The Laws of Economic Rent and Property:

Application to the Oil Industry

By CYRUS BINA*

ABSTRACT. *Economic rent* in general, and *oil* rent in particular, is an historically-specific, social category, reflective of unique *property relations,* which goes beyond the conventional notion of physical scarcity prevailing in economics literature. Neither the *Ricardian theory* nor the neoclassical general equilibrium theory suitably explain the nature of the capital-land relation and convey an understanding of the priority of their mutual interaction within the *production* process. Being an effect of specific property relation, the phenomenon of *rent* merely assumes the status of a special category applicable to the concrete conditions of some industries. Hence, *political economy* lacks a general theory of rent.

The concept of oil rent is based on the potentially conflicting interaction of ownership of *oil reserves,* and that of the *oil leases,* within the global *oil industry.* The oil rent is the result of the transformation of the existing differential productivities of oil-producing regions within the global oil industry. The formation of global oil prices and differential oil rents rest on the global *competition* which has become a distinguishing feature of this industry since the early 1970s.

THE AIM OF THIS PAPER is to provide a framework for a surplus theory of oil rent which would be contingent upon the inherently conflicting structure of reserve/lease ownership associated with the production of oil worldwide. In order to develop a specific theory of the oil rent from the standpoint of a "surplus approach," however, one needs to explain the interrelations of capital accumulation and the existing forms, and consequently the corresponding effects, of reserve ownership within the production process.

The phenomenon of oil rent in particular, and economic rent in general, becomes historically specific if they are able to explain the concrete conditions of leaseholders and their interaction with the flow of capital investment for the exploration and development of oil (Marx, 1981, Part 6; Bina, 1985, Ch. 5). This type of theorization differs methodologically from other surplus theories of

* [Cyrus Bina, Ph.D., is a Visiting Scholar at the Center for Middle Eastern Studies, Harvard University, Cambridge, MA 02138.] He wishes to thank anonymous referees for their invaluable suggestions and Peter S. Goodrich for his moral, technical and unconditional support. A fuller version of the paper was presented in April 1989 at a meeting of the Harvard Kress Society for the History of Economic Thought.

American Journal of Economics and Sociology, Vol. 51, No. 2 (April, 1992).

rent, such as Ricardian or neo-Ricardian theory, which are more in conformity with physical or technical aspect of *surplus* rather than its social dimension which normally intertwines with the institutional barrier of landed property (Ricardo, 1976, Ch. 2; Sraffa, 1960, Ch. 11).

Finally, rent theory of the "surplus" variety in general must be distinguished from modern neoclassical theory, especially within the general equilibrium framework, where the "factors of production," and their returns, are all set on an equal footing. Hence, there is no specificity as all the returns *prima facie* might be considered as rents (see Hobson, 1891; Clark, 1891).

In Section I the place of rent in modern neoclassical theory will be identified. The notion of oil rent and the necessity of specific theory based on the concrete conditions will be discussed in Section II. Sections III and IV will cover the characteristics of the law of oil rent and the formation of differential oil rents in the oil-producing regions, including OPEC. Finally, Section V contains our concluding remarks.

I

The Place of Rent in Modern Neoclassical Theory

IT IS INSTRUCTIVE to find that in dealing with "practical problems," modern orthodoxy has so readily detached rent theory from its core. It prefers to employ some sort of scarcity rent (often as "user costs") when it tends to confront the situations such as the ones that have been developed in the oil industry. But for those who have accepted the neoclassical theory of general equilibrium, the concept of rent is a tricky one. On the one hand, using the above framework (the simultaneous determination of factor incomes), one has to engage in the generalization of "rental income" for all the factors involved at the margin of production (Clark, 1891; Hobson, 1891). Hence, methodologically, the same principle governs the distribution of the incomes of all the factors involved in production. (These factors, as enumerated in standard textbooks, are labor, capital, land, and entrepreneurship with respective returns of wage, interest, rent, and profit.) On the other hand, given the above approach, there is no possibility of treating particular factors, such as agricultural or urban land, oil fields, coal fields, *etc.*, specifically unless the above framework is replaced by that of partial equilibrium (Fine, 1982a; 1983).

Within the context of partial equilibrium, it is possible to establish a *causal* relation for one factor independently of other factors, that can be specifically differentiated from the general principle of the formation of other factor incomes (Brown, 1941). For instance, following in Ricardo's footsteps, Marshall treated the notion of differential rent in association with lands of different quality in

agriculture (Ricardo, 1976; Marshall, 1893). But his usage of the partial equilibrium framework was quite consistent with his treatment of rent as a price-determined factor income. This type of analysis, however, is not without problems of its own. Moreover, within this framework, one has to assume either a one-commodity economy or, in the case of a multicommodity economy, constant prices for all other commodities. As Fine explains:

> In a one-good world, rent would be price determined according to the differential productivity of better over marginal (no rent) land in use and a particular role could be assigned to land in causing differential productivity and hence rent as in Ricardian Theory (Fine, 1982a, p. 344).

