

The Entrepreneur And Entrepreneurship: A Neoclassical Approach

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Abstract

This paper attempts to introduce the entrepreneur as the “economic man” into a neoclassical framework and to indicate the role of government in fostering entrepreneurship. The entrepreneur is assumed to behave as if he maximizes utility including his value and desire to succeed, subject to an income constraint, of which his physical effort in subsistent production and entrepreneurial production generate this income. Entrepreneurship, specifically, is defined as an “economic system” that consists of three components: (1) entrepreneurs, who desire to achieve their goals of economic survival and advancement; (2) the social constitution, that the entrepreneur’s right of free enterprise is granted; and (3) the government, that has the ability to adjust the economic institutions that can work to protect each individual entrepreneur and to stimulate entrepreneurs’ motive to achieve toward fostering of economic development and growth.

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Introduction

Most mainstream economists at present have not yet shown substantial interest in entrepreneurs and entrepreneurship as primary instruments of long-term economic development and growth. Nevertheless, there has been some fascinating literature attempting to carry on the work of predecessor economists, providing a role for entrepreneurs and entrepreneurship to play in the economy. There have been two major research camps: one within microeconomics and the other in macroeconomics.¹ The microeconomic approach mainly focuses on entrepreneurs' personal traits in areas such as labor economics, industrial organization and business-managerial economics.² The macroeconomic research primarily concentrates on entrepreneurs as special human resources who are responsible for economic development and growth.³

In those literatures, however, both the entrepreneur and entrepreneurship often have been ill-defined. The confusion falls into two categories. First, there has been a tendency to treat these two terms as interchangeable which blurs the distinction between the entrepreneur as an economic agent and entrepreneurship as a system that consists of entrepreneurs, a legal and institutional arrangement and an environmental structure, all of which influence and constrain entrepreneurs' economic behavior. Second, researchers are often focused on the detailed roles (functions) and traits of entrepreneurs, thereby losing sight of the economic fundamentals of entrepreneurs.

The difficulty of research on entrepreneurs and entrepreneurship also is originated in the policy implications. The history of economic thought is full of discord, and each theory sometimes can be used for a political purpose. There is what is called "positive economics," yet politicians have often used positive economics as a tool to promote their normative orientation. For example, the study of

¹ There have been large collections of literature in the fields of Economic History and History of Economics.

² Examples include recent theoretical research by Edward Lazear (2002) who describes entrepreneurs as jacks-of-all-trades who may not excel in any one skill but are competent in many. Evans and Leighton (1989) empirically study self-employment (a labor classification) selection and earning as entrepreneurial selection and earning. Schumpeter (1934) has been the bible of entrepreneurship in Industrial Organization. His books focus on technical innovation, managerial innovation that carries out unique combinations of resources to create new products, services, processes, organizational structures, sources of supply, and markets. In their creative destruction entrepreneurs continually make existing methods and products obsolete by successfully introducing innovations. This process results in new entries and business startups.

³ Among many others, William Baumol has made profound contribution to the literatures of entrepreneur and entrepreneurship since late 1960s. Not only did he acknowledge entrepreneurs as the apex of the hierarchy that determines the behavior of the firm, he also made entrepreneurs responsible for historic slowdowns or great gaps in economic growth.

entrepreneurs and entrepreneurship has sometimes mistakenly been viewed as promoting “supply-side” policy. At the same time, studying the role of the government in fostering entrepreneurship is often been interpreted as violation of laissez-faire.

In his 1982 book, Casson pointed out that “there is a gap in the economics of the entrepreneur.” He said, almost all the social sciences have a theory of the entrepreneur, except economics. He gave two main reasons why there is no economic theory of the entrepreneur:

"The first lies in the very extreme assumptions about access to information which are implicit in orthodox economics -- that is in the neoclassical school of economic thought. Simple neoclassical models assume that everyone has free access to all the information they require for taking decisions."

"Secondly, the Austrian school of economics, which takes the entrepreneur more seriously, is committed to extreme subjectivism -- a philosophical standpoint which makes a predictive theory of the entrepreneur impossible. They argue that anyone who has the sort of information necessary to predict the behavior of entrepreneurs has a strong incentive to stop theorizing and become an entrepreneur himself. They suggest, furthermore, that by entering the system himself, the theorist may well generate a behavioral response which would falsify his own prediction."

As Casson notes, those two assumptions are at best exaggerations. Unfortunately, like many others who attempted to build an economic theory of the entrepreneur, Casson was not able to focus on the most indispensable role of entrepreneurs in the economy. He was tangled in the complex multi-level functions of entrepreneurs in business. It can be said that the key problem underlying the absence of economic theory of the entrepreneur is the absence of a method of abstraction of the entrepreneur in a form that permits the main economic role and behavior to be predicted and aggregated in a neoclassical framework.

Inspired by many economists such as Professor Baumol who has worked to construct an economic theory of the entrepreneur and entrepreneurship, this paper attempts to help bridging the gap in the theory by introducing the entrepreneur into the economic system and by acknowledging roles of the government in fostering entrepreneurship. To achieve this goal, a neoclassical framework will be employed and the roles of the entrepreneur and the government will be greatly abstracted into the simplest forms. We attempt to stay in the camp of macroeconomics so that we do not narrow our focus

to the specific functions of the entrepreneur or particular process in entrepreneurial activities. Instead, we will explore the primary roles of the entrepreneur as the economic man. We will analyze the constitutional and institutional structures that can ensure that entrepreneurial resources are effectively allocated to serve the best interest of the society. The role of government must evidently be played out in the connection between the entrepreneur and the social-political system.

