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THE AMERICAN APOGEE OF CONTRIBUTIONS ON ENTREPRENEURSHIP (1880S – 1920S)*

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ABSTRACT
The American economists, at the end of the 19th and the beginning of the 20th centuries, were more pioneering than their Continental colleagues on the issue of entrepreneurship. Their endeavor was mainly concentrated on explaining the sources of profit and in justifying its economic necessity and merit. The present paper will investigate comparatively with their Continental colleagues, their various ideas and arguments developed regarding the motives, functions and entrepreneurial rewards.

JEL Classification Codes: *B13, M13*

Key words: *entrepreneurship, entrepreneurial functions, American contribution.*

1. INTRODUCTION

Schumpeter (1954, 894) observed that during the 1920s many theoretical treatises were published fruitfully analyzing entrepreneurial functions. However, earlier than this time, a great, productive literature was developed, mainly in the United States, examining the issue of entrepreneurship and the justification of profit. The purpose of the present paper is to demonstrate that American economists, long before the end of 1920s, had advanced a variety of significant ideas about the entrepreneurial function and its reward, some of which are proved influential in the short and long-run analysis of this phenomenon. Such an endeavor was reinforced after the publication of E. von Bohm-Bawerk's *Capital and Interest* (1889) in which he explored and justified interest as a reward of roundabout productive methods. American economists by the end of the 19th century had attempted to explain the sources of profit and to justify (on economic, rather than moral, grounds) its existence. Such was their aim in publishing papers about the sources and validation of business profit in one of the first volumes of the *Quarterly Journal of Economics* (QJE) (1887).

The present paper will explore the significant contributions of American economists from the first issue of the *QJE* in 1887 until mainly the beginning of 1920s when F. Knight's treatise, *Risk, Uncertainty and Profits* (1921), was published. Contrary to Stigler (1955, 3) who argued that the rate of impact in the advancement of a theory is the decisive factor for a scientist's contribution, I think that originality and priority deserve also a detailed consideration. Adopting such a view the present paper is divided in two sections. The first investigates the relevant ideas and arguments regarding entrepreneurial motives and functions of both American and Continental

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economists in the period in question. The second explores the various "sources" and justifications of entrepreneurial income. It is concluded that the primary concern of the American economists was to explain the sources of profit and to justify its economic necessity and merit. In this attempt, those American economists proved more pioneering than their Continental colleagues in the field of entrepreneurial theory.

2. ENTREPRENEURIAL MOTIVES AND FUNCTIONS

America, during the period in question, proved a fertile ground for investigating specific entrepreneurial motives and functions. In regard to entrepreneurial motives, the American economists such as Ely (1889, 140-1, 225); Hadley (see Davidson and Ekelund, 1994, 4,13); Hawley (1901, 61); Taussig (1911, 167,169); Davenport (1913, 117, 140, 150, 156) and Knight (1921, 319, 333) stressed mainly two entrepreneurial motives: the profit or wealth motive and the motive/ambition for social advancement. Moreover, Knight (1921, 366) added the motive for independence, namely "of being one's own boss", as a strong entrepreneurial stimulus.[1] These entrepreneurial motives are still considered today as pull factors stimulating the supply of entrepreneurs (see e.g. Shane, Locke, and Collins, 2003).

The investigations of American theorists concerning the entrepreneurial function also proved quite productive. More specifically, Francis Amasa Walker (1887, 269, ft; see also Chell, Haworth, and Brearley, 1991, 20) extended his father's ideas on entrepreneurship. His father, Amasa Walker (1866, 280) credited to the entrepreneur the function of the manager and coordination of the factors of production, clearly distinguishing such a function from that of the laborer and the capitalist. Also, he held that although profits are a residual of income distribution, they are "merely wages received by the employer" (1866, 285).[2] F.A. Walker similarly specified that there exists a different class in society: "the employers themselves, in so far as they personally conduct and control business operations, their remuneration being styled the wages of supervision and management" (1876, 10). He characterized (1876, 243, 245) such a class of entrepreneurs, consisting of the chief agents of production, as the "captains of industry"; a term used by some eminent American economists, such as Veblen (1904, 30), Taussig (1911, 160), Davenport (1913, 109) and by some Europeans, such as Dobb (1925, 3).[3] F.A. Walker disregarded the terms "undertaker" and "adventurer" and used that of "entrepreneur," because, as he noticed, the first term is rather "devoted to

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[1] Parker (1918, 218) regarded one of the main entrepreneurial instincts to be leadership.

[2] The specific treatment of entrepreneurship, which was suggested by A.Walker, was followed by the majority of American economists, such as his son F.A.Walker (1876, pp. 231,269), Davenport (1907, 99) and others. F.A. Walker (1887, 274, ft) applauds French writers such as J.B. Say and Sandelin who analyzed a distinct entrepreneurial role.

[3] Ely (1889, 155) defined the entrepreneur as one "who manages business for himself" and his function "has become one of the most important in modern economic society. He has been well called a captain of industry, for he commands the industrial forces, and upon him more than anyone else rests the responsibility for success or failure" (see also Ely and Wicker, 1904, 191).

funeral uses" and the second "has acquired a wholly sinister meaning" (1876, 244).[4] Although some Continental economists in the 19th century, such as von Mangoldt and Mataja (see Knight, 1921, 27-9; Tuttle, 1927b, 516-8), followed the line of Cantillon and J.B. Say in differentiating the role of capitalist from entrepreneur, it was the Americans who stressed and established a clear distinction of the entrepreneurial function.

In regard to such a distinct function, some of the Americans followed the classical tradition of viewing it in organizing and directing the production process. Others, however, opened new paths in recognizing the significance of other entrepreneurial activities such as the bearing of risks and innovation. More specifically, F.A. Walker stressed the necessity of clearly distinguishing entrepreneurs from capitalists and laborers (1876, 244) and described entrepreneurial activities as "to furnish also technical skill, commercial knowledge, and powers of administration; to assume responsibilities and provide against contingencies; to shape and direct production, and to organize and control the industrial machinery" (1876, 245). The same line of the classical tradition was followed by Newcomb (1886, 71, 101-2) who developed the entrepreneurial role of coordinating the factors of production and organizing the enterprise. Similarly, J.B. Clark (1899a, 3; see also Stigler, 1941, 319) adopted such an entrepreneurial function adding the role for the restoration of equilibrium; a role advanced also by Taussig (1911, 159). Veblen, argued that the old type entrepreneur, acting in his own self-interest, namely under the desire for "the acquisition of property" (1914, 172-3; 1915, 122),[5] contributed to economic progress through the following functions and activities: (i) he is the proprietor and manager of the enterprise (1904, 23) and the "controller of industrial equipment and resource" (1923, 70); and (ii) he is the organizer of the production process (1904, 35). Simpson (1919, 150), also into the realm of classical tradition, tried to determine who, in reality, the entrepreneur is and from what sources his profit is realized. After examining various profit theories, he held that "a qualification of Walker's theory of profit represents the most satisfactory theory that has been evolved. Profit is justified because the entrepreneur directs or is responsible for production which is more efficient than the marginal production" (1919,

