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ON ENTREPRENEURSHIP, GROWTH AND RENT-SEEKING: HENRY GEORGE UPDATED

by William J. Baumol*

Progress and Poverty, that memorable work of Henry George, leaves us with three main messages: first, that the rent of land is an egregious contributor to inequality; second, that rent, unlike other income sources, can be taxed without detrimental incentive effects; and third, that this is so because pure rent is a payment for which the recipient provides no production to society in return. These ideas continue to stir his followers to this day, which at once raises a question. Since, as a share of the Nation's income, the rent of land has fallen to a mere two percent, how can anything so minuscule merit our attention, or the attention of the designers of economic policy?

I will show here that George's analysis continues to be pertinent and important, but is so primarily when it is generalized and its applicability thereby extended well beyond its original bounds. Economists have focused on the last of George's three observations listed above—rent as the payment for zero contribution by the recipient—and now use the term to refer to any such uncompensated payment. When, for example, a business conspiracy accumulates large monopoly earnings in an industry whose output is, if anything, reduced in the process, then economists deem that collaboration to have resulted in the acquisition of substantial "rent." It is rent in this generalized sense that is at the forefront of modern economic developments, as will be shown here.

Of course, the newspapers tell us every day, in sensational terms, that rentseeking and rent-getting are neither things of the past, nor a source of wealth only of landowners. The "Enrons" of our economy—along with the proffision of top corporate managements that have been able to provide themselves with obscenely high incomes even though the performances of their firms had little or nothing to commend them—are today's more obvious counterparts of George's landholders. But that is not the tale on which I want to focus. Rather than looking at wrongdoing and flouting of the law, I will direct

attention to the development that constitutes our economy's most dramatic success, an accomplishment not remotely replicated by any previous economy. It is the free market's incredible outpouring of production and innovation, and the entrepreneur's role in the process, with which my discussion is primarily concerned.

1. Entrepreneurship as a Resource Allocable Between Productive and Unproductive Activities

One can say of the role of the entrepreneur in mainstream mathematical writings about the firm much what Mark Twain said of the weather: Everyone talks about the subject but no one does anything about it. Every economist surely must be prepared to concede that entrepreneurs are (even if for reasons not fully specified) of great importance. Certainly, entrepreneurs are often accepted as the critical contributors to economic growth, particularly in the centuries of industrial revolutions. But in standard microtheory, entrepreneurs are completely invisible.

To begin with, let me recall the two senses in which the term is used and indicate why neither definition permits the entrepreneur a role in the standard microeconomic models. Sometimes, the entrepreneur is defined as the organizer of any new firm, whether or not the enterprise is novel in operation or organization, and that is surely the meaning of the French or the German terms for the activity. But for other writers, following Joseph Schumpeter, the entrepreneur is an innovator, who is always engaged in doing something that was never done previously, and not just founding yet another business entity of a sort that already exists.

The classic Schumpeterian model, in which the entrepreneur finds he can earn profits only by innovating, and can obtain an enduring flow of profits only by constantly innovating, is the prime exam-

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ple. And it is an example important for the discussion here because it is so clearly not the end of the story. Later, I will discuss Schumpeter's observation in his later writings that the innovation process is undergoing routinization. The questions to which this view gives rise are whether it is in fact true and, if so, where it leaves the entrepreneur, i.e., whether routinization of innovation threatens to deprive him of his role. One may well ask whether this provides some justification for the absence of the entrepreneur from the formal models of mainstream microtheory.

However, in this paper I will focus on another major gap in the stories of those who do choose to write about the entrepreneur. It is often at least implied that growth in economies tends to take off when there has for some mysterious reason been an expansion in the number of members of the society with entrepreneurial propensities and, correspondingly, that economies experience decline and fall when the share of entrepreneurs in their population for some reason collapses. Thus, the notion is that societies can experience apparently autonomous outbursts of entrepreneurship and equally independent declines and near-disappearances of the entrepreneurial individuals whose activities are so critical for growth. Is there an economic explanation for such developments that can perhaps enable us to do something about them, or must they be treated as fundamentally fortuitous and inexplicable events, as phenomena of spontaneous generation and decline?