Section 2 reviews and discusses the existing literature relevant to the entrepreneur and entrepreneurship. This literature review will attempt to distinguish clearly two pairs of terms. One pair is “entrepreneur” and “firm” and the other is “entrepreneur” and “entrepreneurship.” Section 3 proposes an analytical model attempting to capture the role of entrepreneur and entrepreneurship in the economy, and finally, Section 4 presents the findings of the paper.

Literature Review and Discussion

In his 1993 article, “Formal Entrepreneurship Theory in Economics: Existence and Bounds,” Baumol stated that,

“It seems to be taken for granted in the literature that, even if entrepreneurs are not in complete control of our economic destiny, they influence its direction as few, if any others, are able to do. But having acknowledged this, implicitly or explicitly, normally no more is done to incorporate the entrepreneur’s role into the mainstream models of value theory or the theory of the firm.”

The problem actually was originated from here: What value and whose value were to be modeled? What is a firm? Does a firm have a value? Is a firm the entrepreneur? What is the entrepreneur? What is entrepreneurship? The neoclassical theory of the firm failed to answer those questions because of the ambiguity in the definition of the firm. The neoclassical value theory failed to answer those questions because of the rejection of the fact that entrepreneurial behavior is the foundation of economic behavior, and the entrepreneur’s essential economic motive was overlooked. There were not many scholars who were entrepreneurial enough or who deviated sufficiently from the mainstream to give answers to those questions. In other words, we have forced ourselves to live with

the ambiguity called the “mainstream” that evolved from the predecessor economists’ unfinished framework of economic theory. The vital part of this ambiguity is the theory of the firm.

“The Entrepreneur is the Firm”

In economics as an academic discipline, the theory of the firm has based its results almost entirely on the foundation of optimization. Firms are expected to hire workers, utilize the capital and produce the output all at the quantity where they maximize their profits. Is the firm an institution that consists of a group of individuals? If it is true, what is the value of the maximized profit to those individual persons? In the neoclassical scheme, each individual is supposed to possess full information about every existing demand pattern and supply curve of any product and its price. How does a consumer determine his or her utility of consuming an unprecedented and unexpected new product and how does one determine the initial price for this new product? How does the “invisible hand” work here to link the demand and supply? It would be a good story to tell if this unprecedented and unexpected goods producer, we call the entrepreneur, could set up the price of this new good in terms of existing goods that match his marginal rate of substitution between these two goods; the entrepreneur’s utility would be maximized.

Fortunately, James H. Stauss was the most important, if not the only scholar who made an exceptionally bold proposition: the firm is the entrepreneur, from both legal and academic perspectives.⁴ In his 1944 article, he made clear the distinction between the entrepreneur as an individual economic agent vs. the firm as an economic institution. He sharply points out:

“With respect to the proposition that the firm is the entrepreneur, it must be set forth at the beginning that the entity known subsequently as the firm is taken as a real institution. As such the firm exists apart from the individuals who compose its decision-making organization, but it does not function apart from them.”⁵

This proposition both challenged and developed the neoclassical theory of the firm. The “firm” was personified by identifying the role of the entrepreneur in the firm. From this point, we should further propose that the entrepreneur is the neoclassical economic representative, i.e., the economic man. The

⁴ James H. Stauss (1944), “The Entrepreneur: The Firm,” *The Journal of Political Economy*, Vol. 52, Issue 2, June, P 112-127.

⁵ Ibid.

research on the behavior of firms as entities or industrial organizations should not be confused with the behavior of the entrepreneur as decision making individual economic man.

Survival and Advancement – the Economic Role of the Entrepreneur

What roles and characteristics constitute the entrepreneur as the economic man? The term entrepreneur is derived from the old French *entreprendre*, which can be translated “to undertake.” The word can be explained as a person who organizes, operates, and assumes the risk for business ventures, especially an impresario. Instead of tangling the detail of the entrepreneur functions, Baumol consistently suggested that it is necessary for us to focus on two functions of the entrepreneur and differentiate between the entrepreneurial function and the managerial function. He wrote,

*“There are, however, two uses of the term ‘entrepreneur’ which, though both legitimate, are entirely different in their substance. One uses the term to refer to someone who creates and then, perhaps, organizes and operates a new business firm, whether or not there is anything innovative in those acts. The second takes the entrepreneur as the innovator – as the one who transforms inventions and ideas into economically viable entities, whether or not, in the course of doing so they create or operate a firm.”*⁶

This differentiation is important. Both types of entrepreneurs are significant for the performance in the economy, but they differ profoundly in their roles, the nature of their influence, and the type of analysis their roles require. Imagine Adam and Eve, who were created by God, live on the naked land with natural resources that God endowed. Both of them had to achieve two goals. One is to survive for the present (God permitted them to pick up any fruit) and the other is to make advances for the future (they made cloth for themselves, created their offspring and gained knowledge and skills). These two roles of the economic man or the entrepreneur can be found in men and women, straight and gay, elderly and young, business and politics, arts and athletics, military and church, government and academics and so on. No two individuals would perform identical economic activities in the concrete sense, but all individuals have to survive and advance in the abstract sense.

⁶ See Baumol (1993).

Survival for the present obligates one to take certain risks, to respect routines, to be organized, to be diligent and to be willing to engage in the repetitive, among many other qualities.⁷ The advancement for the future, on the other hand, requires one to have vision, to take risk, and to be innovative. Schumpeter focused on innovation as an integral role of the entrepreneur, who creates or expands a firm to supply needed inputs or outputs, or connect different markets, and/or to create, expand or modify a market.⁸

People often found that the ability to make advancements is rare and most of us engage in activities for survival. Schumpeter (1934) asserts that “more generally, an untried technical possibility for producing a new commodity or producing an old one in a new way ... (this) requires aptitudes that are present in only a small fraction of the population ...”⁹ This statement does not alter the fact that the entrepreneur or the economic man’s role in the economy is twofold: first, the management for survival, for routine and for status quo; and second, the creation for advancement, for growth and for dynamics.