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[4] Similarly, Ely (1889, 155; see also Ely and Wicker, 1904, 191) disregarded terminology such as "undertaker" or "adventurer," instead of the "captain of industry," because "the first word has been appropriated by one small class of business men, and the latter has acquired a new meaning, carrying with it the implication of rashness and even of dishonesty"

[5] In such a context, Tuttle (1927, 501) claimed "the function of ownership of the business" was to be "viewed as an organized unit, as the distinctive function of the entrepreneur". Property rights as the basis of entrepreneurial function has been analyzed by Alchian and Demsetz (1972, 125) who regarded the entrepreneur as a person who receives "the residual reward" and has the following bundle of property rights: "(1) to be a residual claimant; (2) to observe input behavior; (3) to be the central party common to all contracts with inputs; (4) to alter the membership of the team; and (5) to sell these rights". They emphasized the coalescing of these rights which constitute the firm arises "because it resolves the shirking-information problem of team production better than does the non-centralized contractual arrangement".

158). He also maintained the entrepreneurial role has to be examined in the context of the modern corporation where the ownership is distinct from the direction.[6]

Comprising the second group of American economists are those who particularly concentrated on searching for other entrepreneurial functions and activities. More specifically, J.B. Clark maintained (1899a, 405, 410, 425; see also Karayiannis, 1990) that the function of the entrepreneur was not only that of coordinating/organizing, but also that of introducing more efficient methods of organization and production. By such innovative activities, the entrepreneur would gain an extra short-run profit which, however, would be eliminated when these new methods of production by the function of imitators were diffused in other firms (1899a, 406, 410; 1899b, 195-7).[7] Namely, J.B. Clark anticipated two kinds of the Schumpeterian innovation activities; Schumpeter (1911, 25) was well aware about Clark's distribution theory.

T. Veblen, similarly stressed that the entrepreneur's ultimate aim is to increase his profit by decreasing the cost of production (1904, 23), and thus the productive capacity of the system would be consequently increased (1921, 30). The entrepreneur succeeds in such a role if he acts as a real innovator by introducing new and more productive methods of production, by introducing more serviceable goods, and by assuming the risks of his pioneering actions (1923, 102-4, 109). More than that, Veblen regarded (1921, 60; 1923, 106) that some exogenous and endogenous changes led to the old role of the "captain of industry" being transmuted into two separate categories of management in the new industrial system: that of the businessman and that of the management technician. The first type of management, the businessman, was divorced from its industrial operations and is engaged now in the monetary transactions of the business (1923, 108), the direction of investments to the most profitable enterprise (1904, 24-5), and in keeping the balance between different lines of the production process (1904, 26). The second type of management, that of the technician, had the sole direction and control of the "mechanical process" (1921, 59). Therefore, in the modern industrial system, the innovative entrepreneurial function has been entirely replaced by specialized laborers: the industrial technicians or engineers (1923, 255).[8]

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[6] Some years later, Gordon (1936), building upon the function of the modern corporation and the separation of ownership and control, argued that the entrepreneurial function must be specifically analyzed as distinct "both from routine labor (mental or physical), on the one hand, and from the supplying of resources (with or without contractual guarantees), on the other" (1936, 313). He regarded that such a function may be accomplished also by salaried managers (i.e. as a form of intrapreneurship) who exercise the control of enterprise (for an extended analysis see Lewis, 1937). However, Gordon argued that the net profits of enterprise are like an "institutional income" in a kind of "gains of position" and are reaped by the owners of the enterprise (1936, 313-5).

[7] These ideas were also shared by Taussig (see Hebert and Link, 1982, 68). Similarly, R.A. Seligman in his *Principles of Economics* (1904) analyzed the role of innovative entrepreneur in reducing the cost of production and gaining extra short-run profits (see Davenport, 1907, 100-3).

[8] Such an explanation for the diversification of entrepreneurial function was adopted later on by Schumpeter (1943, 132) who claimed that the main role of the entrepreneur "is already losing importance and is bound to lose it at an accelerating rate in the future even if the economic process itself of which entrepreneurship was the prime mover went on unabated. For, on the one hand, it is much easier now than it has been in the past to do things that lie outside familiar routine - innovation itself is being reduced

Veblen clearly distinguished (1904, 44-5) between the process of invention and that of innovation, as also Schumpeter (1911, 88-9) later did. However, Veblen was not as convinced as Schumpeter that the prime mover of the system is the innovative entrepreneur. At the contrary, the new type of entrepreneur, as Veblen explained (1921, 29, 33), is that of financial director of the system. The ultimate objective of this new type of entrepreneur is the same as that of the old "captain of industry": the maximization of profits. However, the path which the financial entrepreneur takes toward the attainment of this aim is different from that of the old "captain of industry".[9]

Some ideas of Veblen about the function and activities of the entrepreneurs are still alive. For example, Galbraith (1967, 62-65, 173) used his distinction of roles between the technostructure (innovative entrepreneur) and financial management. Also, they are employed in tracing the origins of the competence theory of the firm (Foss, 1998); and are applied in showing the various profits opportunities that arise in the modern economies in transition (see Karayiannis and Young 2003).

During this same period, Davenport (1913, 118) insisted that the economist "must accept the entrepreneur function and the entrepreneur analysis". Also, "he must carry the analysis further than the entrepreneur is concerned to carry it in explaining what the entrepreneurs does, - the situation conditioning his activity, the forces playing upon it, and the results that flow from it" (1913, 118). By such claims, he became a forerunner of the modern multidisciplinary approach of the phenomenon of entrepreneurship.

Davenport also advanced (1913, 19) the following main traits of the modern economic system: "private property, individual initiative, and competitive production for the purposes of exchange". Under such principles- similar with those stressed recently by Casson (1987, 152)- the entrepreneurial function is more pervasive. Davenport defined (1913, 67) the entrepreneur as "the independent, unemployed manager; the one who carries the risks and claims the gains of the enterprise".[10] Although he recognized (1913, 398) the existence of non-insured risks as those risks "which the entrepreneur cannot get carried for him by others at any level of premium" (1913, 400), he did not assign the function of uncertainty-bearing as a special entrepreneurial one deserving a special reward. Instead of such a claim, he insisted these kinds of risks may be reduced by the operation of able and skilled entrepreneurship (1913, 400,404).[11]

Moreover, Davenport (1913, 5) argued the entrepreneur's "problem is to adapt activity to opportunity, to seek out his best adjustment to his situation and his best utilization of it." Namely, the effort for the exploitation of opportunity is the main source

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to routine. Technological progress is increasingly becoming the business of teams of trained specialists who turn out what is required and make it work in predictable ways".

