as Reference (1929 - 2004)



Many economists look at the farm income situation from a cost perspective. The argument is that since agricultural products are commodities, the best way to increase one's competitiveness is to extract the benefits of scale economies and of specialization. If only one producer or only a few producers did this, this strategy might work. This advice has been followed by the industry because the average farm size in the US increased from about 146 acres in 1900 to 441 acres in 2000-2002 and the average number of commodities produced per farm declined from 5.1 to 1.3. The broad adoption of the strategy reflects its high inimitability. Therefore, the strategy presented little or no competitive advantage to producers (especially those expanding late) because any benefits emanating therefrom are quickly bid away through competition. For a strategy to produce sustained competitive advantage, it must be at least inimitable and unique. There is no uniqueness (adoption barriers) about specialization and expansion as long as the individual can acquire the appropriate capital.

Rick Kash (2002), in his book, *The New Law of Demand and Supply*, provided a neoclassical economic explanation to why economies of scale fail as a strategy in commodity markets. The problem, Kash notes, lies in demand: although average costs may decrease because of an expansion, as long as the reduction in price resulting from a shift in supply is not accompanied by a larger or equal shift in demand, revenues are bound to decline. If the decline in revenues exceeds the decline in average costs, profits will go down. This is the dilemma of many producers: the larger their operations become, the lower their realized profits. It is not their fault; it is the nature of the market!

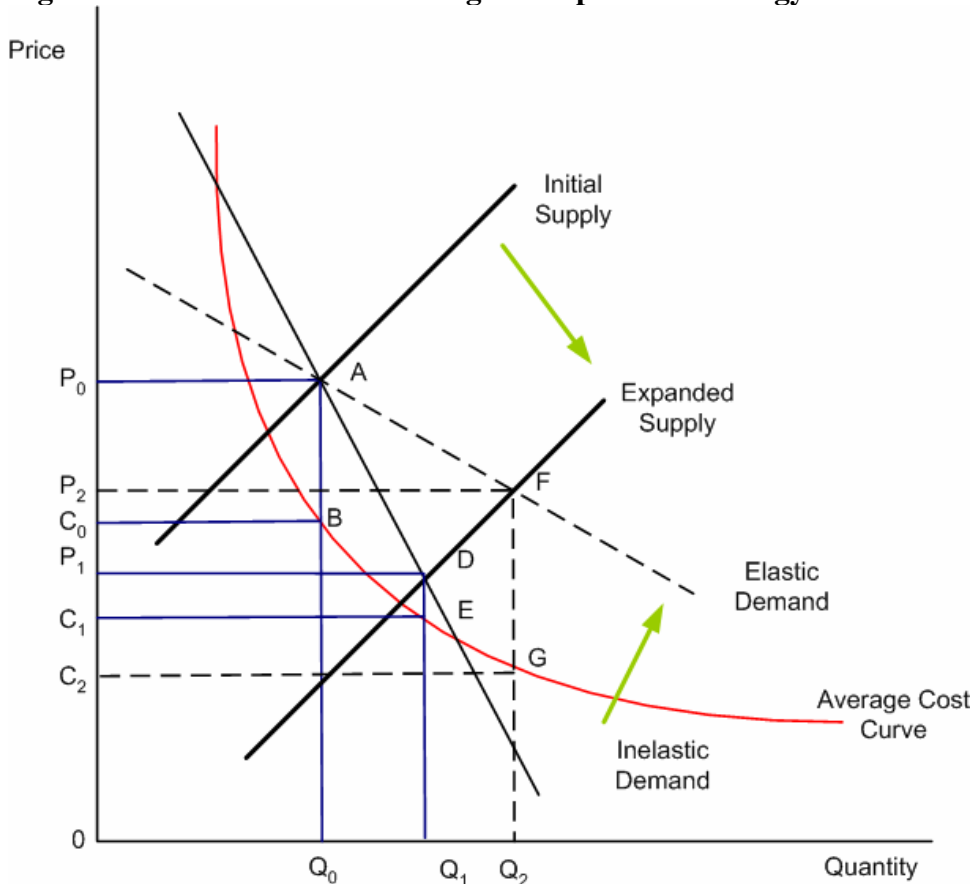
The foregoing dilemma presented by the economies of scale strategy is illustrated in Figure 5. The initial profit is higher than the profit with expanded supply despite the reduction in average cost from C_0 to C_1 when the demand for the commodity is relatively inelastic. This demand profile causes price to drop more than cost declines, i.e., $(P_0 - P_1) > (C_0 - C_1)$. We get a completely different story in the case where demand is relatively elastic because under that condition, $(P_0 - P_2) < (C_0 - C_2)$, leading to higher profits with the expansion.