In my view, the perception that entrepreneurship has a disturbing tendency to dry up unexpectedly or to spring forth unexpectedly, like Athena from the head of Zeus, stems from a basic misunderstanding. The source of this misunderstanding is a propensity to equate entrepreneurship with virtuous behavior. Because we recognize that entrepreneurship can bring innovation and growth, we are misled into thinking that it must always contribute to economic abundance and expansion. But there is no reason why this must be so, and it patently is not true in reality.

First, one must recognize that the class of individuals who constitute the economy's entrepreneurs are not selected to be, uniformly, a collection of dogooders. Like professors or lawyers or doctors or any other profession, the strength of their dedication to morality will vary from one such individual to another. It is, indeed, a plausible hypothesis that

the typical entrepreneur has a tendency toward amorality in his professional activities, neither accepting major sacrifices on behalf of the general welfare nor deliberately seeking to damage it. The entrepreneur's goal is acquisition and accumulation of wealth, power and prestige, with innovation used as a primary weapon in pursuit of those objectives. If the entrepreneur's innovations happen to yield social benefits, so much the better. But if those benefits are questionable or even nonexistent, that need not put a stop to the activities of the entrepreneur.

The point is that entrepreneurship, like any other input in the economy, is an allocable resource, and pursuit of profit—the profit motive—will determine where it will be allocated. However, one can be innovative and enterprising in a variety of different ways. The gangster “godfather” who invents a new instrument for extortion or the warlord who invents a new military tactic to tighten his grip on his domain are surely being entrepreneurial. These extreme examples are chosen deliberately, to show how far the conventional notion of entrepreneurship invites extension.

It is, of course, true that the U.S. economy has no warlords, though it does have its godfathers. But consider what would happen if something were to change the situation to one resembling that of the Middle Ages. Then, as we know, the entrepreneurial innovators were the unruly barons, who not only conducted continual warfare with one another, but even with their kings, as in England in the reigns of Stephen and Matilda, John, Henry III, Richard II, Henry VI and Richard III. The point is that society's most enterprising individuals were in these societies driven by their ambition to innovate aggression rather than to production. It is not that the class of entrepreneurs had vanished from those societies. Rather, the entrepreneurs were induced to go where the most promising opportunities for enrichment and acquisition of power were to be found. As the notorious thief, Willie Sutton, is reported to have answered when asked why he robbed banks: “Because that's where the money is.”

All of this may (or may not) seem convincing, but largely irrelevant, for the most pressing economic issues facing today's society. But that is only because of the extreme examples that I have used to dramatize my point. Today, criminal activity aside, the primary type of effort that competes with production as an attraction to entrepreneurs is something far less dramatic than military violence, but

nevertheless of critical importance. This alternative is *rent-seeking*, that generalization of Henry George's focus—the pursuit of earnings primarily through redistribution in one's own favor, rather than in return for any productive accomplishment. The lawsuit is a prime example of such an activity, and the number of firms that participate in such activities is hardly negligible. Vast resources are devoted to legal representatives of business firms in the courts, the regulatory agencies and other such instrumentalities, whose job it is to seek special economic advantages such as court-imposed protection from disturbingly vigorous competition and direct enrichment through vast court-ordered damage payments. Such unproductive activities can and often are carried out in an innovative manner with full exercise of entrepreneurial vigor. And it is easy to provide examples of firms that participate in both types of activity—production and litigation. But where the damage payment being sought in a lawsuit is (as I have more than once experienced) equal to something like a decade of the firm's usual profits, it is easy to imagine where primary attention is given by the firm's decision makers.

As is well recognized, rent-seeking takes many forms beyond litigative activity. There are, for example, such rent-seeking activities as the pursuit of an exclusive license to operate a public utility; lobbying in Congress; efforts to extend the life of patents by means of inventions whose primary purpose is to exclude competition; and many additional variants, all of which are pursued entrepreneurially, with constant alertness for innovation opportunities. The recent economic recession that made its appearance with the onset of the 21st century drew attention to another widespread example, the corporate (mis)management that pursues its own wealth at the expense of the stockholders, offering the latter little or nothing in return. All of these are examples of significant rent-seeking activity that redirects entrepreneurial effort away from contributions to production, economic growth and innovation.