[9] For an extensive analysis of the role and activities of the financial entrepreneur according to Veblen, see Griffin and Karayiannis (2002).

[10] In his earlier economic text-book, Davenport (1896, 150-1) used the term "undertaker" or "imprenditor" to describe the entrepreneurial function of the management and supervision of enterprise.

[11] A similar argument developed by F. Fetter in his *The Principle of Economics* (1904), who claimed that "profits are due, not to risk, but to superior skill in taking risks. They are . . . earned in the same sense that the wages of skilled labor are earned" (quoted in Davenport, 1907, 98).

of profitability and economic development.[12] It seems that Davenport anticipated the neo Austrian entrepreneurial theory developed by Israel Kirzner who maintains that entrepreneur is "a decision-maker whose entire role arises out of his alertness to hitherto unnoticed opportunities" (1973, 39; see also pages 35, 47-9).

Davenport's entrepreneurial theory is mainly converged on the entrepreneur's calculated efficiency under the notion of opportunity costs or foregoing profits (1913, 60-1). He held that the entrepreneur computes costs and determines - according to demand, supply and productivity - the rate of factors reward (1913, 139-40, 143). Then, he regulates the market price of goods based upon his costs and, by extension, the market demand for relevant goods as a price setter or "determinator" (1913, 110, 112-3, 115). In addition, he "distributes the productive agents and instruments into their different channels in response to the pressure of human needs as expressed in competing price demands" (1913, 115). To put it differently, one of the main goals of the entrepreneur is to guide and supervise the productive process (1913, 139) in such a way that "his profit is partly due to the fact that he is able to make an intermediate good or agent signify more to him in gain than he has to pay for it in wages and rent" (1913, 148). Moreover, Davenport recognized (1913, 416), but did not analytically explain and justify, the entrepreneurial function of the innovator in introducing new technology. Although, under the well-known slogan "knowledge is power," he distinguished (1913, 9) the activities of the inventor from that of the innovator.

In the same year, Haney (1913, 9-10) stressed entrepreneurship must be examined as a distinct factor of production that "organize[s] and direct[s] the business units". Namely, the entrepreneur "through his foresight and ability . . . directs the application of human energy in the shape of labor-power and capital-saving to the exploitation of the opportunities afforded by nature" (1913, 10). Additionally, he recognized the various risks of uncertainty as "the entrepreneur's risk arises from the impossibility of controlling prices", and claimed that the entrepreneur has the ultimate responsibility for the enterprise (1913, 10-1). However, he did not develop such an uncertainty-bearing entrepreneurial function, although he justified a part of net profit as rewarding entrepreneur's ability "to bear risk, the moral quality of responsibility" (1913, 11).

A much more comprehensive entrepreneurial theory was advanced by Hawley (Chell, Haworth, and Brearley 1991, 21). He argued, in various analyses, that entrepreneurship as a fourth factor of production, assumes the various risks and receives as a reward a profit rate which is the residual of production (1902, 236, 240). He claimed "profit is simply the price paid by society for the assumption of business risks [and] ... [t]he pure profit will vary with the personal ability shown in the selection of business risks" (1890, 388; see also 1890, 391; 1893, 465, 470; 1900, pp. 75-8). And, "the entrepreneur will never assume this uncertainty inevitably attached to the production process, but in conjecture and other risks, unless he believes he will profit thereby" (1901, 604). Such profit would be the residual element of income distribution (1890, 391,394; 1901, 607-8) and therefore, "the undertaker . . . is primarily . . . the

[12] Such an entrepreneurial function in searching profit opportunities was clearly recognized also by Pantaleoni (1898, 279).

person who relieves others of risk for a consideration always in excess of the chance of loss supposed to be incurred" (1892, 291; see also O'Brien 1929, 14-5, 66; Hebert and Link 1982, 65-6; Barreto 1989, 36).[13] Hawley's theory, which he incorporated into his *Enterprise and the Productive Process* (1907), had been accepted and followed by others, such as Carver (1900, 456-7), and was extended by Knight (1921) to his well-known entrepreneurial theory which will be examined in the coming pages. Thus, rightly Dorfman (1949, 132) noticed: "Hawley's emphasis on the entrepreneur as the great dynamic force was particularly stimulating to academic economists".[14]

J.B.Clark (1892) was opposed to Hawley's theory of entrepreneurship (see also Hutchison 1953, 312; Barreto 1989, 56-8) and maintained (1892, 44-5), that non-measurable risks are assumed ultimately by the capitalist. Clark emphasized that the entrepreneur, who produces some change by means of his activities, "is a risk-maker" (1892, 47); while the manager is a "risk-reducer" (1892, 48). Hawley (1893, 460) counter-argued, maintaining that "the circumstances that industrial risks will not be assumed without the expectation of a compensation in excess of the actuarial value of risk". He considered as unavoidable the function of entrepreneur in assuming such risks (1893, 465, 470). By criticizing in his turn Clark's coordinating theory of entrepreneurial function, Hawley thought "the distinguishing peculiarity of the entrepreneur is not that he is a co-ordinator, but is to be found in his ownership of the product" (1893, 478). Hence, "as the ownership of the product . . . implies that the continuance of risk and the indetermination of the amount of the residue are always co-existent, the residue of the product must constitute the reward for risk, and the only possible inducement to incur risk" (1893, 478). Hawley concluded, "enterprise, or risk-taking, is to be ranked, along with land, labor, and capital, as one of the four fundamental divisions of the productive forces" (1893, 479).

The well-circulated theory of entrepreneurship as risk-bearing function was also advanced by Haynes (1895, 409), who referred to the distinction of von Mangoldt (see Hennings, 1980) between risks due to irregularities and risks of economic nature. Haynes analyzed the following sources of risks: (a) those arising from ignorance; and (b) those due to dynamic changes and mostly changes in the methods of production (1895, 412-3). Although he recognized such a risk-bearing function "does not increase product as labor and capital increase it" (1895, 416), he regarded it as a necessary activity deserving a proper remuneration (1895, 434, 449).[15] He furthermore claimed, in reality, there is no such a type as the "pure entrepreneur". Such an entity is to be treated as an ideal and theoretical type used mainly for analytical investigations (1895, 426; see also O'Brien, 1929, 12). Such an approach was used later on by Schumpeter

[13] Hawley (1892, 283-4) criticized Bohm-Bawerk's theory of interest as not having incorporated into his analysis a specific reward for the assumption of various economic risks. Also, he noticed (1900, 460, ft), that when he developed his own entrepreneurial theory he had no idea about Mangoldt's relevant contribution.

[14] Hawley (1927, 413-5) maintained one of his original contribution in economics was his entrepreneurial theory of risk assuming and responsibility.