The reason for the foregoing results is embedded in the nature of commodities and their markets. There is no uncertainty about production, quality and standards in commodity markets, therefore, all agents in the market – producers, elevators, buyers, customers – are aware of prices, quality and standards at any point in time. This lack of uncertainty causes arbitraging in commodity markets to yield little or no returns on a consistent basis (Kastens and Dhuyvetter, 2004). This is not surprising because information transmission is near perfect in these markets (and getting more so) and all players generally utilize this information as effectively as everyone else.¹⁴

The upshot of the foregoing is that commodity producers cannot expand their farms and ranches into profitability. Such expansion, according to our definition of entrepreneurship, is empty of innovation and hence cannot create new wealth or engender sustained competitiveness. The market is also devoid of uncertainty and hence fails to offer any Austrian entrepreneur's profit and imperfect information is minimal, resulting in little room for rents accruing to the arbitraging entrepreneur.

¹⁴ The number of farmers subscribing to price data services, such as those supplied by DTN has been increasing over time and delivery over the Internet has reduced barriers of accessing these information services.

Figure 5: The Embedded Challenge of Expansion Strategy in Commodity Markets



The Agricultural Risk Management Service (ARMS) of the USDA (2003) forecast that intermediate and commercial farms in all commodity segments will experience debt repayment difficulties in 2005. With the exception of Northern Great Plains and Prairie Gateway, all commercial and intermediate farms in all regions are also expected to have debt repayment challenges in 2005.¹⁵ The trend of declining profitability of farm operations has been ongoing for so long that it has become accepted as *normal* in many circles, including farm communities. All indications are that global expansion in production of commodities will exacerbate as Brazil, Argentina, Russia and China enter the production arena, adopting technologies and other tools that reduce or eliminate barriers to their production efficiency enhancements. The foregoing spells an unpleasant story for the scale argument because all operators around the world are focusing on this strategy to achieve their Nirvana.

Thus far, we have explained why the prevailing strategy fails to address the farm income situation. We have also pointed to the potential source of the problem as demand and not supply. What strategies should they pursue to increase profits from their farming businesses?

We believe that a shift in perception and orientation is critical for creating and sustaining competitive advantages. We believe that there is a need for innovation and an entrepreneurial mindset among producers. From our discussion of innovation and

¹⁵ The ARMS forecast indicated that 2004 was worse than 2003 for all regions.

entrepreneurship, this mindset implies that farmers and ranchers approach their business of farming from the perspective of a constant search for opportunities and an incessant desire to recombine resources to creatively destroy what they believe to be their current sources of competitive advantage. The creative (conscious) destruction of current sources of competitiveness opens the door for the creation of new and more robust sources of competitiveness. It allows those who wish to be entrepreneurial to adopt disruptive innovations, get themselves on a new competitiveness frontier and create new wealth. In short, if the real challenges of this business of farming are going to be addressed, producers need to adopt an entrepreneurial approach to the business of farming. It is matter of life and death for most producers and for most rural communities.

