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The Law Firm as an Economic Organization

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THE LAW FIRM AS AN ECONOMIC ORGANIZATION

By

L. Dwight Israelsen
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L. Dwight Israelsen*

I. Introduction

The U.S. legal profession is interesting from an organizational perspective because of the variety of coexisting alternatives, ranging from sole practitioners to large corporations, and including relatively large partnerships, an organizational form often considered to be unwieldy and inefficient. One characteristic which the majority of law firms have in common is the necessity of choosing a mechanism to determine the distribution of income shares among the partners or owners. The sharing of net income among the members of the enterprise is also a characteristic of producer cooperatives; hence, producer cooperative theory can be used to analyze certain economic characteristics of law firms. The analysis which follows provides a framework within which these characteristics of alternative legal organizations are identified and compared. Four organizational models are considered: "simple" firms, "communal" partnerships, "collective" partnerships, and "collective hiring" partnerships. A simple firm is a sole practitioner or a general partnership in which each partner takes as income his own receipts minus a contribution to partnership overhead costs. A communal partnership is a firm in which the partners or owners share equally in the net income. A collective partnership is a firm in which the partner's or owner's share in net income is proportional to his "contribution" or "effort," however measured. A collective hiring partnership differs from a collective partnership only in the fact that it hires non-partner associates or paralegals at relatively low salaries or wages.

Economic characteristics analyzed and compared include optimal employment and/or partnership size, economic efficiency, individual work incentives, and the
impact on partner or employee work effort of changes in others' work decisions, scale of operation, product price, wage rate, taxes, and rent.

II. Labor Utilization

Differences in labor utilization between competitive capitalist firms and producer cooperatives are well-known, and can applied directly to the comparison of optimal short-run and long-run labor use among simple firms, communal partnerships, and collective partnerships in the legal profession. Collective hiring partnerships, however, differ from traditional producer cooperatives in that they hire non-partner labor at relatively low wages. The impact of this difference on aggregate labor use and partnership size in collective hiring partnerships in contrast to other law firms can be identified by the method of analysis found in Israelsen [1980a, 1980b]. In this analysis it is assumed that the number of hired employees (and aggregate labor) in the collective hiring partnership can be adjusted in the short run, but that partnership size (number of partners) can be adjusted only in the long run. It is also assumed that the number of hired employees (and aggregate labor) is always at the optimal level in the long run. Simple firms behave like ordinary capitalist profit maximizers, and communal and collective partnerships can attain optimal size in the long run, but not necessarily in the short run. Optimal values are determined below for collective hiring partnerships, then compared to values determined for alternative organizations.

Optimal Hiring and Aggregate Labor

List of Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>total amount of labor (number of partners plus number of employees)</td>
</tr>
<tr>
<td>L₁</td>
<td>number of partners</td>
</tr>
<tr>
<td>L₂ = L - L₁</td>
<td>number of hired employees</td>
</tr>
<tr>
<td>F(L)</td>
<td>production function</td>
</tr>
</tbody>
</table>
\( p \)  product price  
\( w \)  wage rate or salary rate for hired employees  
\( D \)  income to partners ("dividend rate")  
\( t_1 \)  tax rate on value of output  
\( t_2 \)  tax rate on net partnership income  
\( R \)  rental or other fixed costs  
* denotes optimal values  

Assumptions  
1. Labor quality and hours worked are homogeneous across all workers (partners and hired employees).  
2. Hired employees (associates and/or paralegals) is the only short run variable input. Physical facilities and capital are fixed in quantity and quality and are owned by the partnership. Initially, no rental or other fixed charge is paid to an outside entity.  
3. The partnership is a price-taker in product and labor markets; therefore, prices and wages are parametric.  
4. The production function is "well-behaved."  
5. There is complete certainty.  

Short-run optimization. We assume that the objective of the partnership is the maximization of net income per partner--the dividend rate--defined as  
\[
(2.1) \quad D = \frac{pF(L) - wL_2}{L_1} = \frac{pF(L) - w(L - L_1)}{L_1} = \frac{pF(L) - wL}{L_1} + w. 
\]

Since \( L_1 \) is fixed in the short run, \( D \) can be maximized with respect to \( L_2 \), or equivalently, with respect to \( L \). Differentiating (2.1) with respect to \( L \), we obtain the first-order condition  
\[
(2.2) \quad \frac{dD}{dL} = \frac{1}{L_1} [pF'(L) - w] = 0, 
\]
or

\[(2.2a) \ pF'(L) = w.\]

Equation (2.2a), of course, is the familiar VMP = w condition for profit maximization in a competitive capitalist firm. We conclude, then, that short-run optimal aggregate labor utilization in a collective hiring partnership is identical to that of an equivalent capitalist firm.