[15] Haynes noticed also the laborer bears some risks as well: "When a young man enters upon such a course of training, he risks his time, his money, and his effort" (1895, 436).

(1911, 81, 101) and shared by Edgeworth (1925, 48), who noted "to determine at what point the capitalist ends and the entrepreneur begins appears to defy analysis".

Frank H. Knight's main contribution to economics, is his theory of risk of uncertainty bearing; a theory which, hoever, had been anticipated by R. Cantillon and R. Hamilton (see Karayiannis 1992). Knight did not treat entrepreneurship as a factor of production where its marginal contribution could be measured and varied proportionately; though, he stressed its direct contribution on the establishment and function of the firm (Cunning 1993).[16]

He held that entrepreneurship is a functional activity when exists a differential operation between the actual and the theoretical competitive market. Thus, the entrepreneurial function is mostly obvious in a non-competitive world where perfect knowledge and foresight are absent (1921, 19). In such a world, both calculable and non- calculable risks arise. Calculable risks are included through the risk premium in the cost of production, while non-calculable risks, those which characterize uncertainty, are assumed by the entrepreneur (1921, 19-20).[17]

Uncertainty exists, according to Knight, not only because of unforeseen economic and other changes, but furthermore as "business decisions . . . deal with situations which are far too unique . . . for any sort of statistical tabulation to have any value for guidance" (1921, 231). It is this true uncertainty "which by preventing the theoretically perfect outworking of the tendencies of competition gives the characteristic form of enterprise to economic organization as a whole and accounts for the peculiar income of the entrepreneur" (1921, 232).[18] The "amount" of uncertainty is affected by the following factors: (a) "the time length of the production process"; (b) "the general level of economic life"; (c) the non-stable and non-predicted economic wants; (d) the unknown "development of science and of techniques of social organization" (1921, 265; see also 1933, 120); (e) "the sale price of his product" (1921, 317); and (f) "the amount of supply to be expected from other producers and the consumers' wants and purchasing power" (1921, 318). According to Knight, all these sources of uncertainty may be credited to time and are primarily connected to decision-making with respect to future events; an activity that differs fundamentally from decision-making associated with the present time (Loasby 2002, 31).

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[16] Demsetz (1988, 236-7) characterized Knight's contribution on entrepreneurship and profit theory as one of the most sophisticated that has endured up to the present.

[17] Knight argued that the presence or absence of uncertainty is the most "important underlying difference between the conditions which theory is compelled to assume and those which exist in fact" (1921, 51). Lamberton (1965, 57) regards as imprecise Knight's distinction between risk and uncertainty. On the other hand, LeRoy and Singell (1987) claim that Knight's notion of uncertainty means that agents "assume" or act "as if" they have subjective probabilities; an approach anticipating modern issues such as asymmetric and costly information, the adverse selection problem, etc.

[18] Elsewhere, Knight wrote: "the true uncertainty in organized life is the uncertainty in an estimate of human capacity, which is always a capacity to meet uncertainty" (1921, 309). He held individuals who are the less risk-averse and the abler become entrepreneurs (1921, 273-4, 282-3). The first entrepreneurial characteristic has been verified by Kihlstrom and Laffont (1979), while the second by Laussel and Le Breton (1995).

The need for entrepreneurship and managerial control in the firms, according to Knight (1921, 267), is validated by the "presence" of uncertainty. Under conditions "of perfect knowledge and certainty such functionaries would be laborers merely, performing a purely routine function, without responsibility of any sort" (1921, 268). In regard to the function of the firm as a creation of entrepreneurship, he stressed that "the essence of enterprise is the specialization of the function of responsible direction of economic life, the neglected feature of which is the inseparability of these two elements, responsibility and control" (1921, 271).[19] Hence, he claimed that the main function of the firm is the "reduction of uncertainty by consolidation" (1921, 298).[20]

Another entrepreneurial function clearly acknowledged by Knight is not only the calculation of the marginal product of the various factors of production (1921, 103), but also the estimation of "the degree of dependability of the association between the (estimated) factors" (1921, 214). An additional estimation the entrepreneur had to make is related to the "future demand" of his products and/or services, and "the future results of his operations in attempting to satisfy that demand" (1921, 238). Consequently, the entrepreneur, in conditions of uncertainty, makes decisions through a prediction process, namely "as to what may be anticipated" (1921, 274).

As Knight notes in his preface to the 1957 reprint of his *Risk, Uncertainty and Profit*, the entrepreneur has a twofold function: that of minimizing the ignorance of other economic agents and of bearing the risk of uncertainty.[21] As he wrote: "universal foreknowledge would leave no place for an entrepreneur. His role is to improve knowledge, especially foresight, and bear the incidence of its limitations" (1957, lix).[22] However, the above theory of entrepreneurship as a function of bearing the risk of uncertainty did not answer the question regarding the dynamic entrepreneurial role that increases the uncertainty and the risks of other agents of production and

[19] Knight recognized the simplest "division of entrepreneurship which . . . is the separation of the two elements of control and guarantee and their performance by different individuals" (1921, 289; see also page 291) as occurs in joint stock companies. However, in examining the consequences of such a separation of ownership from business control, he argued the risk of uncertainty is assumed by those selecting of the controllers of the enterprise, i.e. the owners (1921, 293-5; see also Langlois and Cosgel, 1993, 463). Thus, "the apparent separation between control and risk taken turns out . . . to be illusory", as "in organized activity the crucial decision is the selection of men to make decisions" (1921, 297). For a detailed analysis of Knight's views regarding the risk bearing in a corporation, see Weston (1949).

[20] Knight concluded the role of the entrepreneur and the firm are of primary importance for the function of the market economy. He noticed that "organization involves the concentration of responsibility, placing resources belonging to a large member of individuals under centralized control. Examination shows that the human functions in producing involve making decisions, exercising control, but that this control is not final unless combined with assumption of the results of the decisions" (1921, 308). Recent commentators variously reinterpret Knight's theory of firm; for a relevant review, see Foss (1996).

[21] Kirzner (1973, 83) criticized Knight's theory by arguing that "what does not come through in the Knightian exposition is the active, alert, searching role of entrepreneurial activity".

[22] The role of experience and information in reducing cognitive entrepreneurial uncertainty has recently been analyzed by Buchanan and di Pierro (1980).

entrepreneurs.[23] And as Shackle (1969, 21) rightly observed: “if decisions are undetermined, the consequences of action are uncertain. But the businessman is not merely the helpless victim of uncertainty. He is at all times actively promoting it”.

During the same time, in the Continent, there were developed some ideas and theories about the entrepreneurial characteristics and functions which deserve mentioning and comparison with those of the Americans.