The central point here is that the “rules of the game”—by which I mean the structure of the economy's payoffs—can and do change. And when these rules change they can confidently be expected to modify the allocation of the economy's entrepreneurs between production and rent-seeking. History readily provides striking examples. Thus, during the reigns of the last Plantagenets and the early

Tudors, service to the King was a primary source of income, privilege and, perhaps most critical, landed property. As a result, the evidence indicates, economic activity by leading subjects of the Crown was focused in this direction, with productive investment by the magnates a very new phenomenon, following the innovative example of Edward IV. And during the reign of the Stuarts, when Parliament succeeded in circumscribing the rent-granting powers of the monarch, it is arguable that the economy's entrepreneurs' activities were redirected toward commerce and production, thereby providing part of the explanation for the subsequent British economic success in the European economy of the early 19th century.

What was true on those occasions remains true now. Entrepreneurs can still be tempted to redirect their efforts by changes in the structure of the payoffs that they seek. It is therefore important to avoid governmental forms of intervention that end up providing significant opportunities for rent-seeking, and important to foreclose the rentseeking opportunities that derive from other sources. Thus, I maintain that the analysis that treats entrepreneurship as just another allocable resource not only possesses explanatory power, but can also be helpful for the design of policy.

The analysis also helps us to see why free-market economies are characterized by so much greater an abundance of *productive* entrepreneurship than was found in earlier societies. The rule of law, along with rights of property and its protection from arbitrary confiscation, the enforceability of contracts and a variety of other protections have made productive activities less risky and more effective avenues to wealth than they were before. This, along with some closing down of rent-seeking opportunities and opportunities for respectable wealth-acquisition through organized violence have reallocated entrepreneurial effort in directions that contribute to prosperity and growth. Entrepreneurship in the free market was not created by mysterious means or by spontaneous generation—it was merely redirected from what it had previously been doing. But the threat to this development posed by the continuing opportunities for very lucrative rent-acquisition continues, and constitutes an ever-present peril for economic prosperity and growth.

2. Routinization of Innovation and the Alleged Shrinking of the Entrepreneur Role

My research on entrepreneurship has continued since I first formulated the preceding ideas (see Baumol, 1993), and the resulting later observations are contained in my most recent book (2002). The central topic of that later volume is the extraordinary growth record of the free-market economies, and the reasons why no other form of economic organization has come close to their productive and innovative accomplishments over any protracted period of time. The relevance to the discussion here should already be clear from the previous observations on the attributes of the free-market economy that apparently have contributed so substantially to the volume of productive entrepreneurial activity. But there is much more to the story, in particular in the drive toward routinization of innovation and its implications for entrepreneurship. Thus, I turn now to Schumpeter's suggestion that entrepreneurship is becoming obsolete because the innovation process is now predominantly routinized and is now conducted chiefly by large corporations under the guidance of their bureaucrats, whose orientation is the very antithesis of free-wheeling, imaginative and somewhat irrationally overenthusiastic entrepreneurs.

The story here, in brief, is that in the market economies the most visible and active forms of competition are found in oligopolistic industries, where the small number of rival firms' surveillance of one another's activities is direct and where the actions of any one enterprise in a market can be expected to elicit rivalrous responses from the others. Directly relevant to our discussion here is the important subsector of the group of oligopolistic industries that are characterized as "high-tech" and that are responsible for the bulk of innovative activities that take place within established firms. For many of such firms innovation is not only important, it can be a matter of life and death. No risk to such a firm is greater than the peril of falling behind its rivals in attractive new products and efficient new processes.

The resulting pressures have led those enterprises to take whatever measures they can to minimize their risk of falling behind rivals in the innovation "arms race" that characterizes the industry. To do so, they have, as far as they could, taken the innov-

ative activities on which they depend out of the hands of the independent inventors and entrepreneurs, and brought them inside the firm, into business operated and controlled R&D facilities.