**Long-run optimization.** Since the first-order condition for optimal aggregate labor use (2.2a) is independent of partnership size \((L_1)\), it will also be applicable in the long run, when membership size can be adjusted. It can be concluded, then, that the collective hiring partnership exhibits aggregate labor-use behavior identical to that of an equivalent ordinary competitive capitalist firm both in the short run and the long run. Figure 1 shows the relationship between the dividend rate \((D)\) and aggregate labor utilization \((L)\) for various given partnership sizes \((L_1)\). The subscripts on the dividend curves correspond to the subscripts for the various given partnership sizes. Note that the dividend-maximizing aggregate labor level \((L^*)\) is independent of the level of \(L_1\), although the size of the dividend is not. It can be shown that for any given value of \(L_1\), the dividend curve and the VAP\(_L\) curve coincide at the point \(L_1 = L\). Also, it can be demonstrated that the dividend curve is above, below, or equal to the VAP\(_L\) curve when the value of the average product is, respectively, greater than, less than, or equal to the wage rate.

**Changes in parameters.** From (2.2a) it is clear that an increase in \(p\) would cause the optimal level of labor to increase, i.e., \(\frac{\partial L^*}{\partial p} > 0\). It is also apparent that \(\frac{\partial L^*}{\partial w} < 0\). If a percentage tax \((t_1)\) on gross output value were introduced, (2.2a) would become

\[(2.2a') \ (1 - t_1)pF'(L) = w,\]

and \(\frac{\partial L^*}{\partial t_1}\) would be negative. A tax \((t_2)\) on net profits would leave (2.2a) unchanged, as would a fixed charge \((R)\) on the partnership. Thus \(\frac{\partial L^*}{\partial t_2}\) and \(\frac{\partial L^*}{\partial R}\) are both zero. In each of these cases, the response of the
Figure 1. $D$ as a function of $L$ for various values of $L_1$. 

$VMP_L$, $VAP_L$
hiring partnership to a change in the indicated parameter is indistinguishable from that of an ordinary profit-maximizing capitalist enterprise.

Optimal Partnership Size

Because of its very nature, a partnership does not vary the number of partners as easily as an ordinary capitalist firm can vary the number of employees. However, we assume that the optimal (dividend-maximizing) partnership size can be attained in the long run. For the hiring partnership, optimal partnership size can be deduced from (2.1). It is clear by inspection that dividend maximization requires membership minimization if \( pF(L^*) - wL^* \) is positive, i.e., if \( VAP_{L^*} \) is greater than \( w \). This observation is verified by noting that

\[
(2.3) \quad \frac{dD}{dL_1} = - \frac{L^*}{L_1^2} [pF(L^*) - wL^*] \\
= - \frac{L^*}{L_1^2} \left[ L_1^2 pF(L^*) - w \right] < 0 \quad \text{if} \quad VAP_{L^*} > w.
\]

Since paralegals and associates in law partnerships typically are paid wages and salaries considerably below the income of partners, we conclude that the optimal hiring partnership would consist of one member, given the assumptions of our model. That this is not the case in practice does not necessarily mean that law partnerships which hire employees are too large. One of the assumptions of the model, that all labor is homogeneous, is obviously not the case in typical law partnerships. Hired employees are not perfect substitutes for partner labor, and partners are not perfect substitutes for each other. The gains in productivity that come from specialization may account for the large size of many law partnerships. In addition, there may be complementarity between these specialized factors of production. Economies of scale and other effects may also help account for the large size of these partnerships. Nevertheless, the pressure to reduce partnership size in order to increase partner income, ceteris paribus, is a characteristic of this organizational model. With the assumptions of this section, the sole practitioner who hires
paralegals is the optimal "hiring partnership."

Figure 2 shows the relationship between the dividend rate \( D \) and membership size \( L_1 \) for various given values of \( L \). Subscripts on the dividend curves correspond to subscripts for the levels of \( L \). Note that the dividend rate is a decreasing function of \( L_1 \) for all values of \( L \) which imply \( VAP_L > w \). As was demonstrated in figure 1, dividend and value of average product curves coincide when \( L_1 = L \). It is clear from both figures that \( L^* \) maximizes \( D \) for any value of \( L_1 \).