The most adequately developed theory was that of Marshall who stressed (1890, 255, 336) individuality and economic freedom as the main prerequisites of the function of entrepreneurship. He described (1890, 208, 244, 248) such a functional role to be mainly that of controlling, managing, directing the enterprise and assuming its various responsibilities. Such an entrepreneurial function, which was adopted also by Edgeworth (1881, 32-3), lies on the old traditional British theory (see Karayiannis 1990) and particularly that of J.S. Mill (1848, 406-7).

By conducting such activities, entrepreneurs, according to Marshall (1890, 332, 490), assume various risks, some of which are unforeseen and thus uninsured. However, such an assumption of risks by the entrepreneur was treated by Marshall as a “symptom”, rather than a special function. He claimed only the proprietor of the firm assumes the various risks (1919, 645) and is rewarded by gross interest, i.e. net interest as a reward for “waiting” and “allowance for insurance” (1890, 69, 193, 294, 488, 512; 1919, 809).

Except of the above justification of the entrepreneurial function, Marshall (1890, 248, 296) clearly recognized two kinds of entrepreneurial innovative activity as sources of economic progress: establishing a new and/or more efficient method of production, and introducing a new product (see also Karayiannis 2005a). He furthermore discriminated (1890, 206-7; 1919, 203) the economic motives for inventions and innovations produced by different persons, the first by the scientist and the second by the entrepreneur. In other words, Marshall anticipated some ideas developed later on by Schumpeter in his theory of entrepreneurship.

Another English economists of the period who specifically analyzed entrepreneurship, was Hobson. He followed Marshall’s treatment of the entrepreneur as the fourth factor of production (1909, 12) who plans the business, buys other factors of production, organizes these factors and markets the product (1909, 123; 1911, 143). The entrepreneurial ability which, according to Hobson (1909, 126), is “creative” and not imitative as that of laborers, is activated also in promoting innovations mainly in producing new products and in establishing new more productive methods of production (1909, 127; 1911, 155). By extending Marshall’s ideas for innovation process, Hobson emphasized (1909, 130) the role of imitators entrepreneurs in reducing the level of price and increasing the welfare of consumers. He characterized the innovator’s short-run extra profit as “the price of progress” (1909, 131).

[23] Knight, later on (1942, 128). acknowledged the function of the innovative entrepreneur in an uncertain environment. Bewley (1989) extends such a thesis by developing a model in which innovators are unusually low-level uncertainty-aversers.

A.C. Pigou regarding the issue in question, departed from Marshall's theory. By noticing "uncertainty bearing as a factor of production" (1920, 771), he emphasized the entrepreneurial function of assuming the various risks of uncertainty (I1920, 165, 656-7, 780). Without any reference to Hawley's contribution, he claimed such a function is of paramount importance for the continuation of production process in conditions of unforeseen future events (1920, 771-3). Although he strictly recognized innovations in producing new goods and/or diminishing the cost of production, he did not relate such a function with entrepreneurship (1920, 671, 673).

Another British economists specifically engaged with entrepreneurship, was Lavington (1925; 1926) who although extensively analyzed the various causes, effects and rates of risks and uncertainties, he rather based such a function upon organizational and efficiency grounds of the entrepreneurial function. He claimed the main function of the entrepreneur is not the assumption of the various risks but that of reorganizing and readjusting the various resources of the enterprise "to imperfectly known, and changing conditions" (1925, 196).

From the other Continental economists, the Italian Maffeo Pantaleoni (1898, 279-82) and the Swedish Gustav Cassel (1918, 100, 171, 176) are the well-known economists who followed the Marshallian entrepreneurial function. Cassel, in addition, justified profits on the grounds of F.A.Walker's theory (1918, 100, 176). Notwithstanding, during the same period, it was developed the well-known and influential entrepreneurial theory of J.A. Schumpeter. His theory which remained unnoticed by early commentators of entrepreneurship (see e.g. Tuttle, 1927a; 1927b; Warburton, 1928), is framed the following fundamental ideas and arguments.

Schumpeter (1911, 77), by not accepting Marshall's theory of the entrepreneurial function as management, built a new one, which contained many original ideas. He analyzed entrepreneurship as an ideal theoretical type which, has many important empirical characteristics (1911, 81) and theoretically dispose no any property right on the factors of production (1911, 101). He credited to entrepreneurs mostly with psychological and social in character motives, such as the will of independence, of distinction, of creation, and of wealth (1911, 93). Some of these motives as is mentioned above, were recognized and emphasized by some American economists.

The entrepreneur, according to Schumpeter, is the prime mover of economic development (1911, 74-5) by fulfilling specific innovations, such as: "the introduction of a new good"; "the introduction of a new method of production"; "the opening of a new market"; "the conquest of a new source of supply of raw materials or half-manufactured goods"; and "the carrying out of the new organization of any industry" (1911, 66). He gave paramount importance to entrepreneurs not only in changing the technological standards of economic process, but furthermore in scheduling and determining consumers' preferences (1911, 65). In explaining the innovative process, he distinguished, as has done Veblen, Davenport and Marshall, the invention from innovation function (1911, 88-9). Besides, he turned against the risk assuming function of entrepreneurship, claiming "the entrepreneur is never the risk bearer . . . the risk falls on him as capitalist or as possessor of goods, not as entrepreneur. Risk-taking is in no case an element of the entrepreneurial function" (1911, 137). In regard to profit, he emphasized its character as a residual and product of the entrepreneurial innovative activities (1911, 129. 136). Moreover, such a profit, as the price of progress (1911, 154), has a short-run duration since the function of imitators would eliminate it (1911, 131-3, 135, 137, 152).

From the above analysis may be deduced that American economists had advanced original ideas about the characteristics and roles of the entrepreneurs. More than to follow the classical tradition, they introduced the distinction of roles between the capitalist and the entrepreneur and developed well structured entrepreneurial theories (dynamic-innovative, risk of uncertainty) Also, they anticipated some important ingredients of relevant theories developed in the Continent during the same period. Hence, it may be deduced that the American economists engaged in analyzing the phenomenon of entrepreneurship more pioneering and intensely-with the exception of Schumpeter-than their Continental colleagues did. As Dobb (1925, 17) had relatively pointed out, "until the last quarter of the 19th century economists in Britain had only the vaguest conceptions of the undertaker's function". And Schumpeter, who tried to explain why the American and German economists worked more intensely on the issue of entrepreneurship in relation to the British, commented: "It is a question of some interest why most of this literature should have been either American or German. Perhaps because the figure of the entrepreneur was at that time more prominent in the United States and in Germany than it was in England or France? Or perhaps also because at least the English economists took the entrepreneurial function and entrepreneurial profits so much for granted as to see little need for more analysis of them than they found in Marshall" (1954, 895, ft 7).