“Desire to Achieve” and Utility Maximization

The most intriguing work with respect to identifying the characteristics of the entrepreneur was by David McClelland. In his paper “The Achievement Motive in Economic Growth,” McClelland identified the need for achievement – or N-achievement – as the most distinguishable quality of entrepreneurs. According to McClelland (1971), “Rapid economic growth has usually been explained in terms of ‘external’ factors – favorable opportunities for trade, unusual natural resources, or conquests that have opened up new markets or produced internal political stability. In the present case, however, the emphasis is reversed: it is internal factors, the human values and motives that lead man to exploit opportunities, to take advantage of favorable trade conditions; in short, to shape his own destiny.” The individual who exhibits a high degree of N-achievement is not motivated by money per se; they are motivated by the desire to succeed. McClelland (1971) wrote, “Desire to achieve can never be satisfied

⁷ For example, if Eve and Adam would not have taken the risk to eat the fruit from the tree of the knowledge of good and evil, they must have been still naked and lived in caves like our cousins such as gorilla and chimpanzee.

⁸ Innovation is the key element that contributes in the growth of an economy at the macro-level and of businesses at the micro-level; and it also contributes in the society progress. With a definite conviction for future, a shrewd politician or social worker can be innovative to lead people to create a better society and an institutional system. We can call those people as social entrepreneurs. The Social Welfare program was changed into “Workfare” program was one of many social-political changes that can be called entrepreneurial.

⁹ See Schumpeter (1947).

by money, but estimates of profitability in money terms can provide concrete knowledge of how well one is doing one's job."

The traditional neoclassical framework at least failed to give economic explanation for three extreme cases: destitute inventors, wealthy workaholics and underprivileged slaves. For the first case, the choice for allocating his labor seems to be not rational. For the second case, the decision making for labor and leisure through utility maximization is not bound by the income constraint. For the last case, the choice for labor and leisure is not an option but a dream. To incorporate a "subjective" element of "desire to achieve" in the economic man's utility function might be able to explain some economic activities that the traditional model can never explain.

Now if we are to construct the entrepreneur as "economic man" who is assumed to behave as if he maximizes utility, subject to a set of constraints, we must validate his need to achieve by adding it into his utility function.¹⁰ Under this assumption, his utility should be positively correlated to his actions of which the most obvious can be described as constantly pushing oneself, reaching for new heights and a strong desire to succeed. Though all entrepreneurs do not perform the same function in the economy, it can be said that all entrepreneurial functions are performed by individuals who share the same motivation. It does not matter whether the entrepreneur manages a workshop, or invents a new computer chip; whether he works for his master, or for his dream. What matters is the internal drive of the entrepreneur – the economic man who needs to succeed: complete his invention, survive beneath his master, or simply fulfills his list of "must do."

This idea was also found in Cole (1968), "The entrepreneur rarely holds long to the concept of success that lured him into initial action. He is moved by his ever expanding knowledge of the total situation surrounding him, to modify his primary objectives, thus fitting action of his enterprise more closely to the requirements of the economy."¹¹

In contrast to Romer's explanation of long term economic development due to human capital – accumulation of knowledge and skill, Hosseini (1992) argues that "Scientific knowledge and technical

¹⁰ "Economic man is then 'rational' if he pursues this objective although he may face obstacles, such as imperfect information, which prevent him actually achieving the goal. Rational man in economics may however pursue objectives other than maximization of utility, in which case he is rational if he pursues that goal in a self-consistent manner." See David W. Pearce (1983), *The Dictionary of Modern Economics*, p. 123.

¹¹ Cole, Arthur H. (1968), "The Entrepreneur -- Introduction Remarks," AER, May, 60-63.

skills merely determine potentialities.” However, the realization of ideas, such as business formation or economic advancement, “crucially depends on the cost and the risk factors which are related to the quality of the labor force.” What is the essence of the quality of the labor force that can be viewed as the kernel of the economic man? Hosseini directly points to the human motivation. He states: “The presence of the highest state of knowledge in the form of libraries, equipment and the machinery and the presence of the most able work force in terms of knowledge, skill and dexterity can be of little use if the individuals are not sufficiently motivated to work hard, bear responsibility and adhere to certain codes of work ethics.”¹²

It is not a new idea that a set of values originating from the teachings of ascetic sects of Protestantism, Puritans and Calvinists in particular, who played a major role in the development of modern capitalism.¹³ Almost all communist nations had successfully motivated their citizens to hold their moral doctrines akin to the Christianity. Hundreds of millions of women and men among the best ascetics and intelligentsia in the world had believed self-sacrifice and made great contributions to their economies.

Economic history has shown that neither the most religious nations nor the communist nations had made consistent record of a balanced economic development and growth for the long run. Saudi Arabia and the former Soviet Union might be the most convincing counter examples. No one dare to assert that if there were no entrepreneurs in those nations, yet no one would expect to find the indigenous “Bill Gates.” Where were entrepreneurs in those nations? Surprisingly, you may find entrepreneurs among the most loyal disciples of Osama Bin Laden and among the savviest KGBs.¹⁴

The Entrepreneur Creates supply and Links with Demand

As a predecessor of the neoclassical school and their equilibrium analysis, Say is well-known for his contribution in the development of the Theory of Markets.¹⁵ The theory is based on the simple

¹² Hamid Hosseini (1992) [American Journal of Economics and Sociology, January, 1992]?

¹³ One example is Max Weber (1905), *The Protestant Ethic and the Spirit of Capitalism*, translated by T. Parsons, Allen & Unwin, Winchester, MA.

¹⁴ What we can conclude here is that the entrepreneur with “desire to achieve” is not the necessary condition of economic survival and advancement but it is a sufficient condition. This turns our attention to the concept of entrepreneurship, of which we will discuss later.