If, by chance, the optimal hiring point \( (VMP_L = w) \) implies \( VAP_L^* < w \), \( \frac{dD}{dL_1} \) will be positive, and dividend maximization requires \( L_1 = L \). Whereas neither an ordinary capitalist firm nor the law partnership would hire any labor in this circumstance; rather than shutting down in the long run, as would the capitalist firm, the partnership would maximize the dividend rate by adding partners to the \( VMP_L = VAP_L \) point. This result can be seen from equation (2.1). If \( L \) is replaced by \( L_1 \), the dividend rate becomes

\[
D = \frac{pF(L_1) - (L_1 - L_1)w}{L_1} = \frac{F(L_1)}{L_1}.
\]

Differentiating (4) with respect to \( L_1 \) yields the first-order condition

\[
\frac{dD}{dL_1} = \frac{L_1pF'(L_1) - pF(L_1)}{L_1^2} = \frac{1}{L_1} \left[ pF'(L) - \frac{1}{L_1}pF(L_1) \right] = 0,
\]

or

\[
pF'(L_1) = \frac{1}{L_1}pF(L_1),
\]

which is the familiar optimum condition for producer cooperative membership size—which would be the optimum partnership size condition in our communal and collective partnerships (without hiring). If the value of average product is equal to the wage or salary rate at the optimal aggregate labor level, \( D = w = VAP_{L^*} \) for any value of \( L_1 \leq L^* \), and \( \frac{dD}{dL_1} = 0. \) In this case,
Figure 2. D as a function of $L_1$ for various values of $L$. $L_1 \leq L$
optimal partnership size is indeterminate. Note, in this connection, that
in figure 2 the dividend curves for \((L)_0\) and \((L)_5\) coincide with the wage
rate. Also, for values of \(L\) which correspond to \(VAP_L\) less than \(w\), such as
\((L)_6\) in figure 2, the dividend rate is below the wage rate and is an increasing
function of \(L_1\). For non-hiring partnerships, optimal size is \((L)_3\) in figure 2:

Changes in parameters. Optimal partnership size in the normal case
\((VAP_L* > w)\) is unaffected by changes in product price or wage rate.
Only if increases in the wage rate and/or decreases in the product price
are sufficient to cause the maximum value of average product of labor to
be less than the wage will the optimal size of the partnership be greater
than one partner. The impact of changes in other parameters on the optimal
size of the partnership can be found by differentiating the general form of
the partnership dividend,

\[
(2.6) \quad D = \frac{(1 - t_2)}{L_1} \left[ (1 - t_1) pF(L) - w(L - L_1) - R \right]
\]

with respect to \(L_1\), obtaining

\[
(2.7) \quad \frac{dD}{dL_1} = - \frac{(1 - t_2)}{L_1^2} \left[ (1 - t_1) pF(L) - wL - R \right] + w(1 - t_2),
\]

It is clear from (2.7) that the optimal size of the hiring partnership remains
at one partner for all changes in \(t_1\), \(p\), \(R\), and \(w\) which do not cause the
net value of average product of labor, \(\frac{(1 - t_1) pF(L) - R}{L}\), to be less
than the wage rate. It is also clear that the tax on net income \(t_2\)
will not affect the optimal partnership size as long as the tax rate is less
than 100 percent.
Comparison with Non-hiring Partnerships and Capitalist Models

Conditions for optimal partnership size and/or aggregate labor utilization for non-hiring partnerships (communal and collective partnerships) and a competitive capitalist firm are summarized in table 1. Table 2 compares the impact of changes in prices, wages, rent, and tax rates on labor utilization and/or partnership size. In both tables, it is assumed that the net value of average product curve for labor has a maximum greater than the wage rate at a positive level of labor, and that the enterprise produces one product only. In table 1, the optimality conditions shown are for the most general case, where rent, income tax, and output tax are all imposed. In the absence of a tax on the gross value of output, NVMP_L and NVMP_L would be replaced by VMP_L and VMP_L, and in the absence of rent, NVAP_L would be replaced by VAP_L.