3. ENTREPRENEURIAL REWARD

The majority of the American economists clearly considered profit to be the main residual of distribution. A significant number of them also differentiated its rate according to entrepreneurial abilities and characteristics. More specifically, F.A.Walker, in his *Political Economy* (1883) developed the theory "of the rent of ability" in justifying differential profit rate (see Cannan 1929, 358; O'Brien 1929, 63-4; Newton 1967, 29-35). By treating wages as the residual of income distribution process (1887, 282-3), he regarded that the minimum rate of profit is a reward for normal entrepreneurial ability in managing the enterprise. Such a minimum rate, "would be the amount of profits necessary to keep alive a sufficient number of the employing class to transact the necessary business of the community" (1887, 270). A rate of profit higher than the minimum is justified as a reward for special entrepreneurial abilities and may be treated like the rent of land (1887, 278, 288).[24] This rate of profit represents that which the entrepreneur has produced "over and above what the employers of the lowest industrial grade have been able to produce with equal amounts of labor and capital" (1887, 282).

[24] Such a theory that differential profit rates are justified on differences in personal entrepreneurial abilities has been employed theoretically (see e.g. Lucas 1978) and empirically verified (see e.g. Littunen 2000).

F.A.Walker's theory of profit has drawn some critiques immediately after its appearance. For example, Macvane, argued that F.A.Walker's "theory is, in reality, not a theory of managers earnings at all, but a theory of the differences in managers earnings" (1887, 10). Thus, "I cannot but regard as unreal and misleading the analogy assumed by Mr. Walker between earnings of management and rent of land. Rent could have at most an analogy to differences of earning; for the basis of rent is not production, but differences in production" (Macvane 1887, 11). Hawley (1890, 388-9), basing his conclusions upon the function of a joint-stock company, maintained that F.A.Walker's profit theory could not stand, as there exists a strict separation of ownership and control of the enterprise and the reward of managerial ability is included (as a reward to the salaried manager) in the cost of production.[25]

Notwithstanding, some additional critiques appeared on the other side of the Atlantic. Marshall commented "I am nearly in agreement with General Walker's Theory of Profits; but there is, I think, a real though small difference between us. I do not regard the analogy between rent and the earnings of exceptional ability as confined to the task of business management" (1887, p. 477). Such a reward, for Marshall (1887, 479), must be included into the cost of production. A year later, Sidney Webb (1888, 203), in criticizing F.A.Walker's theory, stressed that profits "actually depend, not only on skill and on the amount of capital employed, but largely also upon opportunity and chance" in a form perhaps best described "as rent of opportunity". Therefore, there does not exist any tendency of profit equalization among the various firms, not only in different sectors of production, but also within the same sector (1888, 206).

However, F.A.Walker's theory of profit proved very influential explicitly in the short-run and implicitly in the long-run.[26] More analytical, in a slight variation it was followed and extended in England mainly by Marshall and Hobson. Marshall (1887, 477, 479-80, 503 ft1, 518 ft1) accepted with some qualifications F.A.Walker's theory of profit as remuneration or "rent" of entrepreneurial ability. He characterized as "quasi-rent" the differential profit accrued by the different abilities of entrepreneurs (1890, 351-2, ft, 508). Such a rent, "of rare natural abilities may be regarded as a specially important element in the incomes of business men" (1890, 517). Marshall, justified (1890, 508-9) the differential profit level mostly on variations in managerial and salesmanship abilities, rather than innovation. Also, he claimed (1890, 45-60) that special entrepreneurial ability, behavior and training deserve a special reward; an argument already put forward by J.S. Mill (1848, 411, 476).

Hobson, by following F.A. Walker (1900, 171, 176) and Marshall, considered profits as the reward of the organization ability of the entrepreneur, as "the difference between [the expenses for the factors of production] … and the prices obtained for the product constitutes his profit" (1909, 58; see also page 129). Such a reward is measured as the difference in productivity between the unorganized and organized production process (1909, 123; 1911, 145-6). This rate of profit is the theoretical maximum, while its

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[25] F.A.Walker responded to these and other critiques in two papers (1888; 1891).

[26] Hollander (1902, 271) noticed "Walker's theory of distribution … represents a reaction born of intimate acquaintance with American economic conditions from the traditional doctrines of the English classical political economy".

minimum is equal to "a payment necessary to evoke and to support the energy of the entrepreneur", and is regulated "by his alternative individual productivity as a worker" (1909, 124); mainly of a salaried manager (1909, 128). The market rate of profit is determined between these two limits as there are various obstacles to the supply of entrepreneurship, such as special education, market knowledge and necessary capital (1909, 125). He makes clear (1909, 129-130) profit is the residual element of production, a kind of surplus after payment of contractual incomes.

F.A. Walker's theory of profit was explicitly acknowledged, analyzed and followed by many well-known Anglo-Saxon economists on both sides of the Atlantic, such as Pantaleoni (1898, 278-9), Davenport (1907, 91, 400), Taussig (1911, 172-3), Simpson (1919, 152), Dobb (1925, 66), Tuttle, (1927b, 512-3), and Cannan (1929, 358). Moreover, this theory was included in textbooks, as e.g. Ely and Wicker (1904, 431) and Gough (1920, 248, 250-1).

In the long-run we can say it is implicitly incorporated-with the additional influence of Marshall-in the mainstream competitive model, as a source of rent for a scarce and non-reproducible resource of the entrepreneurial talent (see e.g. Ryan, 1967, 220-2). Such an element is included in the cost of production, "as the entrepreneur is considered to hire such a resource by himself" (Kirzner 1997, 69, ft 17).

From the above analysis may be deduced F.A. Walker's theory of profit was the "orthodox" explanation shared by the majority of neoclassical economists during the late decades of the 19th and the early decades of 20th centuries, both in America and on the Continent.

However, during the period in question developed some other ideas and arguments regarding the sources and rate of profits. More specifically, Ely (1889, 222) considered that there exist two kinds of profits remunerating the entrepreneur: (a) "conjunctural gains" which are "gains resulting from a favorable conjuncture of circumstances, which could not have been anticipated";[27] and (b) "pure profit" which consists of two elements: "marginal" and "differential" profit. "Marginal profit," according to Ely (1889, 223), is a rate of profit for remunerating "the most inefficient managers whose services are necessary to produce the required supply". "Differential profit," on the other hand, is justified because of the special skills of the entrepreneur.[28] Hence, "more efficient entrepreneurs will … be able to secure a greater return in profit, representing the difference in efficiency between their management and that of the entrepreneurs of marginal efficiency. The first sort of profit may be called the necessary or minimum or marginal profit; the second, the differential profit" (Ely 1889, 223). He recognized there exist some activities through which the entrepreneur creates a short-run monopoly and thereby gains additional profit. He regarded patents, copyrights and trademarks are some sources of monopoly profits, guaranteed and protected under social action (as in the case of legislation) or by social tolerance (1889, 258). Such profits are purely justified, since "a fit reward for valuable public services" aroused the "stimulus they

[27] A kind of profit accepted, characterized, and explained by Davenport as well (1907, 97, 103). The "conjunctural gains," a term derived from the German word "Conjunctur", as Marshall (1893) noticed, are justified by the various opportunities and advantages of the entrepreneurs.