¹⁵ See *A Treatise on Political Economy*, translated by C. R. Prinsep (4th ed.; Philadelphia, 1853).

concept that exchange between two parties involves both a purchase and a sale. Say extended this interdependency of supply and demand from the barter economy where every sale involves a demand or supply can exist and no commodity will be produced without a corresponding level of demand for its consumption, to a general theory of markets.¹⁶

Koolman (1971) thoroughly reviews Say's publication (in French), examines "Say's Conception of the Role of Entrepreneur." Koolman complains that "Say makes only a fleeting appearance in most texts on the subject, and then chiefly for his 'law of markets' where he tends to occupy the role of a classical ogre waiting to be slain by the Keynesian knight. Only rarely is he given credit for his contribution to the theory of the entrepreneur."

According to Koolman, the entrepreneur was pure intermediaries in the productive process: "In Say's schema it is shown how the entrepreneur hired the services of the other productive agents, land, labor and, in most cases capital, in return for the payment of rent, wages and interest, and how he combined them in order to meet the demands of final consumers. Thus, Say wrote that the demand by the entrepreneurs was seen as one of the forces which operated to determine the value of productive services. On the other hand, the supply of the various productive services was determined by a variety of motives.

Because of this intermediary role, "The entrepreneur, therefore, occupied a central role in the economy. He was the linchpin, holding together landlord and capitalist, technician and laborer, producer and consumer. He was the organizer of production, and in that capacity the intermediary between all the agents of production, and between all these and the final consumers; he was the center of a web of relationships, and was able to profit from his knowledge and the ignorance of others. Say's schema was much more revealing than that of his predecessors, the Physiocrats, who had conceived of the process of exchange as one based on socio-economic classes rather than on individuals."¹⁷

By quoting from Say's *Traité d'Economie Politique*, Koolman claims that "the entrepreneur was occupied both on the demand and the supply sides of the market equation. On the demand side,

¹⁶ This is called Say's Law of Markets. This theory later was accepted and clarified by David Ricardo and J.S. Mill. It has been interpreted and become popular as "supply creates its own demand." Prices are assumed to be such that the value of commodities produced is just equal to the value of expenditure on commodities as a whole. This of course was a violation of reality of which particularly was during the World War II. The Law of Markets had been severally criticized by Keynes, whose theory is an antagonistic theory of Say.

‘he is called upon to estimate, with tolerable accuracy, the importance of the specific product, the probable amount of demand’, whilst on the supply side his concern was with the means of production: ‘at one time he must employ a great number of hands; at another, buy or order the raw material. Collect laborers ... and give at all times a rigid attention to order and economy’.¹⁸

This role of the entrepreneur in linking between markets of demand and supply also was found from Tuttle (1927). He wrote, entrepreneurs “have long distinguished, though in a loose and general manner, between employer and workman, between employer and capitalist, and between employer and landowner, on the one hand, and on the other, between profit and wages, between profit and interest on a money loan and between profit and the rent of instruments.”

Of course, as his critiques pointed out, the shortcoming of Say’s theory is that it fails in the situation such as a general excess of commodities, of which it happened particularly during the Great Depression – as much as the failure of Keynesianism after the Oil Crisis in the 1970’s. Also, it did not touch issues such as whether the society should allow all “supply to create its own demand” (we can quickly list two simple examples: “lemons” on the auto market, illegal drugs such as heroin on streets, and pirating over internet). This leads to the discussion on entrepreneurship.

Entrepreneurship

Our concern chiefly being with how the entrepreneur affects economic wellbeing, it seems logical that – having defined the entrepreneur as an individual with a perpetual desire for achievement – our attention turn to that under what conditions those entrepreneurs can be productive and most relevant to growth. Because of that the existence of entrepreneurs in a society is a sufficient but not necessary to guarantee the economic development and growth, we need to look into the critical condition that is most relevant to our concern, even though it might be in a very restrict manner.

Baumol (1990) observes that “When conjectures are offered to explain historic slowdowns or great caps in economic growth, there is the group of usual suspects that is regularly rounded up – prominent among them, the entrepreneur. When growth has slowed, it is implied that a decline in entrepreneurship was partly to blame (perhaps because the culture’s ‘need for achievement’ has

¹⁷ See Koolman (1971).

¹⁸ Ibid.

atrophied). At another time and place, it is said, the flowering of entrepreneurship accounts for unprecedented expansion.” Apparently, Baumol does not agree with such approach.

In his earlier work, Baumol (1968) testifies that “The entrepreneur is at the same time one of the most intriguing and one of the most elusive characters in the cast that constitutes the subject of economic analysis. He has long been recognized as the apex of the hierarchy that determines the behavior of the firm and thereby bears a heavy responsibility for the vitality of the free enterprise society.”

It is clear that Baumol has distinguished the entrepreneur as an individual from the firm as an institution. Further more, he has put a large premise on the entrepreneur to “bear a heavy responsibility” – the existence of the free enterprise society. The entrepreneur can not play his role in a productive manner if certain premises were not in place. The “free enterprise” society definitely is an important one.

We often are perplexed by our observation of the world and history: Why do economies of many Middle-Eastern nations that have strong traditions of trading and commerce, remained stagnant for a long period of time? Why were the most successful business men and women in the present China among the most radical and anti-capitalist “Red Guards” during China’s 10-year long “Cultural Revolution”? Why do we have so many Indian immigrants who have been successful and prosperous entrepreneurs in the U.S. while India’s economy is still lagging behind?¹⁹ Who can guarantee that Bill Gates, one of the most brilliant and shrewd entrepreneurs in U.S. history, would not become a figure of “the Kingpin” if he were born in Columbia, per se? We have to trust that God is fair, he created economic men resided in each place on earth must be equally entrepreneurial. Entrepreneurs can be found in places such as Russia, China, Japan, Iraq, Iran, German, France, Ethiopia, Cuba, and Haiti. We have to discern that the entrepreneur is not the necessary condition for the economic survival and advancement. Is there a necessary condition?