Far from the heated debates that occurred among the contending factions of emerging neoclassical school at the turn of the century (and the early part of the 20th Century), a modern neoclassical economist of today, who is trained to think in terms of general equilibrium theory (hence, simultaneous determination of factor incomes), does not even begin to question the significance of the above trade-off as it pertains to the question of rent (for some illustrative examples see Krueger, 1974; Foster, 1981; Ng, 1983; Devarajan and Fisher, 1982; Wilson, 1979).

In confronting the real world, these "modern theorists" soon recognize that there are many unexplained elements left out of their standard competitive general equilibrium models. But, faced with the question of why rent has to be treated specifically (*i.e.* in a different footing, in accordance with its institutional underpinning), they often prefer to treat the matter externally (Miller, 1973; Brown, 1974). Historically, given "the conceptual specificity of rent . . . the debate over the rent theory [among the neoclassical economists] was a debate between partial and general equilibrium and to that extent a dialogue of the deaf" (Fine, 1982a, p. 344). With the gradual dominance of the general equilibrium approach in neoclassical theory, a specific theory of rent became *superfluous,* removing the feasibility of any dialogue in the modern literature (see also Wessel, 1967).

II

Oil Rent and the Problem of Specificity

THE SUBJECT OF RENT still remains troubling for those who tend to question the fundamental basis of neoclassical theory. But what is more troubling is the message of those who stand on the fence, ideally fantasizing as if they can reconcile the differences between neoclassical theory and its *classical* counterpart by means of methodological compromises that undoubtedly promote nothing short of theoretical confusion. One such example can be seen in the treatment of oil rents by J. M. Chevalier (1976).

Chevalier starts out by defining "the oil surplus as the difference between the market price of a ton of crude oil sold to consumers in form of finished products and the total average cost incurred in discovering, producing, transporting, refining and marketing this ton of crude" (Chevalier, 1976, p. 281). He does not seem to realize that his dealing with the notion of oil rents within the general equilibrium framework tends to destroy the specificity of his rent theory at once.

In addition, Chevalier maintains that due to the oligopolistic structure of oil production, and the lack of perfect mobility of capital in the oil industry, one has to distinguish two types of oil rents: (1) differential rents, and (2) monopoly rents (Chevalier, 1976, pp. 283–85). Of course differential rents, so defined, are generated through differences in production techniques and natural qualities, whereas monopoly rents are said to be the result of the differential profit rate of oil relative to other industries (Chevalier, 1976, p. 285). He then devises four different categories for differential oil rents: (1) quality rent, (2) position rent, (3) mining rent, and (4) technological rent (Chevalier, 1976, p. 286). Finally, when Chevalier comes to evaluate the mechanism of price determination, he compares Smith, Ricardo, Marx, *etc.* in order to demonstrate that:

> None of these economists . . . paid any attention to the determining influence of the cost trend. The price of crude oils tend to be in line with the development cost of the most expensive deposit when costs are increasing, and with the development cost of the least expensive one when costs are decreasing (Chevalier, 1976, p. 298, footnote 44).

First, by abstracting from the phenomenon of property relations in the oil production, Chevalier scarcely realizes that within the framework of general equilibrium, the causative determination of the least as well as the most expensive oil deposits cannot be distinguished from each other. For general equilibrium is a framework of simultaneous determination. Secondly, even if the above framework is abandoned and a partial equilibrium approach is adopted, it is not clear why the price of oil should be either in line with cost of the least or the most productive deposits alone (given the assumption of ascending or descending cost trend respectively), and not somewhere between the two. Besides, basing the price of oil on the lowest cost deposits *a priori,* one cannot help but wonder about the status of higher-cost deposits and the existing differential oil rents, both empirically and theoretically. Hence, there is a troubling ambiguity in the origin of differential oil rent at the point of production.

Here, formulation of "quality rent," "position rent," and "mining rent" poses a formidable problem from the standpoint of identification of the origin of rent in the production process. Distinction of "technological rents" from the above "rents" is also unclear. More importantly, however, Chevalier's oil rents cannot possibly assume the status of *social category,* for they all remain utterly devoid of social and property relations, and without any specificity. Hence, the choice

here, other than going back to Ricardo, is either Marshall or modern general equilibrium theory. That is why Fine's description of the status of modern rent properly suits this occasion:

> The passage to extinction of rent theory in neoclassical economics has meant that it has lived in the underworld of the profession, like a guilty conscience that is at its strongest when crime is committed but which fades with the passage of time only to reemerge sporadically and feebly (Fine, 1982b, p. 99).

Another troubling issue is the widespread influence of the neoclassical theory of competition (and likewise its theory of monopoly) on the remaining contemporary schools of economic thought, especially the ones that are seemingly opposed to the prevailing orthodoxy. (See Fine and Harris, 1979b; Semmler, 1982; Shaikh, 1982; Weeks, 1981; Bina, 1985). As we have argued, the general equilibrium approach to the determination of "factor incomes" involves the treatment of all the factors on the same footing that generalizes all the factor incomes as rents. The difficulty of this method is compounded by considering the formation of these rents in conjunction with market structures other than "pure competition" (see Bina, 1985, Ch. 6).