This is the sense in which innovative activity has indeed grown more routine and, according to government statistics, more than half of business R&D expenditure (which itself is some 70 percent of total U.S. R&D spending) is now provided by large firms. The activity, as carried out by private businesses, has become routine in many ways. Its budget is determined centrally, in competition with the firm's expenditures on all of its other major activities such as advertising and plant construction. The firm's management may select its R&D subsidiary's organizational structure, decide on its facilities and even, in a surprising number of cases, it will decide what should be invented. One recent example is the announcement by Microsoft Corporation that its computer software R&D efforts are about to be redirected from the addition of new working features in the software programs to increases in computer users' security against the invasion of viruses, as well as improved confidentiality of what is written and saved on users' computers. This presumably will be a centrally directed reorientation of the activities of the firm's R&D personnel, and it is a pattern that is to be encountered throughout industrial research. This is a far cry from the inspired and unorthodox efforts of the inventors of legend, toiling in attic and basement to come up with a working version of an invention that exists initially only in the inventor's mind, or the work of the savvy entrepreneur whose alertness enables her to observe the existence or prospect of this invention and whose efforts are designed to see it to completion, all the way to the marketplace.

But this has been the direction of the large business firms, whose routinized innovation activities have tended to follow relatively predictable goals. These more systematic and orderly innovative efforts have been slanted toward incremental improvements rather than revolutionary breakthroughs. User friendliness, increased reliability, marginal additions to application, expansions of capacity, flexibility in design, these and many other types of improvement have come out of the industrial R&D facilities, with impressive consistency, year after year, and often pre-announced and pre-advertised. As one member of the top management of a large high-tech firm commented recently: "In

established businesses, innovation is mostly shaped through small incremental steps of additional features to augment basic functionalities. With short product lifecycles, time to recoup R&D investments is limited. . . Success is relatively predictable through the execution of well-defined innovation processes . . .” (Dr. A. Huijser, Executive Vice President and Chief Technology Officer, Royal Phillips Electronics, *EFACT Conference Announcement*, “Innovation Day: Source of Prosperity,” Tilburg, The Netherlands, September 2003, p. 19).

The large and growing share of R&D expenditure accounted for by the large, bureaucratically-governed enterprises naturally leads to the conjecture, voiced by Schumpeter, that the work responsibilities the economy assigns to the entrepreneur are narrowing and are destined to shrink even further. One can easily surmise what prompted him to foresee a limited future for the entrepreneur where industry and its innovation processes are widely characterized in the manner just described. Yet, I will argue next that this is fundamentally a mischaracterization. Rather than being condemned to obsolescence, a vital role continues to be played by independent entrepreneurs.

3. Revolutionary Breakthroughs as Entrepreneurial Specialty

The routinization story by *itself* is surely an exaggeration. Neither the independent innovator nor the independent entrepreneur has vanished from the face of the earth. On the contrary, they are alive and well and appear to be as active and productive as ever. There are lists of the important innovative breakthroughs of the 20th century and a substantial number of these breakthroughs, if not the majority, turn out to be derived from these sources rather than from the laboratories of giant business enterprises. Of course, once they become successful, the individuals involved typically organize themselves into business firms (think of Xerox, Polaroid, Hewlett-Packard, or Apple Computer, to name just a few), and those firms, in turn, often redirect themselves to routinization of their innovation activities. But they, in their turn, are followed by still other entrepreneurs and inventors, and the process goes on, bringing ever more new products and new processes to the economy.

To explore the point further, it is convenient here to divide up inventions with the aid of two polar categories: revolutionary breakthroughs and cumulative incremental improvements. Of course, many new products and processes fall into neither extreme category, but are somewhere in-between. Still, it will become clear that the distinction is useful. Moreover, there are many examples that clearly fit into one of these categories or the other quite easily. For instance, the electric light, alternating electric current, the internal combustion engine, and a host of other advances must surely be deemed revolutionary, while successive models of washing machines and refrigerators—with each new model a bit longer-lasting, a bit less susceptible to breakdown, and a bit easier to use—constitute a sequence of incremental improvements.

The relevance of the distinction should be evident, given what has been said about the working and organization of R&D in the large business organization. The inherent conservatism of the process naturally leads to the expectation that these firms will tend to specialize in the incremental improvements and tend to avoid the risks of the unknown that the revolutionary breakthrough entails. The latter, rather, is left most often to the small or newly founded enterprise, guided by its enterprising entrepreneur.