[28] Davenport makes clear that entrepreneurs differ "in skill and in the direction of their skill" (1913, 152).

have given to authorship and invention" (1889, 259). Here, Ely had in mind the inventor-entrepreneur rather than the innovator-entrepreneur function (1889, 260).

For J.B.Clark, profit as a residual reward (1891a, 290; 1891b, 113; 1898, 7; 1899a, 203-4) is a product of the dynamic economy created by: (1) an increase in population; (2) an increase in capital; (3) an improvement of production methods; (4) a change in the forms of business enterprise; and (5) the multiplicity of consumers' wants (1899a, 56, 401). Such a pure profit, "is an incentive to competition" (1899a, 290-1) and it "is mercantile, and means that employers are selling their products for more than they are paying out in wages and interest" (1899a, 179). He argued this profit, above the normal remuneration of the entrepreneur's organization ability, is eliminated when the competitive forces of the economy are in operation (1899a, 111-2, 203). He advanced the idea that any innovative activity of the entrepreneur which decreases the cost of production, would result in a "pure profit" (1891a, 313). Such a profit exists until the role of imitators increase the quantity supplied and, thus, the rate of price returns to a new lower level which includes only a reward for the management of enterprise and/or the coordinator of the factors of production (1892, 46). J.B.Clark's theory of profit which proved influential to his own country (see e.g. Knight 1921, 32-39) did not remain ignore by the Continental economists. For example, Schumpeter (1911, 128, ft 1), mentioned that J.B.Clark's theory of profits "is nearest to mine". Dobb (1925, 69-70), commented that his "theory shows a distinct advance on the earlier rent theory, and seems to mark out fairly clearly the important guiding lines of production".

The American priority in justifying and determining pure profit as a distinct dividend of national income, was acknowledged at the very beginning. For example, Hollander noticed their theories were a product "of the industrial dominance of the entrepreneur and the signal inadequacy of prevailing theories as to his reward" (1902, 271). On the other hand, the majority of British writers (see e.g. MacGregor 1908), still confused in their distribution theories the rewards of the entrepreneur and the capitalist. More than that, the Americans continued the search for profit justification and determination.

In particular, Veblen (1904, 138, 154) considered the most significant element in an entrepreneur's schedule for increasing the earning capacity of the enterprise, is the capitalized value of intangible assets and, more importantly, the goodwill of the firm. He then argued that the earning capacity of a modern firm is much higher than the earning capacity of its material equipment, because of the element of intangible assets. This difference in the rate of earning capacity, he attributed (1904, 138-9, 172-3)- although not emphatically - to certain actions of the entrepreneur which result in a formation of "good-will" within the enterprise.[29] He reasoned (1904, 52-3) that there are specific entrepreneurial activities which increase the goodwill of an enterprise, such as the entrepreneur's proper behavior toward his customers and suppliers, his innovative activity, and his special market knowledge and information.[30]

[29] Recently, Casson (1995, 87,210-6) showed that firm reputation and goodwill are not only a source of extra profit, but also a means for decreasing the rate of transaction costs.
[30] Foreman (1923; 1925) extensively analyzed the various kinds of enterprise's good-will as a source of business profits.

Profit, as a residual element of distribution, was also stressed by Taussig (1911, 159), who justified its differential rate according to the capabilities of the entrepreneur. He noted: “the elements of success are various- shrewdness in meeting risks as well as skill and ability in organization. But continued success is not due to chance. It is due to the possession by some individuals of qualities not possessed by others” (1911, 160). He concluded “the business man of the first order must have imagination and judgment; he must have courage; and he must have administration capacity” (1911, 163).

Davenport (1913, p. 66) distinguished between “necessary” profit which is a part of cost remunerating the labor of the entrepreneur, and “unnecessary” profit which is a “differential above cost” (1913, 67) and is the compensation for entrepreneurship (1913, 67). He also claimed that scarce services offered by the entrepreneur, such as good-will and patents, deserve and justify an additional entrepreneurial reward (1913, 129, 131). While considering unnecessary profit to be a residual element, he realized, in its broader aspect, it may be regarded as “compensation for the independently gain-acquiring human factor in economic activity” (1907, 98).

A rather different justification of profit was advanced by Foreman. He dividend between two kinds of pure entrepreneurial profits: the positive utility profits and the risk utility profits (1918, 321). He considered the first kind of profits or the “efficiency” profits (1919, 128), to be the fruit of innovative activities of the entrepreneurs in reducing costs and advancing the quality of products (1918, 317; 1919, 129-30, 133). The second kind of profits he credited to entrepreneur’s efficiency in reducing the various risks (1918, 317). Thus, “a positive utility profits in the direct result of an added productive force; a risk profit is a utility profit rescued from destruction” (1918, 321).

According to Knight, profit as a residual and non-contractual income (1921, 271, 280), is the outcome of the different operation “between perfect competition and actual competition” (1921, 19). Also, it is a result of the non- perfect foreseen (1921, 35,37,38), or non-calculable *ex ante* economic changes (1921, 47).[31] Profit, in this sense, is a non- functional reward and arises “from the fact that entrepreneurs contract for productive services in advance at fixed rates” and realize profit “upon their use by the sale of the product in the market after it is made” (1921, 197-8). Thus, the assumption of the risk of uncertainty is simply the basis “of a valid theory of profit” (1921, 20). As he claimed in his 1957 preface: “uncertainty explains profit and loss; but profit, when it occurs, is not properly a reward for risk-taking, though the expectation of gain is the incentive for assuming the entrepreneurial role” (1957, lix). In conclusion, profit “falls of necessity to the person in responsible control of business” (1921, 306) and “arises out of the inherent, absolute unpredictability of things” (1921, 311).

Knight also recognized a differential rate of profit originating in entrepreneurs’ individual attributes and capacities,[32] such as: (1) differences in their “capacity by

[31] Knight agreed with J.B.Clark in regards to the source of profit. He also stressed (1934, 540-1) “uninsurable risk is in fact associated chiefly with economic change”.