Having dealt with an important aspect of Chevalier's treatment of oil rent, we have to remind the reader, that even within his own framework, Chevalier has failed to develop a *specific* theory of oil rent.

The next step is to show that one cannot develop a viable theory of rent in the oil industry independent of the potential impact of the ownership of oil reserves and the condition of leases on the intensity of capital investment in the oil industry (see Bina, 1985, Chs. 5 and 8). In this connection, we have chosen to deal with Fitch's treatment of the oil rent (Fitch, 1982). Although Fitch correctly points out the shortcoming of neoclassical theory and its lack of applicability to the oil crisis of the early 1970s, he nevertheless fails to make a distinction between the nature of rent in classical political economy and its counterpart in Marx (Fitch, 1982, p. 20).

Ricardo, a better known member of classical school, developed a theory of differential rent based on the differences in productivity which existed between lands of marginal and intramarginal qualities. Given his labor-embodied theory, he also maintained that the price of corn is always determined by cost of production on marginal land, or land of inferior quality. Thus, Ricardian rent is price-determined rather than price-determining (Ricardo, 1976, Ch. 2; Bina, 1985, Ch. 5).

Unlike Marx, Ricardo implicitly rejected the notion of absolute rent and with it the impact of landed property on production in agriculture. Instead, his primary concern was the distribution of surplus among the social classes (for specific analysis see Fine, 1979a). Therefore, Ricardo's theory of rent, being formed at

the margin of cultivation, is simply independent of the structure of landed property in agriculture. Besides, Ricardo's rent theory is not consistent with his labor-embodied value theory. Striving for *specificity,* Ricardo's rent can be possibly conceptualized either in a one-commodity world or in a multi-commodity world with the prices of other goods remaining constant.

Although Fitch is critical of the "conventional wisdom," he, nevertheless, follows a Ricardian approach, perhaps without realizing it. Explaining the significance of the Classical/Marxian theory of rent, Fitch maintains:

> By contrast, the Classical/Marxian theory accounts for the price of Persian Gulf oil without any recourse to such a *deus ex machina.* The cost of production is properly understood as *unequal* for all producers and the market price is regulated by the producers operating on the basis of the least favorable conditions who are able to clear the market at a market price equal to their marginal price of production. So the result here is that surplus profits tend to originate more in primary commodities than in manufactured commodities because the range of cost differential is greater (Fitch, 1982, p. 20).

Clearly, the above passage departs from Marx's method of analysis and his treatment of rent in agriculture. Contrary to the *margin of cultivation thesis,* Marx clearly argues that any one-sided movement from better to worse land is only a special case in agriculture (Marx, 1981, Part 6). Even though Ricardo's treatment of rent is specific, it is valid only within a partial equilibrium framework. One has to remember that the concept of "the margin of cultivation" in the Ricardian theory had been made more general by the emerging marginalist school, for the calculation of factor incomes, before its eventual replacement by general equilibrium (Fine, 1982a).

Methodologically, given the lack of consideration of the mutual impact of landed property *vis-a-vis* the pattern of capital investments in agriculture, the Ricardian theory is caught in a dilemma of its own making: on the one hand, it loses its *specificity* if it departs from partial equilibrium; on the other hand, it remains static, restrictive, and unrealistic if it does not. Theoretically, the above theory remains ahistorical and depends on axiomatic treatment, as it fails to account for the institution of landed property and its mutual relation with the pattern of capital investments (Fine, 1979a). Hence, a consistent theory of oil rent cannot be both Ricardian and Marxian at the same time.

III

The Law of Oil Rent

THE PHENOMENON OF ECONOMIC RENT as a category distinguished from normal profits is neither original to Marx nor specific to classical political economy. However, what has made Marx's theory of agricultural rent different from his

predecessors' theories is "the *specificity* of the analysis itself, not the category" (Shaikh, 1981).

The notion of oil rent in the oil industry, given the above interpretation, is none other than the phenomenal form of the specific property relation that is unique to the oil industry. Historically, the *separation* of the ownership of hydrocarbon deposits from the ownership of the oil fields resulted in the emergence of a particular barrier which results from the non-congruence of land and lease ownership within the accumulation process in the production of oil. In countries or regions where the ownership of the surface soil legally includes the subsoil, the competitive producers who own particular oil leases are confronted with the obstacle of the ownership of the oil deposits. This relationship remains the same even if the state is the sole owner of landed property or the owner of property located in the sub-surface, simply conforming to the fundamental laws of capitalist production (Bina, 1985, Ch. 3).