Though that is to be expected, the degree of asymmetry in the apportionment of this specialized activity between large and small firms in reality is striking. The U.S. Small Business Administration (1995) has prepared a chart listing breakthrough innovations of the twentieth century for which small firms are responsible, and its menu of inventions literally spans the range from A to Z, from the airplane to the zipper. This remarkable list includes a strikingly substantial share of the technical breakthroughs of the twentieth century. Besides the airplane, it lists FM radio, the helicopter, the personal computer, and the pacemaker, among a host of others, many of enormous significance for our economy.

A very recent study, also sponsored by the U.S. Small Business Administration (2003), provides more-systematic and powerful evidence to similar effect.¹ This report examines technical change through patenting and it defines “small firms” as “businesses with fewer than 500 employees.”² Perhaps most notably, the study finds that “. . . a small firm patent is more likely than a large firm patent to

be among the top 1 percent of most frequently cited patents.” Among other conclusions, in the words of its authors, this study reports that,

“Small firms represent one-third of the most prolific patenting companies that have 15 or more U.S. patents.

Small firm innovation is twice as closely linked to scientific research as large firm innovation on average, and so is substantially more high-tech or leading edge.

Small firms are more effective in producing high-value innovations—the citation index for small firm patents averaged 1.53 compared to 1.19 for large firms.

Small patenting firms are roughly 13 times more innovative per employee than large patenting firms.

A small firm patent is at least twice as likely to be found among the top 1 percent of highest-impact patents as a patent from a large firm” (p. 2).

One is, then, led to the plausible observation that most of the revolutionary new ideas of the past two centuries have been, and are likely to continue to be, provided more heavily by independent innovators who, essentially, operate small business enterprises. Evidently, the small entrepreneurial firms have come close to monopolizing the portion of R&D activity that is engaged in the search for revolutionary breakthroughs.

4. Digression: The Critical Contribution of Large-Firm R&D

But now we seem to have leapt to the opposite conclusion, that rather than the likely disappearance of the innovative role of the entrepreneur and the small firm, little would appear to be left for the large enterprise to do. That is, one is tempted to draw from this description the conclusion that the lone inventors and the entrepreneurs are the clear winners as prime contributors to economic growth and standards of living. But, without in any way seeking to denigrate their enormous contribution, it is nevertheless appropriate to reconsider what the routine innovative activities have accomplished. And indeed, it is possible to argue that though the

routinized outputs of the large firms have often been less dramatic, if one takes the incremental contributions together and sums their accomplishments, one comes away with the judgment that their accomplishment is not comparatively minuscule. Indeed, there are many cases in which the summed incremental contributions plainly outperform the contribution of the original breakthrough. A very clear example is the electronic computer. The first computer obviously constituted a revolutionary breakthrough in concept. But, as has often been done, we can easily compare its speed, computing capacity and memory with what is available today in instruments with tiny fractions of the earliest instruments’ bulk and weight and a spectacular reduction in cost. We realize quickly that a fairly low-end personal computer today can outperform the original in each of these attributes by a vast multiple, and with far greater reliability, user-friendliness and range of applications. Accordingly, the bulk of the speed, computing power and memory capacity of today’s computers is probably attributable to the combined incremental additions made by routine research activities in corporate facilities. Other careful observers have extended such examples and have concluded that incremental and routinized innovation activities have been responsible for a very respectable share of the contribution of innovation to economic growth in the 20th century.

Yet there is something misleading about such a comparison, because it casts the innovative activity in the large firms and that of the independent innovative in the role of rivals, as producers of substitute products, each vying for victory over the other. It seems clear that this is not generally what has happened. Rather, there has tended to be specialization, with the outputs of the two groups tending to be complementary rather than rivalrous. More than that, there is a tendency toward serendipity between the two, with each facilitating and supplementing the work of the other. The nature of the specialization is suggested by the preceding discussion. The independent inventor and his entrepreneur partner have tended to be those who produced the radical departures from then-current products and processes. The big novel idea, the unprecedented way of thinking, the heterodox approach, has been disproportionately in their hands. But using these breakthroughs as their raw materials, the groups specializing in routinized innovation have taken over and gone on with the task of transforming the break-

through models into more easily usable, more powerful and more marketable products, raising them from infancy into mature products with substantial markets and massive outputs. Thus, the result has arguably been superadditive, with the total contribution to the economy's productive powers greater than the sum of the contributions for which each was individually responsible.