[32] Similar justification of pure profits developed also by Pigou (1920, 776) who claimed “the payment for uncertainty-bearing … consists, not in the whole of the excess above normal profits earned by these successful undertakers, but only in that (generally small) part of this excess which is not cancelled by the

perception and inference to form correct judgments" (1921, 241); (2) differences in their "capacities to judge means and discern and plan the steps and adjustments necessary to meet the anticipated future situation"; (3) differences "in the power to execute the plans and adjustments" needed; (4) differences "in the amount of confidence which individuals feel";[33] (5) differences in "conative attitude to a situation upon which judgment is passed with a given degree of confidence" (1921, 242); (6) differences "in their powers of effective control over other men"; and (7) differences "to act to their opinions, to venture" (1921, 269). Generally speaking, Knight (1921, 277-8), remembering F.A. Walker, considered that the profit rate is determined by entrepreneurs' ability and the demand for, and supply of, entrepreneurship. He held that the demand for entrepreneurs "depends directly upon the supply of other agencies", while its supply "involves the factors of (a) ability, (b) willingness, (c) power to give satisfactory guarantees, and (d) the coincidence of these factors" (1921, 282-3). Notwithstanding, in more specific justification, he claimed that personal rate of profit is "a matter of (i) the failure of the judgment, or (ii) an inferiority in capacity, on the part of his competitors" (1921, 281). Profit, then, as a residual element of distribution is "a margin of error in calculation on the part of the non-entrepreneurs and entrepreneurs who do not force the successful entrepreneurs to pay as much for productive services as they could be forced to pay" (1921, 284). Moreover, it is determined by the ability of the entrepreneur to know and judge his own powers as well as the ignorance of other men (1921, 285); a justification accepted later on by other economists such as Machlup (1942, 15-6).

Knight's entrepreneurial theory of profit was very influential in the short and long-run. After its publication was immediately adopted by several economists. For example, O'Brien by extensively analysing Knight's theory (as also the relevant theories of Hawley and Hardy) adopted and advanced an uncertainty risk bearing entrepreneurial theory (see e.g. 1929, 19-20, 34-6. Hicks (1931, 172) generalized an uncertainty theory in justifying not only profits, but also for other rewards. He esteemed Knight's contribution by stating that he "has laid securely the first foundation on which any future theory of profits must rest - the dependence of profits on uncertainty. That is a service whose importance can hardly be over-estimated. It commits us finally to one and one only of the various roads that earlier economists had explored. It put us on the right track" (1931, 170). Similarly, Lamberton (1965, 46), noticed that "Knight's book was if not the first, then the most significant elaborate statement of the connection between profit and uncertainty". F. Weston (1950,1954), by distinguishing between transferable and non-transferable risk of uncertainty, has shown that entrepreneurs are assuming the non-transferable kind of risk and thus receive profit, which is a non-contractual

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corresponding losses of other undertakers who have fallen out of the race". Thus, pure profits remunerate "the temperament and knowledge" of the entrepreneurs (1920, 773).

[33] Knight was essentially correct, as Bernardo and Welch (2001) have shown recently. Overconfident entrepreneurs are more likely to be innovators and are more likely to explore profit opportunities.

reward. Such a Knightian approach was also employed by Bronfenbrenner (1960) to construct his "naïve theory of profit".[34]

Additionally, in the corpus of the modern neoclassical paradigm although its approach "is incapable of usefully addressing the issue of entrepreneurship" (Adaman and Devine 2002), have been developed various models based on the Knightian entrepreneurial theory of profit such as those of Kihlstrom and Laffont (1979), Bewley (1989) and Brouwer (2000). Also, in the neo-Institutional approach is employed Knight' theory in analyzing some functions of the firm (see, e.g. Langlois and Cosgel, 1993; Langlois, 2005).

Except for the above, Knight's theory occupies a specific place in many well-known economic textbooks, such as Stonier and Hague (1964, 357-363); Baumol and Blinder (1979, 607-8); Fisher and Dornbusch (1983, 500); Ruffin and Gregory (1983, 378-9); and Sloman (1991, 162). Moreover, by conducting a simple statistical process for estimating the modern acceptance of entrepreneurial theory and reward, is found that in a random sample of twenty special treatises: 46% focus on the risk of uncertainty bearing, 31% on the organization/coordination function, and 23% on innovation (see Karayiannis 2005b). Thus, the theory of bearing the risk of uncertainty (mainly developed by Knight) may be regarded as the main and time lasting contribution of American economists on entrepreneurship.

From the above discussion regarding profit and its justification it may be concluded that, during the late 19^{th} – early 20^{th} century, the majority of American economists shared the theory that profit is the residual of income distribution. Moreover, although some of them attributed the source of profit to special unforeseen market conditions, the majority, recognized two significant elements of such an income: the remuneration of pure entrepreneurial activities and the reward of personal characteristics and abilities. Their impact on the evolution of economic science has a short and a long-run continuation. Namely, F.A. Walker's theory of entrepreneurial profit proved influential in the short-run (until the first decades of the 20^{th} century), while that of Haynes-Hawley-Knight theory of entrepreneurial function has a long-run –and still lasting- impact. Moreover, their theory of the entrepreneurial reward as the residual of production is still employed in the whole spectrum of economics, while the justification of differential profit rates on entrepreneurial abilities, knowledge and personal good-will, are still used in theoretical and empirical researches.

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[34] On the other hand, Knight's theory was strictly criticized by some economists. For example, Streeten (1949, 266-282) argued Knight's explanation of profit did not differ essentially from his explanation regarding other incomes and, in addition, his theory was unable to encompass the modern organization of the market (i.e. the corporations). Knight's theory also contradicts, as Easterbrook (1949, 327-331) observed, the purposeful activities of entrepreneurs to establish "entrepreneurial security" by all means which is a specific environmental characteristic of entrepreneurial function. Kirzner, commented (1973, 83) that Knight by "treating profits as a residual fails to disclose that from the point of view of the prospective entrepreneur the profit opportunity is, with all its uncertainty, there". Also, Schultz (1980, 441), criticized the Knightian profit theory on the grounds that risk-bearing activities are assumed not only by entrepreneurs, but by other agents as well, such as laborers.

4. CONCLUSION

From the previous analysis may be concluded that the originality and priority of the American's contribution on the issue of entrepreneurship is not only obvious but very important and influential. There are various explanations for such a wealth noticed contribution. For example, Knight (1921, 302-3) argued that American economists gave priority to short-run dynamic changes and their consequences on the emergence of profit, while, on the other hand, European economists tended to develop a long-run theoretical analysis. Cochran (1968, 89), mentioned "the relatively early development of big corporations in the United States led American economists to think of entrepreneurship as a faction separate from either ownership or the supply of capital".

More than that, the relevant American economists' originality and priority may also be explained by the advanced credit system that existed at that time in America, where more opportunities were available to persons having entrepreneurial spirit and activities, but inadequate capital. Also it may be explained by the existence of the relatively open, classless society Americans, in contrast to Europeans, enjoyed during this period. To the ordinary American, attaining the "American Dream," was a prevailing hope and achievable goal, the attainment of which was primarily made possible by the individual's involvement in entrepreneurial activity.

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NEXT ISSUE

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