The separation of such ownerships was part of an historical process which has been realized legally through the act of lease contracts, concessions, *etc.* Normally, the capital investments by the leaseholders of the subsoil were made within the framework of the separation of ownership of the subsoil from ownership of the land. Thus, the owner of the land comes to appropriate a ground rent, while the capitalist investor tends to appropriate a normal profit. The lease allows the capitalist to extract surplus value and to make profit. Therefore, the longer the duration of the lease (and the easier the conditions of its renewal), the less the barrier to accumulation.

A study which was completed in the early 1970s concluded that there is a major distortion in the exploration of oil that primarily ". . . results from a widely divided ownership of land in the United States" (Miller, 1973, p. 415). This situation stems from the fact that the oil fields are often larger than the area entailed in the corresponding U.S. oil leases which belong to the firm that made the discovery. The result is that the full benefits will rarely go to the primary discoverer.

In order to substantiate this point, Miller goes into a long examination of the extent of *fragmentation* of oil leases through the portions of profits received by the main discoverer of the field. As a first approximation, he uses the production share of the largest producer of a field as the proxy of the firm's profit share.

From this, Miller discovers that ". . . the percentage of the benefits from a well received by the discoverer declines with the size of the field" (Miller, 1973, p. 416). Consequently, the barrier of *fragmentation* within the pattern of land ownership tends to move the oil producers away from investing in new and

larger oil fields which often require the assembling of large tracts of land prior to initial exploration.

The above study also demonstrates that the "Fields under 500 acres accounted for 60.73 per cent of the [oil] fields but for only 14.43 per cent of the total area. It is again clear that most oil must lie in fields under more than one ownership" (Miller, 1973, pp. 417–18).

Another problem is the barrier of fragmentation of oil leases in connection with secondary and tertiary recovery methods, where the whole field needs to be put under the control of a single management, in order to eliminate waste and enhance the productivity of the extraction process. This is called unitization in the oil literature which is theoretically equivalent to capital deepening in economics literature. It would seem obvious that having a number of leases in a particular oilfield undoubtedly works against production according to a predetermined schedule (Miller, 1973, p. 423). The above condition demonstrates why the firms either move toward intensive exploration in the same areas, or simply concentrate on investing in the existing oilfields for further recovery.

Even in the case of government-owned lands, due to the existence of noncompetitive leases (and at times the practice of granting inadequately-sized leases to individuals through a lottery system) there is a great deal of speculative activity combined with a considerable fragmentation of ownership in the U.S. oilfields.

Confronting the above impediments to the production of oil, capital investments were directed to exploration in the aged U.S. oilfields, or simply aimed at further development of oil from existing oil wells, or canalized towards foreign oilfields. The comparison of the oil-well abandonment rate in the United States, during the periods of 1965–71 and 1971–74, reveals that there has been a tremendous decline in the rate of the abandonment of commercially exhausted oil wells in the latter period, even though the average life-span of oil wells declined, from 26 to 24 years, respectively (see Table 1).

The facts indicate that in the United States, oil was largely produced through the *successive* investments of capital upon the already-producing U.S. oilfields. However, it was not until the early 1970s that the U.S. oil industry experienced a substantial decline in productivity, in terms of the average oil recovery per well, as these investments were further intensified (see Tables 2 and 3). This also can be shown from the varying level of development capital expenditures (per barrel), *i.e.*, those investments that are made upon the older U.S. oilfields, during the periods of 1966–70 and 1971–74: an increase of 7% as opposed to 261% increase, for the period leading up to the crisis (see Table 3). Meanwhile, the investment in the realm of oil exploration, by comparison, shows a small increase of about 8% during the 1971–74 period.

Table 1

U.S. OIL WELL ABANDONMENT AND THE LIFE SPAN OF OIL WELLS (1965-1974)

	1965-71	1971-74
The Life Span of Oil Wells (years)	26.014	24.25
Cumulative Abandonment Rate of Oil Wells	+21.38%	+6.18%
Cumulative Abandonment Rate of Oil Wells per Year	+3.05%	+1.54%
Average Number of Oil Wells Abandoned Per Year	24,749	17,187

SOURCE: Cyrus Bina, *The Economics of the Oil Crisis* (New York: St. Martin's Press, 1985); compiled by the author from API, *Basic Petroleum Data Book*, 1979.

The intensification of capital investments within the existing oilfields is by and large the consequence of the impediment of the prevailing pattern of land and lease ownership in U.S. oil production. In this context, the structure of landed property and the fragmentation of oil leases have played an influential role in the direction of capital investments and the structure of accumulation in the U.S. oil industry. This was true long before the oil crisis of 1973–74, but it set a new basis for the formation of market values, rents, and market prices at the global level. We have demonstrated elsewhere that, within the global

Table 2

AVERAGE OIL RECOVERY TREND OF U.S. OIL 1965-1974

	1965-71	1971-74
Trend of Average Oil Recovery Per Well	+46.6%	-11.0%
Trend of Average Oil Recovery Per Well Adjusted for MDF*	+16.1%	-17.7%
Trend of Average Oil Recovery Per Well for all Major Producing States Except for Texas	+49.2%	-14.4%
Trend of Average Oil Recovery Per Well Productivity Adjustment for MDF* (all but Texas)	+18.7%	-21.3%

*MDF stands for Market Demand Factor.