The firms' acquisition, typically via purchase, of the original inventions from the unaffiliated inventors and entrepreneurs have contributed compensation to the latter, thereby encouraging their activity. Moreover, the inventors have often learned from the less spectacular discoveries in the industrial labs and this has aided them in their subsequent work. The other side of the matter is the fact that the initial breakthrough has so often served as the vital ingredient in the work of improvement that was subsequently undertaken by routinized innovation activity. Thus, albeit not perfectly clean-cut, there has been specialization, with considerable benefits to both parties and the economy has been better off as a result.

More than that, it follows that the growth of routinization in the innovation process has not threatened the entrepreneur with obsolescence. The entrepreneur seems in no danger of disappearance or of being deprived of a market for his or her activities. In this respect, Schumpeter's remark on the growth of routinization, while not incorrect, is at least somewhat misleading.

To summarize, these developments have evolved in a way that appears to fall into a pattern. Rather than serving primarily as substitutes, the continuing contributions to economic growth of the entrepreneurs and inventors have followed a direction rather different from the routinized activities of the large firm's innovating personnel. In the larger firms, innovative activities are carefully designed to prevent unwelcome surprises and to keep risks to a minimum. As a result, there is little of the free-wheeling, imaginative, and risk-taking approach that characterizes the work of the entrepreneur, but the incremental and cumulative improvements, many unimpressive by themselves, often add up to important and substantial contributions.

On the other hand, if we look at any of the lists of the primary conceptual breakthroughs of the 20th century—those great leaps forward in unanticipated directions—we see that an impressive proportion of them have stemmed from the independent entrepre-

neurial sector, as has just been said. It is the unaffiliated inventors and entrepreneurs who have tended to be the suppliers of the dramatic breakthroughs, the ones that deservedly receive the most attention and are most widely recognized and remembered. Their work is a necessary ingredient of the growth process.

5. The Bottom Line: Rent-Seeking Is a Critical Threat to Growth

Entrepreneurship is widely accepted as a vital activity, an activity without understanding of which the market economy's workings really cannot be comprehended. But my earlier discussion has shown how readily the prospects of rent earnings can lure entrepreneurs away from their productive activities. One may well argue that the poor record of technological progress in ancient Rome, Medieval China and the more recent Soviet Union, despite the many impressive inventions that each of them was able to generate, is attributable in good part to the ready availability of rent-earning opportunities. This, together with the obstacles to earning of profit and respectability through productive entrepreneurship in those economies, arguably go far in accounting for the failure to put their remarkable inventions to productive use.

For us, the immediately most important Henry George insight is that rents in the broader sense are still widely available in the free-market economies. There is good reason to believe that pursuit of those rents occupies many capable and imaginative members of their societies, thereby handicapping prosperity, growth, and their contribution to the elimination of poverty. The conclusion is that vigilance will be required to prevent expansion and facilitation of rent-earning opportunities and rent-seeking activities. For that is a development that will predictably siphon off the entrepreneurs from their vital contribution to economic growth and innovation, misallocating them into pursuit of rent rather than promotion of progress.

Notes

1. Quoting the press release describing the study, "A total of 1,071 firms with 15 or more patents issued between 1996 and 2000 were examined.

A total of 193,976 patents were analyzed. CHI [the firm that carried out the study] created a database of these firms and their patents. This list excluded foreign-owned firms, universities, government laboratories, and nonprofit institutions” (p. 2).

2. It may strike the reader that a firm with 500 employees is not particularly small. However, in terms of R&D spending in the U.S., the choice of that number is not inappropriate. In 2000 in the U.S., 46 percent of total business R&D spending was by 167 firms that each had more than 25,000 employees. Eighty-one percent of the total was spent by 1,990 firms that each had more than 1,000 employees, while 32,000 R&D-performing firms with less than 500 employees accounted only for 15 percent of total R&D spending by business (National Science Board, 2000, chapter 2, p. 24).

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