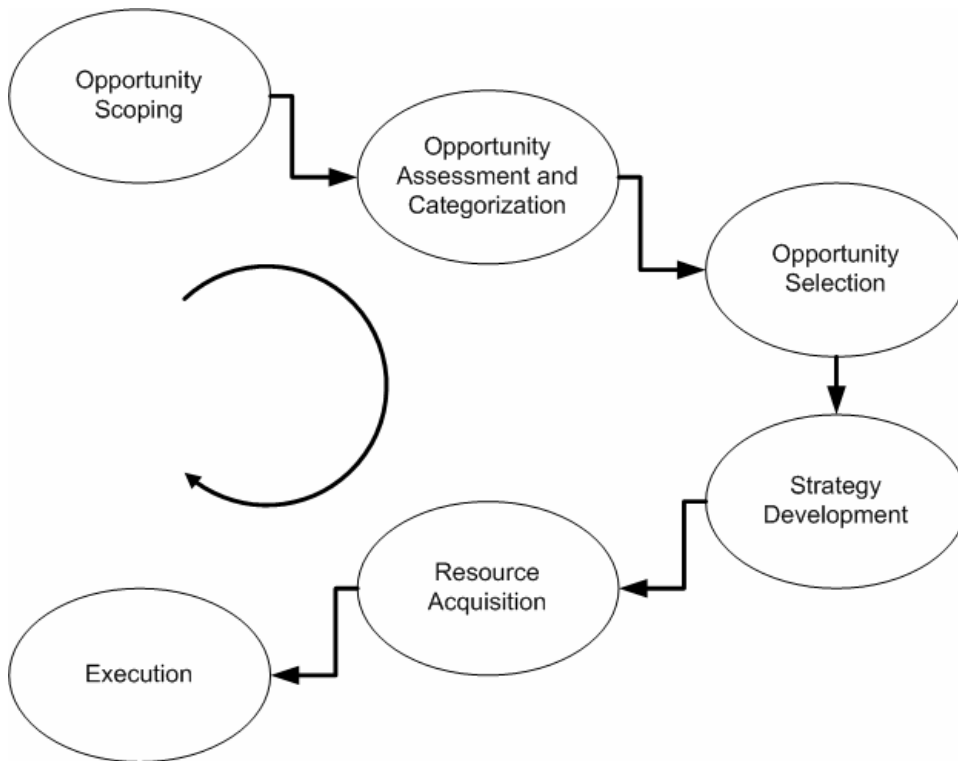
A Logic of Entrepreneurial Mindset

The essence of entrepreneurship is the profitable exploitation of uncertainty (Knight, 1921) and a personal alertness to potential sources of gain (Kirzner, 1997). Entrepreneurs are as comfortable with uncertainty as non-entrepreneurs are uncomfortable with it. They recognize that their reward is the returns no insurance company will cover because they are unpredictable. It is the income left over from gross profits after paying for interest on capital, wages for management and insurance premium for risk (Thünen, in Blaug, 1999).

Entrepreneurs recombine resources – physical, human, financial and organizational – necessary to create new processes, practices, products/services and relationships to facilitate the exploitation of innovations that are *discovered* through their ability to see things differently. Entrepreneurs focus on the transformation of their discoveries into new wealth. Entrepreneurship is, as Schumpeter said, getting things done to create a sustained competitive advantage in a rapidly changing marketplace.

Entrepreneurial mindset begins with an active search for opportunities, i.e., the development of a discovering eye – an ability to see the same thing as everyone sees and discover new processes, new products, new solutions (Figure 6). Individuals can learn how to enhance their opportunity seeking skills by actively practicing searching for opportunities. In every situation opportunity seekers find themselves working their minds for opportunities. George Morris, a farmer from Southwestern Ontario, started feeding silage long before it was traditional. The idea occurred to him after reading an article by researchers from the University of Guelph. Similarly, Bill Haw, a rancher in the Flint Hills of Kansas, discovered how to maximize ranchland utilization after reading an extension research paper from Kansas State University. In both of these cases, many others read the same research articles, but did nothing because they did not see what those who innovated saw. In both of these examples, the farmers were still producing commodity products, but they altered the competitiveness frontier confronting them and reaped first mover advantage in the process. Others moved away from the commodity market and focused their attention on niche markets. For example, Steve and Norm Jennings committed their small acreage to grapes and integrated forward with the production of wine. They also diversified and entrenched their wine market by building a restaurant. Cheryl Zumbrunn followed a similar path by grinding her Turkey Red wheat into flour and presenting a specialty cereal bar to the market.

Figure 6: The Logic of Entrepreneurial Mindset



Because we are surrounded by opportunities and we have to carefully select the ones that offer the highest potential for moving us to new and better competitiveness frontiers, McGrath and MacMillan (2000) suggest keeping a log of opportunities and carefully going through them, assessing and categorizing them before settling on the one that offers the highest potential rewards or the one with the highest probability of success. The assessment and categorization step involves subjecting the identified opportunities to economic and business tests. These include:

- Market segment analysis – i.e., who are the potential customers and which of the potential customers will be most thrilled with our identified value proposition?
- Competitor analysis – i.e., who has similar or substitutable solutions in the selected market segments and how different is their value proposition from ours? In other words, how unique is the innovation’s value proposition?
- Supplier analysis – i.e., where are we going to get the necessary inputs to deliver on our value proposition and what are the conditions in that market?
- Financial analysis: The objective of entrepreneurship is to increase wealth. Therefore, the potential financial contribution of any opportunity is very important criterion in its selection. In this case, we are not interested in the revenue contribution but in the net profit contribution, i.e., the entrepreneur’s profit, *a la* Thünen – the profit accruing after interest, wages and risk premiums are accounted for.

Successful opportunity assessment should lead to an identification of the most lucrative opportunity to begin preparing it to market. It also makes sense to identify the

synergies among opportunities so that they can be leveraged in the foregoing assessments and eventual implementation.