We attempt to credit “entrepreneurship” as the necessary condition. The suffix “-ship” often offers multi-meaning to a word. Entrepreneurship could be explained in terms of the quality or condition of entrepreneurs, similar to friendship or scholarship. It can be justified in terms of the status of

¹⁹ Capitalism and the capitalistic infrastructure were introduced to India more than one and a half centuries ago and after the independence, India has experienced one of the most stable democracies in the less developed nations. The economy did not perform as well as many other nations, such as South Korea and Singapore that both countries had the most authoritarian type of government yet their economies grew at an unprecedented level for a long period of time before 1990s.

entrepreneurs, similar to professorship or authorship. It also can be employed in terms of the functioning of entrepreneur, similar to penmanship and leadership. Because of these multi-meanings, the word of entrepreneurship has been used in a very wide range. It is the time to give the word a meaningful and certain implication in the content of economic theory of the entrepreneur.

The hitherto best definition of entrepreneurship in the literature of the field might be in Morris (1996). In this paper, Morris suggests to define entrepreneurship as “the relationship between entrepreneurs and their surroundings and the role government plays in creating these environments.”²⁰ Such surroundings and environments must allow the entrepreneur to perform his best for achieving his goals of economic survival and advancement; and at the same time, those surroundings and environments must create the most effective awarding rules to guild the self-driven entrepreneur to allocate his effort in the best interest of himself as well as the society. Hence, we can first define the entrepreneurship as an economic system including two components: the first is called as “environment” by Morris (1996); the second is called as the “set of rules” by Baumol (1990).

According to Morris (1996), the environment “includes the economic, political, legal, financial, logistical, and social structures that characterize a society.” A well-defined entrepreneurship must include the social constitution, of which each economic man must be granted the basic rights: the right of free enterprise and the property (including intellectual property) right. People are granted the “human right” so that each human being must have the right to be a human, regardless such things as gender, race, health condition, or social status. Each entrepreneur must have the fundamental right to engage in activities to survive and to advance in the economy.²¹ Entrepreneurship also must include the economic infrastructure, of which logistical arrangements such as roads, power grids, waterways, airports, education system, communication system, legislative system, financial system and market structure that all effectively organized and designed for supporting entrepreneurial activities.

Papanek (1962) also notices the importance of the entrepreneur in economic growth and the government in the formation of entrepreneurship. He finds, “Discussion of economic development, since

²⁰ Morris, Michael H. (1996), “Sustaining the Entrepreneurial Society,” Working Paper 96-01, The Small Business Foundation of America: The Research Institute of Emerging Enterprise.

²¹ This should have a list of items in place but legal/regulatory structures are most significant. Legal formations of enterprise, “permit limited liability, ensure contract enforcement and intellectual property protection, and allow liberal treatment of bankruptcy, encourage competition and impose fairly strong restrictions on monopolistic obstacles to new product and process development.” Ibid.

the revival of interest in the late forties, almost invariably starts with the acknowledgment that economic growth depends on a complex of interrelated factors--not the only, but the most important, determinant of growth. The emphasis at various times and by various authors has been on technical knowledge, ideological fervor, natural resources, governmental organization, motives and attitudes, and capital. Emphasis has recently shifted to the key role of decision-making innovators, particularly in industry--in a word, entrepreneurs." He lists four so called noneconomic conditions that "may be necessary for the development of entrepreneurship." Those conditions are:

1. *"a government and civil service able to maintain law and order, to prevent massive capital flight, to enforce import controls, and to provide reasonably adequate overhead facilities;*
2. *at least a very small proportion of the population accustomed to responding to market incentives;*
3. *a value system and institutions that were not so hostile to entrepreneurial activity that only a strongly deviant group would be prepared to undertake it;*
4. *a political system which did not collapse despite high prices to consumers, high profits for industrialists, and the presence of many foreign technicians."*

Baumol (1990) employs the historical evidence from ancient Rome, early China, and the Middle Ages and Renaissance in Europe and examines his basic hypothesis about entrepreneurship. His conjecture is that, "while the total supply of entrepreneurs varies among societies, the productive contribution of the society's entrepreneurial activities varies much more because of their allocation between productive activities such as innovation and largely unproductive activities such as rent seeking or organized crime. This allocation is heavily influenced by the relative payoffs society offers to such activities."²²

So Baumol proposes that not the entrepreneurs themselves but the system, of which it can allocate entrepreneurial resources and determines the outcome in the economy. He states, "There are a variety of roles among which the entrepreneur's efforts can be reallocated, and some of those roles do not follow the constructive and innovative script that is conventionally attributed to that person. Indeed, at times the entrepreneur may even lead a parasitical (blood-sucking) existence that is actually damaging to the economy. How the entrepreneur acts at a given time and place depends heavily on the rules of

²² William Baumol (1990), "Entrepreneurship, productive, unproductive and destructive," *Journal of Political Economy*, 98(5): 893-921.

the game – the reward structure in the economy – that happen to prevail. Thus the central hypothesis here is that it is the set of rules and not the supply of entrepreneurs or the nature of their objectives that undergoes significant changes from one period to another and helps to dictate the ultimate effect on the economy via the allocation of entrepreneurial resources.²³

Baumol (1990) then takes on the issue of the allocation of entrepreneurial talent among different activities, all of which cannot be considered productive. His hypothesis is essentially that different institutional frameworks and, particularly, the reward structures have directed entrepreneurial vision towards a variety of activities throughout history, indicating that government policy can have a substantial affect on the quality of entrepreneurial contribution present in an economy. In his article Baumol writes, “Thus the central hypothesis here is that it is the set of rules and not the supply of entrepreneurs *or the nature of their objectives* that undergoes significant changes from one period to another and helps to dictate the ultimate effect on the economy via the *allocation* of entrepreneurial resources.”