The model used for non-hiring partnerships in tables 1 and 2 is the same as the one used by Ward [1958], and labeled by Domar [1966] as the "pure" model of a producer cooperative. In this model, as in the hiring partnership model, labor contribution by members is fixed, but number of partners is variable, and it is assumed that the partnership can achieve optimal size in the long run. We will analyze the situation of variable labor effort or "contribution" to the partnership in section III, in connection with incentives.

The similarities in labor-use behavior between the prototype hiring partnership and the competitive capitalist model and the differences in optimal partnership size between the hiring and non-hiring partnerships are equally striking. In terms of labor use the hiring partnership behaves exactly like a capitalist, and in terms of number of partners, the optimal hiring partnership size is 1. It should be noted, however, that rent plays a key role in the "perverse" employment and output response of the non-hiring partnership to changes in product price. With no rent, the optimal partnership size is independent of product price.
### TABLE 1

Conditions Determining Optimal Membership Size ($L_1$) and/or Aggregate Labor Utilization ($L$) in Alternative Economic Organizations

<table>
<thead>
<tr>
<th>Condition for</th>
<th>Model</th>
<th>Non-hiring Partnership</th>
<th>Hiring Partnership</th>
<th>Competitive Capitalist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partnership Size</td>
<td>$\text{minimize } L_1$ ($L_1 = 1$)</td>
<td>$\text{NVHP}<em>{L_1} = \text{NVAP}</em>{L_1}$</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Aggregate Labor</td>
<td>$\text{NVMP}_L = w$</td>
<td>$\text{NVMP}_L = w$</td>
<td>$\text{NVMP}_L = w$</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 2
The Effects of Changes in Prices, Wages, Rent, and Tax Rates on Optimal Membership Size and/or Aggregate Labor Utilization in Alternative Economic Organizations

<table>
<thead>
<tr>
<th>Nature of Change</th>
<th>Model</th>
<th>Non-hiring Partnership</th>
<th>Hiring Partnership</th>
<th>Competitive Capitalist</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Effect on partnership size</td>
<td>Effect on labor utilization</td>
<td></td>
</tr>
<tr>
<td>Increase in $p$</td>
<td>-</td>
<td>0</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Increase in $w$</td>
<td>+</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Increase in $R$</td>
<td>+</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Increase in $t_1$</td>
<td>+</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Increase in $t_2$</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Also, if the nonhiring partnership's \( VAP_{L1} \) curve is everywhere decreasing with respect to labor and there is no rent, it behaves like the hiring partnership, maximizing the dividend by minimizing the number of partners. In the hiring partnership model, the results shown in the tables are independent of the presence of rent.

In summary, the perverse responses to changes in product price and rent, and the inefficient allocation of labor within and among partnerships which characterizes the non-hiring partnership model are entirely absent in the hiring model, if competitive labor markets and no tax on output are assumed. We conclude, then, that the hiring partnership system is economically efficient. The effects of variable labor effort on partnership efficiency will be examined in the section which follows.

III. Individual Work Incentives

The conclusions of the previous section were based on two critical assumptions: variable partnership size, and fixed labor contribution by each employee or partner. In the short run, variable partnership size is an unrealistic assumption. On the other hand, while the partnership may set a norm for partner work effort ("billable hours," for example), partners are free to contribute as much effort as they choose. The number of hours a partner may choose to contribute depends upon, among other things, the expected increase in income and, therefore, in utility which accrues to the partner as a result of his extra work. In other words, the "marginal income" a partner can expect in return for marginal increments in his labor contribution is a critical factor in influencing his labor-leisure decision. It is upon this concept of "marginal income"--which we adopt as a measure of individual work incentive--that the following analysis is based. The model developed in this section follows the technique used by Israelsen [1980a] to compare individual work incentives in collectives, communes, and capitalist enterprises. The results shown below for communal and collective partnerships are taken from that study.
Development of the Model

Although many systems are used by law firms to determine the share of net income accruing to each partner or owner; except in the case of simple firms, the systems can be grouped into those in which the share of a partner does not depend on his relative work effort, and those in which the share of a partner does depend on his relative work effort, however that effort is measured. We refer to the first type as a communal partnership, and the second as a collective partnership. Casual empiricism suggests that few large partnerships are communal, so we do not analyze communal partnerships with hiring, though the analysis presents no problems. As Israelsen [1980a] demonstrated, work incentives in collectives are in general much higher than in communes, other things equal.