SOURCE: Cyrus Bina, *The Economics of the Oil Crisis* (New York: St. Martin's Press, 1985); compiled by the author from Bureau of Mines, *Information Circular 8362* and *8675*; Department of Energy, DOE/EIA-0097.

Table 3

THE CHANGES IN THE TREND OF THE U.S. CAPITAL EXPENDITURES PER BARREL AND PRICES 1966-1975

	% Change During 1966-70	% Change During 1971-74	Average Per Barrel 1966-71	Average Per Barrel 1972-75	Change in the Cost Average
Exploration	-10%	+8.4%	$2.98	$4.03	+35%
Development	+7%	+261%	1.23	3.63	+195%
Total	+5%	+211%	1.41	3.62	+156%
Wellhead Oil Price	+10.4%	+199%	3.07	7.36	+140%

SOURCE: Cyrus Bina, *The Economics of the Oil Crisis* (New York: St. Martin's Press, 1985).

context, the prices of all other sources of energy, including coal, natural gas, *etc.,* are *regulated* by the *value* of oil produced from the aged U.S. oilfields (Bina, 1989).

Given the above distribution of property rights, the formation of social value involves a process of intra-industry competition. Depending upon the extent of differential productivity, there will be value transfers from one individual capital (individual production unit) to another, manifesting themselves as differential rent. The internationalization of oil production is also the manifestation of this process at the global level. During the early period of the oil industry in the Middle East, and elsewhere in the "Third World," the production of oil basically originated through *formal* subsumption of labor under capital or the production of *absolute* surplus value under the total political hegemony of a few transnational oil companies (Bina, 1985, Ch. 3). However, as the material foundation of capitalism in these social formations and also within the international oil industry has further developed, the production of oil has gradually assumed the characteristic of the *real* subsumption of labor under capital, leading to the extraction of *relative* surplus value at the global level. In this manner, a unique global value formation has emerged to become the basis of global pricing in the industry. This, in turn, led to the formation of differential oil rents through global competition.

Based on the above analysis, the same distinction should be made between the Ricardian (or neo-Ricardian) *margin of cultivation thesis* and the notion of *regulating market value* in the Marxian sense. It is not always the case that market value coincides with the cost of the marginal producer.

At the empirical level, we were able to identify the U.S. oilfields (lower 48 states) as the least productive region of the world (Bina, 1985, Chs. 7 and 8). The U.S. oilfields are also the most explored oil region of the globe. Since the

effect of differential oil rent of the first type (DRI) cannot be separated from differential rent of the second type (DRII), the least productive oil region can be identified by looking at the highest individual production price (or value) whose magnitude would be empirically observable from the magnitude of capital costs per barrel. This has been accomplished by comparison of the combined finding and developing cost per barrel of new oil for the oil-producing regions of the world (see Table 4).

We find the declining U.S. oilfields the most costly among the oil-producing regions of the world, and accordingly with the highest individual production price (or value) within the global oil industry (Bina, 1985, Ch. 7). Due to the integration of oil production at the global level and the fact that U.S. oil comes from the least productive oilfields (both from the standpoint of capital-deepening and capital-widening), the individual value associated with the above oilfields has become the social value of the entire international oil industry. Thus, given the internationalization of capital in the oil industry, it is owing to the decline in the productivity of the old U.S. oilfields located in the lower 48 states (in 1970s) that the newly-formed social value has become the industry's production price, which tendentially set the market price of oil globally (see also Bina, 1988).

IV

OPEC Oil and Differential Oil Rents

THE HISTORICAL DEVELOPMENT of the Middle Eastern oil was dealt with elsewhere (see Bina, 1985, Ch. 3); thus we need here only to recognize that, unlike the "rule of capture," the early oil royalties and concessions in the Middle East and

Table 4

AVERAGE COST OF FINDING AND DEVELOPING A BARREL OF NEW OIL, SELECTED REGIONS (1974-1978)

	In U.S. Dollars
United States	4.06
Canada	2.45
Western Europe	1.48
Africa	1.27
Far East	0.90
Venezuela	0.18
Middle East	0.12

SOURCE: "Internationalization of the Oil Industry," Review, Vol. XI (3), p. 360; compiled by the author from *Petroleum Outlook*, XXXII (May 5, 1979), p. 1.

other pre-capitalist oil regions of the world were simply entwined with state ownership. But as capitalism developed in these regions, the archaic state gave way to the modern capitalist state without instituting the private ownership of the sub-surface as in the United States. The next step in the transformation of these oil regions was their integration into the global economy. Indeed the fourfold increase in the "posted price" of oil during the 1973 crisis cannot be systematically and fundamentally explained unless there is an understanding about the following three interrelated historical developments that together gave petroleum production its distinctive character.