Baumol certainly understands the importance of directing the entrepreneurial vision because the entrepreneurial energy as human resource can be utilized to reach the best interest of the society as a whole. This is similar to the utilization of natural resources. Take solar energy as an example: if we do not use it, it would be not fully used. Hydraulic power is another example: if the system designed well, the hydro power can be converted into electrical power; the water resource can be used for agricultural and industrial productions. Otherwise, it may bring out catastrophes to human being and to the nature itself. In order to wisely use all energies to benefit human lives, we have to gain the knowledge of those energies. A system that does not recognize and nurture hidden entrepreneurial energy, but rather places severe roadblocks in the way of entrepreneurial action, will contain entrepreneurs who primarily engage in unproductive or even destructive endeavors.

Baumol observes that the goals and motivation of entrepreneurs have remained constant over time, but that different institutional structures provide opportunity in different arenas. Therefore, progress

²³ When Russian economy was under the centrally controlled economic system, the “free enterprise” was not allowed. The rewarding structure was designed to attract entrepreneurs in building heavy industries and military power – people’s lives had suffered for a long period of time and the economy collapsed. On the other hand, once the communist system collapsed and the new system was not yet in place, the “free enterprise” out of control. The economy set back even further because of the entrepreneurial energy went to arenas such as corruption and organized crime.

in researching and identifying the variables that effect a change in the allocation of entrepreneurial effort will provide significant insights into the growth policies that are best suited for encouraging productive entrepreneurship. One would expect productive entrepreneurship to exist in an environment that minimizes barriers to entry, creating the potential for all would-be entrepreneurs to easily participate.

As can be seen in Baumol's research, entrepreneurship is heavily influenced by the political regime that an economy has adopted and shaped by the policy that the political regime has imposed, implemented and re-enforced. The economic performance is endogenously determined by the social-political system, therefore, entrepreneurship – under Baumol's "not so clear" definition, evidently would be productive, unproductive or destructive. This is, in turn, "entrepreneurship" became a useless term.

It seems to have a need to define entrepreneurship in a more restrictive manner. We suggest that entrepreneurship is to be defined as the system necessary for economic growth. It consists of three components: entrepreneurs that desire to achieve their goal of economic survival and advancement; the social constitution that the right for "free enterprises" is granted, and the government that has the ability to induce entrepreneurs' motivation to achieve toward social development and growth and to adjust the constitution system that works at its best to protect each individual entrepreneur.

A Simple Model

In this section, we set out a traditional neoclassical model of a representative agent's utility maximization subject to budget constraints. The entrepreneur is defined as the economic man. He has all the characteristics as a consumer or/and a firm in lines with the traditional economic analysis: he maximizes utility subjected to the budget constraint, or minimizes total spending for a given level of utility. He maximizes production profit subjected to the total resource available, or minimizes the production cost for a given level of output. Besides all of these characteristics, the entrepreneur is an agent, of whom he needs to achieve the goals of economic survival and advancement. This need must be acknowledged in his utility function.

We assume the economy inhabited a representative entrepreneur who engages in two productions and consumes two goods, c^1 and c^2 . This individual has to make decision on dividing his effort into two productions: one is to manufacture subsistence product, y^1 (say, bread) and the other is to create entrepreneurial product, y^2 , (say, cellular phones).²⁴ To simplify the model so that we can solely focus on examining the role of the entrepreneur in the economy, we omit capital in the production functions. The input of those two productions is only the physical effort. The total time endowment for such physical effort is only 1. The time to be spent into the production of entrepreneurial good is denoted as e , and into producing subsistence-good is

$$L = 1 - e:$$

$$y^1 = f(L) = f(1 - e) \quad (1)$$

$$y^2 = \mathbf{j}(e) \quad (2)$$

²⁴ The idea can be supported by Baumol (1968). In this article, Baumol proposed that "it is necessary for us to differentiate between the entrepreneurial and the managerial functions." He suggested that "we may define the manager to be the individual who oversees the ongoing efficiency of continuing processes. It is his task to see that available processes and techniques are combined in proportions appropriate for current output levels and for the future outputs that are already in prospect. He sees to it that inputs are not wasted, that schedules and contracts are met, he makes routine pricing and advertising outlay decisions, etc., etc. in sum, he takes charge of the activities and decisions encompassed in our traditional models." ... "The entrepreneur (whether or not he in fact also doubles as a manager) has a different function. It is his job to locate new ideas and to put them into effect. He must lead, perhaps even inspire; he cannot allow things to get into a rut and for him today's practice is never good enough for tomorrow."

Production functions $f(L)$ and $\mathbf{j}(e)$ both are defined only for nonnegative values of the input and output levels, i.e., $L > 0$, $e > 0$ and $f(L) > 0$, $\mathbf{j}(e)$; and they are defined only for non-decreasing, i.e., $f_L > 0$ and $\mathbf{j}_e > 0$.²⁵

The entrepreneur's supply of y^2 creates its own demand, c^2 . The entrepreneur has to set up the price, P (it is the relative price of y^2 in terms of the price of y^1 , which is restricted to be 1) so that he is able to sell y^2 on the market. In addition, P is a vehicle that satisfies the entrepreneur's need for achievement: creating a new product that wins the acceptance of consumer, earning the profit and allocating resources for producing y^1 and y^2 so that the entrepreneur is satisfied at the maximum level – these all indicate that the relative price P produces a positive effect on his utility function $U(\cdot)$.