Strategy involves the processes involved in the transformation of the innovation embedded in the opportunity into a value proposition for particular markets. This is a formal process involving identification of the types of resources – physical (buildings, equipment, land, etc.), human (skills, capabilities, experiences, etc.), financial; and organization – that are necessary for the execution as well as the quantity of the resources required. An important resource and attendant strategy is strategic alliances: who can we work with to accelerate our ability to deliver our value proposition in the most cost effective and profit-enhancing manner? Co-opting competitors and leveraging non-competitors' resources is an efficient strategy in a rapidly changing world. The strategy step also involves a conscious attempt to reevaluate the value proposition under consideration against the strategies and the resources. At any point in these assessments and analyses, the alert entrepreneur is willing to abandon a low performing opportunity for a higher performing one. The final two steps involve the acquisition of the identified resources and the execution of the strategies.

Conclusion

For nearly a century, the farm income situation has been getting worse. The expanding globalization suggests that we have to develop and implement new competitiveness strategies that are not only effective but sustainable. This paper argues that one effective approach to developing a sustainable competitive advantage is to develop an entrepreneurial mindset. We explained what an entrepreneur and entrepreneurship are and the role innovation plays in entrepreneurship. We developed a process for creating an entrepreneurial mindset and provided a few examples for priming the creativity pumps of producers as they embark on this journey in search of a new future.

References

- Amabile, T.M., M.A. Collins, R. Conti, E. Phillips, M. Picariello, J. Ruscio, and D. Whitney. *Creativity in Context*, New York: Westview Press, 1996.
- Baumol, W.J. *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism*, Princeton, NJ: Princeton University Press, 2002.
- Burfisher, M.E. *U.S. Agriculture and the Free Trade Area of the Americas*, USDA/ERS, Agricultural Economic Report No. (AER827) 148 pp, March 2004.
- Christensen, C. M. and M.E. Raynor. *The Innovator's Solution*, Cambridge, MA: Harvard Business School Press, 2003.
- Christensen, C.M. *The Innovator's Dilemma*. Cambridge, MA: Harvard Business School Press, 1997.
- Drucker, P. *Innovation and Entrepreneurship*, New York, New York: Harper Business Edition, 1993.
- Fernandez-Cornejo, J. "Genetically Engineered Crop Varieties Gain Further Acreage Share in 2004," Amber Waves, September 2004, Available from <<http://www.ers.usda.gov/Amberwaves/September04/Findings/GEcropvarieties.htm>>.
- Gifford, S. *The Allocation of Limited Entrepreneurial Attention*, Springer: Kluvier Academic Publishers, 1998.
- Kash, R. *The New Law of Demand and Supply: The Revolutionary New Demand Strategy for Faster Growth and Higher Profits*, New York: Currency, 2002.
- Kastens, T. and K. Dhuyvetter. Management Factors: What is Important, Prices, Yields, Costs, or Technology Adoption? Available <[http://www.agmanager.info/farmmgmt/finance/investment/Briefpap2%20\(9-20-04\).pdf](http://www.agmanager.info/farmmgmt/finance/investment/Briefpap2%20(9-20-04).pdf)>.
- Kirzner, I. "Entrepreneurial Discovery and The Competitive Market Process: An Austrian Approach," *Journal of Economic Literature*, March 1997.
- Knight, F.H. *Risk, Uncertainty, and Profit*, Boston and New York: Houghton Mifflin, 1921.
- Marshall, A. *Principles of Economics*, Amherst, New York: Prometheus Books, 1997.
- McGranahan, D. *Natural Amenities Drive Rural Population Change*, USDA/ERS, Agricultural Economic Report No. (AER781) 32 pp, October 1999.
- Oliver, T. *The Real Coke, The Real Story*, New York: Random House, 1986.
- Rogers, E. *Diffusion of Innovation*, 5th Edition, New York: Free Press, 2003, original publication 1962.
- Say, J. *A Treatise on Political Economy or The Production, Distribution and Consumption of Wealth*, New York: A.M. Kelley, 1971.
- Schumpeter, J. A. *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process*, New York: McGraw-Hill, 1939.

Schumpeter, J.A. *Capitalism, Socialism, and Democracy*, 3rd ed., New York: Harper and Brothers, 1950.

Smith, A. *The Wealth of Nations*, Bantam Classics, 2003.

Von Mises, L. *Human Action: A Treatise on Economics*, 4th Revised Edition, San Francisco: Fox & Wilkes, 1996, original publication 1949.

Walras, L. *Elements of Pure Economics*, Reprint by Harvard University Press, 1954.