First is internationalization of the petroleum industry and *unification* of all the existing oil-producing regions of the world toward global pricing since the early 1970s. Second is the recognition of the characteristic of specific property relations such as mineral rights and lease ownership that are associated with the production of oil regardless of their form, whether based on the "rule of capture" or state ownership. These conceptually function as the basis for the determination of oil royalties and rents. Finally, one has to recognize the effect of the intensification of capital investments within the least productive oil regions (such as the U.S. oil region) that together with the above conditions set the stage for establishing higher production prices for the entire oil industry from the early 1970s onward. Thus, contrary to the prevailing opinion, a fourfold increase in the oil "posted price" (a variable which is not the same as market or spot price) has been the reflection of all of the above which objectively unified the industry through increased competition among the existing oil regions. It is these factors that led to the formation of market prices that are tendentially conforming to the high production cost of declining U.S. oilfields rather than to the seemingly arbitrary decisions of OPEC. In other words, OPEC did what it did because the entire oil industry was at the threshold of a *social transformation* which practically revolutionized its institutional structure, and not the other way around. Indeed, the unprecedented tenacity of OPEC in the early 1970s and its *prima facie* ineptitude in the 1980s are both explicable through this transformation (see Bina, 1985, Ch. 9; Bina, 1990).

We divide the entire history of the Middle Eastern oil and other early oil producing regions, such as Venezuela, Mexico, and Indonesia, into three episodes of (1) the early oil concessions (1901–1950), (2) the era of transition (1950–1970), and (3) the era of internationalization of production that completes the integration of oil-producing regions into the global oil structure and necessitates the formation of market values, differential oil rents, and market prices within the global industry.

Historically, at the beginning of the century pre-capitalist social relations were still dominant in the Middle East, Latin America, and South East Asia. But the

penetration of international capital, especially oil capital, into these regions was gradually gaining momentum. The outcome was the establishment of a system of oil concessions that laid the cornerstone of cartelization in the oil industry in the Middle East and elsewhere. These concessions were made with more-or-less uniform principles for surrender of the oil property rights of the local authorities, or of the states, to a handful of powerful transnational oil companies and individuals from advanced capitalist countries interested in oil exploration in such regions (see Cattan, 1967; Alnasrawi, 1985; Bina, 1985, Ch. 3).

A quick glance at the Middle Eastern or Venezuelan concessionary agreements of this early period reveals that, without exception, all of these contracts were extremely long in duration and related to very large areas, often equal to the size of the countries involved. This system of oil leasing, apart from its form of ownership, was qualitatively different from the lease contracts in the United States. They usually covered a fairly short time span and a much smaller area, and provided relatively larger royalties to landowners. Under Anglo Saxon law, U.S. private owners owned the surface as well as the sub-surface rights, unlike owners under "Spanish" (Napoleonic) law who were only entitled to the surface rights.

The terms of the concessions, such as the size and determination of oil *royalties* and additional payment to the contracting governments and ruling authorities, were also different from what we experience today. Royalty has been defined as a portion of oil extracted from the land which goes to the individual owner of subsoil or the contracting government. This portion, in a majority of cases, is determined at 12.5 per cent of total value of extracted oil. This is indeed a payment for the right to extract oil.

At the beginning, in practice, this royalty was calculated on the basis of a fixed amount of money per ton of oil (*i.e.,* shillings or cents per ton). Thus, the fixity of payment and its lack of connection with the market price of oil are among the distinguishing features of the concessions of this period. It should be realized that even though there were "profit sharing" clauses in some concessionary agreements, they have never been honored in practice by the companies (Cattan, 1967; Ford, 1954; Mikdashi, 1966; Rouhani, 1971; Bina, 1985).

The characteristics of the above concessions stem primarily from the social dominance of pre-capitalist relations in the early years that in turn necessitated a *rudimentary* form of oil rent which is not quite on the par with modern rent relations (Bina, 1985, Ch. 3). In sum, the early development of oil in the Middle East and elsewhere saw a *direct* political domination by the international oil companies, in conjunction with moderate financial terms, a static (fixed) mechanism of royalty payment, and the lack of any relationship between the level of oil prices and the amount of royalties.

As international capital further penetrated into the Middle Eastern oil and other regional oil structures, the corresponding institutions and social relations of modern civil society in these regions gradually began to develop accordingly. At the same time, the economic and political conditions that were conducive to the development of modern industry in general (since the post-World War II period), and to the growth of the Middle Eastern oil industry in particular led to sharpened contradictions and the strengthening of capitalist social relations within the entire region. (Parenthetically, it might be noted that the Marshall Plan for reconstruction of Europe benefitted from cheap Middle Eastern oil; thanks to the post-war U.S. hegemony.) Accordingly, as the production of oil increased substantially, and the center of gravity of proven oil reserves gradually shifted to this region, and with the primary insistence of Venezuela, the terms under which oil property rights were granted had to be revised.