In defining the entrepreneur as economic agent who is ingenious and creative in finding ways to add to their own wealth, power, and prestige, Baumol (1990) suggested that individuals choose to be entrepreneurs when or because their utility (from wealth, power, and prestige) is maximized by so doing. Let us assume that the utility function of the entrepreneur is $U(c^1, c^2, e, P)$. Without losing the basis of the neoclassical paradigm of consumer-choice theory, we can trivialize $U(\cdot)$ as a summation of four independent components: $u^1(c^1) + u^2(c^2) + u^3(e) + u^4(P)$.²⁶ Each component u^i ($i = 1, 2, 3$, and 4) is a utility function of corresponding argument, c^1 , c^2 , e , and P . Hence, the entrepreneur's utility maximization problem becomes:

$$\text{Max} \quad U(c^1, c^2, e, P) = u^1(c^1) + u^2(c^2) + u^3(e) + u^4(P) \quad (3)$$

$$\text{s.t.} \quad c^1 + Pc^2 \leq y^1 + Py^2 = f(1 - e) + P\mathbf{j}(e) \quad (4)$$

We can write the Lagrangian for this utility maximization problem as

$$L(c^1, c^2, e, P, \mathbf{I}) = u^1(c^1) + u^2(c^2) + u^3(e) + u^4(P) + \mathbf{I} [f(1 - e) + P\mathbf{j}(e) - c^1 - Pc^2]$$

²⁵ See "The Theory of the Firm" in James Henderson and Richard Quandt (1971), *Microeconomic Theory: A Mathematical Approach*, Second Edition, McGraw-Hill Book Company.

²⁶ See Eugene Silberberg (1990) for excellent mathematical reference.

Here λ is Lagrangian multiplier on the resource constraint. When we differentiate with respect to each of the arguments, c^1 , c^2 , e , P and \mathbf{I} , that all contribute to the utility maximization, we have following five first order conditions that must hold at the optimal solution:

$$\begin{aligned} \mathcal{L} / \mathcal{L} c^1 &= u_1 - \mathbf{I} = 0; \\ \mathcal{L} / \mathcal{L} c^2 &= u_2 - \mathbf{I}P = 0; \\ \mathcal{L} / \mathcal{L} e &= u_e - \mathbf{I} (f_L - P\mathbf{j}_e) = 0; \\ \mathcal{L} / \mathcal{L} P &= u_P - \mathbf{I}P\mathbf{j}_e = 0; \\ \mathcal{L} / \mathcal{L} \mathbf{I} &= f(1 - e) + P\mathbf{j}(e) - c^1 - Pc^2 = 0. \end{aligned}$$

Where $u_1 = du^1/dc^1$, $u_2 = du^2/dc^2$, $u_e = du^3/de$, and $u_P = du^4/dP$. For $u_1 > 0$, the “relative price” of c^2 , e , and P can be correspondingly written as marginal rate of substitution between each of those items and c^1 :

$$u_2 / u_1 = P > 0, \quad \text{as } u_1 > 0 \text{ and } u_2 > 0 \quad (5)$$

$$u_e / u_1 = f_L - P\mathbf{j}_e < 0, \quad \text{as } u_e < 0 \text{ and } u_1 > 0 \quad (6)$$

$$u_P / u_1 = c^2 - \mathbf{j}(e) > 0, \quad \text{as } u_P > 0 \text{ and } u_1 > 0 \quad (7)$$

Equation (5) illustrates how the entrepreneur should set up the price. The price, P , must be set to equate the marginal rate of substitution between the two products, u_2/u_1 . This result is consistent with the traditional neoclassical prediction.

Unless $u_e = 0$, (6) shows that $f_L < P\mathbf{j}_e$, i.e. the value of marginal product of physical effort in production of y^1 is less than the value of marginal product of physical effort in production of y^2 . The implication of this result is extremely significant. Above and beyond all Baumol had discussed in his 1990 article about unproductive and destructive entrepreneurship, another most vivid and devastating example from modern history was the most destructive entrepreneurial effort during China’s “Great Leap Forward” between 1958 and 1960. The subjective value of producing iron and steel was infuriately higher than producing consumer goods such as corps. People’s entrepreneurial effort turned

into catastrophic frenzy: extremely inadequate productions for consumer goods; farmers went to the production of iron and steel, and thousands and thousands of acres of matured corps putrid in the fields. The “Great Leap Forward” ended with a historical record of 30 million deaths from starvation.

Most intriguing result is equation (7). When the entrepreneur subjectively “internalizes” the price into his utility function, it exhibits a result of “monopolistic” pricing. The entrepreneur is able to charge a higher price than a perfectly competitive market equilibrium price, where market demand meets market supply, $c^2 = \mathbf{j}(e)$. At the price P^* , demand of c^2 is higher than production of y^2 , i.e., $c^2 > \mathbf{j}(e)$.

Now, we postulate another scenario. Baumol (1990) proposes “how the entrepreneur acts at a given time and place depends heavily on ... the reward structure in the economy ... (or) the prevailing rules of the game that govern the payoff” to reward or guide the entrepreneurial effort. Hence, the model allows the government to play a role in fostering entrepreneurship by ensuring the society to be with an adequate amount of subsistent production and by promoting the entrepreneurial production. The former can be done by subsidizing subsistent good and the latter can be done by awarding productive entrepreneurial effort. To this end, we assume that the government imposes a lump sum tax \mathbf{t} to finance its spending G that is allocated into two areas: one is the price subsidy at the rate of \mathbf{d} for subsistent production $f(L)$ and the other one is to award each additional gain (i.e., the marginal productivity) from entrepreneurial effort, \mathbf{j}_e , at the rate of \mathbf{x} . To simplify the state of affairs, we assume that $\mathbf{d} + \mathbf{x} = 1$ and the government has to balance its budget, i.e., $G = \mathbf{t}$. The entrepreneur views the government award at the rate of \mathbf{x} as his achievement and internalizes this rate into his utility maximization problem.

This setting allows the government to play a very important role in guiding the entrepreneur. If y^2 is innovative and productive, the government can increase the rate \mathbf{x} ; otherwise, it would be reduced. It can be set to a zero, or a negative number, i.e., a tax on the marginal productivity of entrepreneurial effort.

$$\text{Max} \quad U(c^1, c^2, e, \mathbf{x}) = u^1(c^1) + u^2(c^2) + u^3(e) + u^4(\mathbf{x}) \quad (8)$$

$$\text{s.t.} \quad c^1 + Pc^2 + \mathbf{t} \leq f(L) + P\mathbf{j}(e) + \mathbf{d}f_L + \mathbf{x}\mathbf{j}_e \quad (9)$$

$$\mathbf{d} \cdot f_L + \mathbf{x} \cdot \mathbf{j}_e = G = \mathbf{t} \quad (10)$$

Substitute L by $1 - e$ and \mathbf{d} by $1 - \mathbf{x}$, the new Lagrangian for this utility maximization problem is

$$L(c^1, c^2, e, \mathbf{x}, \mathbf{I}) = u^1(c^1) + u^2(c^2) + u^3(e) + u^4(\mathbf{x}) + \mathbf{I} [f(1 - e) + P\mathbf{j}(e) + (1 - \mathbf{x})f_L + \mathbf{x}\mathbf{j}_e - c^1 - Pc^2 - t] \quad (11)$$

$$\begin{aligned} \mathcal{J}L / \mathcal{J}c^1 &= u_1 - \mathbf{I} = 0; \\ \mathcal{J}L / \mathcal{J}c^2 &= u_2 - \mathbf{I}P = 0; \\ \mathcal{J}L / \mathcal{J}e &= u_e - \mathbf{I} [f_L - P\mathbf{j}_e + (1 - \mathbf{x})f_{LL} - \mathbf{x}\mathbf{j}_{ee}] = 0; \\ \mathcal{J}L / \mathcal{J}\mathbf{x} &= u_x - \mathbf{I} [f_L - \mathbf{j}_e] = 0; \\ \mathcal{J}L / \mathcal{J}\mathbf{I} &= f(L) + P\mathbf{j}(e) + \mathbf{d}f_L + \mathbf{x}\mathbf{j}_e - c^1 - Pc^2 - t = 0. \end{aligned}$$

The “relative prices” in this new setting are:

$$u_2 / u_1 = P > 0, \quad \text{as } u_1 > 0 \text{ and } u_2 > 0 \quad (12)$$

$$u_e / u_1 = f_L + \mathbf{d} \cdot f_{LL} - P \cdot \mathbf{j}_e - \mathbf{x} \cdot \mathbf{j}_{ee} < 0, \quad \text{as } u_e < 0 \quad (13)$$

$$u_x / u_1 = f_L - \mathbf{j}_e > 0, \quad \text{as } u_x > 0 \quad (14)$$

Equation (12) provides the rule for price setting of the entrepreneur. Again, the relative price P should be equal to the rate of substitution between the two goods, c^1 and c^2 . Equation (14) implies that the entrepreneur’s allocation between e and L must satisfy $f_L > \mathbf{j}_e$, i.e., the marginal productivity of subsistent good must be greater than each additional gain from the production of entrepreneurial good. This implies that, within the current system, the limited resources would not be drained into solely entrepreneurial production and the production of the subsistent goods to be ensured. Equation (13) implies that rates of return to scale f_{LL} , \mathbf{j}_{ee} , and policy variables \mathbf{d} and \mathbf{x} must be all taken into account for allocating L and e .

Concluding Remarks

After realizing by economists, of which Baumol is one of the foremen, about our incapacity to incorporate the entrepreneur's role into the mainstream models of value theory or the theory of the firm, many economists' effort in gaining this capacity has led us to believe that we need to identify the entrepreneur to be the economic man in our study. This would enable the mainstream models to incorporate the motive of the firm's profit maximization into the value theory, of which the intrinsic value of a commodity that the economic man produces and consumes is to be essential and the "market price" of economic man's activities is to be determined. In turn, the theory of the firm would be liberated from studying motive or value of the entrepreneur. Instead, it would be focused solely on the behavior of firms as industrial organizations, of which the product pricing, output decision, dividend determination, and investment decision are typical examples.

Employing Adam and Eve as perceptible economic men, grounding on the detailed literature review, this paper ventures to build an "off mainstream" model that the entrepreneur is assumed to behave as if he maximizes utility including his value and desire to succeed, subject to income constraint, of which his physical effort in subsistent production and entrepreneurial production generate this income.

There also is a need to meaningfully define the term of entrepreneurship specifically as an economic system. That is, entrepreneurship consists of three components: entrepreneurs that desire to achieve their goals of economic survival and advancement; the social constitution that the entrepreneur's right for "free enterprises" is granted and the government that has the ability to adjust the economic institutions that work at the best to protect each individual entrepreneur, and to induce entrepreneurs' "motive to achieve" toward the social development and growth.

The simple model suggests that, with the absence of entrepreneurship (defined in section 2), the value of marginal product of subsistence goods is viewed inferior to it of entrepreneurial goods and the quantity of supply of entrepreneurial goods is below the market demand for these goods. On the other hand, the model successfully predicts that, under the "reward structure in the economy," limited resources can be allocated efficiently between producing subsistence goods and entrepreneurial goods.

In order to have sufficient enough resources for producing entrepreneurial goods, the productivity of subsistence goods ought to be improving incessantly.

Continuous effort will be made to improve the analytical model expressing the entrepreneur's "desire to succeed." More characteristics of entrepreneurs and entrepreneurship should be examined in the model so that their behavior could be predicted by the model. Further more, an empirical study will be considered to test the theoretical findings.

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