This era (1950–1970), that also saw the formation of OPEC, started with the abolition of the early oil concessionary agreements and the establishment and spread of the regime of fifty/fifty profit-sharing. In order to be able to implement this newly-devised system and to determine profits without exposing the actual profit pictures, the international oil companies employed the allocative mechanism of "posted price," an as-if-price that had already been in use for the valuation of the crude oil that was subject to internal transfer between multinational oil companies and their subsidiaries. This "posted price" has been a variable basis (potentially sensitive to the market) for determination and calculation of oil revenues and other associated payments that are paid to the oil-exporting countries of the Middle East and elsewhere by the companies (Cattan, 1967; Rouhani, 1971; Alnasrawi, 1985; Bina, 1985).

By looking at the history of this period, *i.e.,* the period of 1950–1970, one can recognize an increasing tendency towards market-orientation within the atmosphere of increasing conflict between national and international capital. The phenomenon of oil nationalization, such as the one which was initiated genuinely by Premier Mossadeq in Iran (1951), is a political manifestation of conflict in this period. During this period, the rudimentary form of oil rent of the previous era in the Middle East, Venezuela, South East Asia, and elsewhere was gradually transformed into a much more developed concept of oil rent compatible with contemporary capitalism, and responsive to the changes in the market values, spot prices, and the emerging market conditions.

During this transitional period, the social relations of capitalism were perfected in the Middle Eastern oil industry and the oil industry in Venezuela and elsewhere. The extent of the socialization of production at the end of this period can be observed from the tendency toward global price formation and increased competition among the existing petroleum industries at the international level.

This transformation is manifested in the formation of market prices based on the least productive region and in the formation of differential oil rents according to the existing differential productivity of the competing oil regions (Bina, 1985, Chs. 6 and 9).

Since 1970, the decline in the productivity of U.S. oil production on the one hand, and progressive integration of oil production within the global economy on the other hand, resulted in a higher magnitude of value, an increased volume of differential oil rent, and higher market prices globally. Given an increased level of differential productivity and profitability within the Middle Eastern, North African, Indonesian, and Venzuelan oil regions *vis-a-vis* the United States that naturally translates into an increased amount of differential oil rents for these regions, it is not hard to understand why OPEC demanded a fourfold increase in the "posted price" of crude oil during the 1973 crisis (see Alnasrawi, 1985; Bina, 1985, Chs. 8 and 9). The above analysis also simultaneously accounts for the crude oil quality differentials and the transportation costs involved in global competition (Rifai, 1974; Bina, 1985).

V

Conclusion

NOWHERE WITHIN ECONOMIC ANALYSIS has the general equilibrium framework been confronted with such troubling issues as in rent theory. Here the specificity of the effect of property relations is at stake and the simultaneity of determination of returns on the "factors of production" is a point of departure. This is an account of modern neoclassical theory. But, contrary to this modern trend, if the major task of economic theory is the explanation of economic and social institutions of our time, this can be done only through economic concepts which are, at the same time, social categories. They must be supported by historically specific analysis rather than through the construction of the ideal-types. Hence, the treatment of rent independently of the effects of landed property (*i.e.,* on the par with other "factor incomes") misses the very essence of rent in capitalism by misplacing its cause. This conclusion is particularly relevant to the literature on oil and energy economics where the above methodological framework is predominant and the notion of physical scarcity omnipresent.

As we have argued, the claim of having a specific theory of oil or energy rent is contingent upon the acceptance of rent as a social category, in tune with distinctiveness of the existing property relations. The contemporary literature on energy economics does not fulfill the above promises, as the majority of theorists only superficially recognize the implication of oil rents within the

general equilibrium theory. Here there is no room for specific treatment of oil rents.

As for the theorists associated with the "surplus approach," as we have seen they all treat oil rent ahistorically and within the sphere of distribution alone. In addition, for many writers in the field the concept of rent originates from monopoly and other "market imperfections." Our specific theory of oil rent, however, is also consistent with increased competition among the oil-producing regions of the world, accounting for transformation of the resultant differential productivities to differential oil rents since the early 1970s. We have developed a concept of oil rent based on potential conflict between the owners of oil reserves and the leaseholding oil producers worldwide, for OPEC and non-OPEC regions alike.

Works Cited

Alnasrawi, A., 1985. *OPEC in a Changing World Economy,* (Baltimore: Johns Hopkins UP).

Bina, C., 1985. *The Economics of the Oil Crisis,* (New York: St. Martin's P).

Bina, C., 1988. "Internationalization of the Oil Industry: Simple Oil Shocks or Structural Crisis?," *Review: Journal of the Fernand Braudel Center,* Vol. 11 (3): 329–70.

Bina, C., 1989. "Competition, Control and Price Formation in the International Energy Industry," *Energy Economics,* Vol. 11 (3): 163–168.

Bina, C., 1990. "Limits of OPEC Pricing: OPEC Profits and the Nature of Global Oil Accumulation," *OPEC Review,* Vol. 14 (1): 55–73.

Brown, G., 1974. "An Optimal Program for Managing Common Property Resources With Congestion Externalities," *Journal of Political Economy,* Vol. 82 (1): 163–173.

Brown, H. G., 1941. "Economic Rent: In What Sense a Surplus?," *American Economic Review,* Vol. 31: 833–5.

Cattan, H., 1967. *The Law of Oil Concessions in the Middle East and North Africa,* (Dobbs Ferry, New York: Oceana Publications).

Chevalier, J. M., 1976. "Theoretical Elements for an Introduction to Petroleum Economics," in *Market, Corporate Behavior, and the State,* (eds), A. P. Jacquemin and H. W. deJong. (The Hague, Martinus Nijhoff).

Clark, J. B., 1891. "Distribution as Determined by a Law of Rent," *Quarterly Journal of Economics,* Vol. 5: 289–318.

Devarajan, S. and A. C. Fisher, 1982. "Exploration and Scarcity," *Journal of Political Economy,* Vol. 90 (6): 1279–1290.

Fine, B., 1979a. "On Marx's Theory of Agricultural Rent," *Economy and Society,* Aug., pp. 241–78.

Fine, B., and L. Harris, 1979b. *Rereading Capital,* (London: Macmillan).

Fine, B., 1982a. "Landed Property and the Distinction Between Royalty and Rent," *Land Economics,* Vol. 58 (3): 338–350.

Fine, B., 1982b. *Theories of the Capitalist Economy,* (New York: Holmes & Meier).

Fine, B., 1983. "The Historical Approach to Rent and Price Theory Reconsidered," *Australian Economic Papers,* Vol. 22 (40): 132–143.

Fitch, B., 1982. "OPEC: The Big Cartel that Couldn't . . ." *Against the Current* Vol. 1 (4): 16–22.

Ford, A. W., 1954. *The Anglo-Iranian Oil Dispute of 1951–52,* (Berkeley: U. of California P).

Foster, E., 1981. "The Treatment of Rents in Cost-Benefit Analysis," *American Economic Review* Vol. 71 (1): 171–178.

Hobson, J. A., 1891. "The Laws of Three Rents," *Quarterly Journal of Economics,* Vol. 5: 263–88.

Krueger, A., 1974. "The Political Economy of the Rent-Seeking Society," *American Economic Review,* Vol. 64 (3): 291–303.

Marshall, A., 1893. "On Rent," *Economic Journal,* Vol. 3: 74–90.

Marx, K., 1981. *Capital,* Vol. III (New York: Vintage Books).

Mikdashi, Z., 1966. *A Financial Analysis of Middle Eastern Oil Concessions: 1901–65* (New York: Praeger Publishers).

Miller, E., 1973. "Some Implications of Land Ownership Patterns for Petroleum Policy," *Land Economics,* Vol. 49: 414–423.

Ng, Y. K., 1983. "Rents and Pecuniary Externalities in Cost-Benefit Analysis: Comment," *American Economic Review,* Vol. 73 (5): 1163–1170.

Ricardo, D., 1976. *The Principles of Political Economy and Taxation,* 3rd ed. (London: J. M. Dent & Sons Ltd).

Rifai, T., 1974. *The Pricing of Crude Oil,* (New York: Praeger).

Rouhani, F., 1971. *A History of O.P.E.C.* (New York: Praeger).

Semmler, W., 1982. "Competition, Monopoly, and Differentials of Profit Rates: Theoretical Consideration and Empirical Evidence," *Review of Radical Political Economics,* Vol. 13 (4): 39–52.

Shaikh, A., 1981. "Differential Rent." Mimeographed. New York, New School for Social Research.

Shaikh, A., 1982. "Neo-Ricardian Economics: A Wealth of Algebra, A Poverty of Theory," *Review of Radical Political Economics,* Vol. 14 (2): 67–84.

Sraffa, P., 1960. *Production of Commodities by Means of Commodities,* (Cambridge: Cambridge UP).

Weeks, J., 1981. *Capital and Exploitation,* (New Jersey: Princeton UP).

Wessel, R. H., 1967. "A Note on Economic Rent," *American Economic Review,* Vol. 57: 1221–26.

Wilson, T., 1979. "The Price of Oil: A Case of Negative Marginal Revenue," *Journal of Industrial Economics,* Vol. 27 (4): 301–315.

Belief Beyond Belief

FAITH may be defined as the willingness to believe without proof, but there is an unreasoning step above and beyond. This is well stated in the quote from A. Bouché-Leclerq, (*Histoire de la divination dans l'Antiquité,* Paris: 1879), in *From One To Zero* by Georges Ifrah, transl. Lowell Blair, (New York: Viking Penguin, 1985).

> One is almost tempted to admire the ruses of an impenetrable faith which encounters seemingly insurmountable difficulties and turns them into evidence in its favor. Nothing sheds more light on psychological history than this irresistible prestige of preconceived ideas.

F.C.G.