As was shown in section II, the hiring of non-partner labor causes the prototype hiring partnership to behave exactly like a profit-maximizing capitalist enterprise in its decisions regarding aggregate labor use. The hiring of non-partner labor also plays a role in the individual incentive model--that of differentiating work incentives for members of collective hiring partnerships from those facing partners in non-hiring collective partnerships. The model developed below compares work incentives for three groups: partners in collective hiring partnerships, employees of collective hiring partnerships, and partners in non-hiring collective partnerships. Reference will also be made to simple firm work incentives and incentives for partners in communal partnerships.

The model consists of two law firms: a prototype collective hiring partnership and a prototype collective non-hiring partnership.

Assumptions:

1. Identical "well-behaved" production functions. One good, only, is produced.
2. Labor is the only variable input. The number of partners is fixed and equal in the two firms. Partners can contribute as many or as few labor hours as they choose.
3. The hiring partnership has the option of hiring as many employees (or hours) as it desires at a given wage rate well below the dividend rate for partners.

4. All partners and hired employees in the two firms are identical except for their relative preferences for income and leisure, these preferences being distributed in the same manner over workers in the two firms. Quality of work ("effort") is held constant.

5. The hiring partnership is always at the optimal aggregate labor utilization (hiring) point.

6. The firms own their own facilities and capital, which is equal in quantity and quality between the two firms.

7. Both firms are price-takers. There is complete certainty.

Symbols:

\( y_i \) income of the \( i \)th partner or employee
\( p \) product price
\( n \) number of partners in each firm
\( m_i \) number of work hours contributed by the \( i \)th partner
\( h_i \) number of work hours contributed by the \( i \)th hired employee
\( L_1 \) total work hours contributed by partners
\( L_2 \) total work hours contributed by hired employees in the hiring partnership
\( L = L_1 + L_2 \) total work hours contributed in a firm (in the non-hiring partnership, \( L_2 = 0 \))
\( L^* \) optimal aggregate hours utilized in hiring partnership
\( F(L) \) production function
\( w \) market wage rate
\( m_j \) number of labor hours contributed by the \( j \)th partner
\( k \) scale factor
r degrees of homogeneity of production function
R fixed rental charge
t1 percentage tax on gross value of product
t2 percentage tax on net income of partnership
U^i utility function of i-th partner or employee
H total number of hours available for individual partner or employee
to divide between working and leisure
Y a parameter representing m^i, h^i, n, k, p, R, w, t1, or t2;
used for convenience in mathematical manipulation.

Definitions:

Optimal Aggregate Labor Utilization: L* = L such that pF'(L*) = w,
or F'(L*) = w/p. With the assumption that the hiring partnership is
always at the optimal aggregate labor utilization point, L_2 = L* - L_1,
and the following derivatives are defined:

\[ \frac{3L_2}{3L_1} = -1, \frac{3L_2}{3L^*} = 1, \frac{3L^*}{3L_1} = 0. \]

Collective Partnership: a partnership in which a partner's share in
net income is determined solely by the amount of work he contributes relative
to the total for the partners as a group. Then, with no rent or tax payments,

\[ y_i = \frac{m^i_1}{L_1} pF(L_1). \]

Collective Hiring Partnership: a partnership in which a member's share is
determined the same way as in a collective partnership, but in which non-partners
are hired at a low, given wage in such numbers as maximize the dividend per partner.
Then, with no rent or tax payments, income to a partner is given by

\[ y_i = \frac{m^i_1}{L_1} \left[ pF(L^*) - wL_2 \right] = \frac{m^i_1}{L_1} \left[ pF(L^*) - wL^* \right] + wm_i, \]
and the income of a hired employee is

\[(3.4) \quad y = wh_i.\]

It is clear from a comparison of (3.3) and (3.4) that, other things equal, income to a partner is higher than income to an employee on a collective hiring partnership if the wage rate is less than the maximum value of the average product of labor. It is also clear from the process of dividend maximization discussed in section II that, other things equal, income to a partner is higher in the collective hiring partnership than in the non-hiring partnership.

**Incentives**

As discussed above, the measure of work incentives used in this model is the "marginal income": the change in the income of an employee or partner due to his contribution of an additional unit of work, other things equal:

In the collective partnership, from (3.2),

\[(3.5) \quad \frac{\partial y_i}{\partial m_i} = \frac{m_i}{L_1}pF'(L_1) + \frac{dF(L_1)}{L_2} = \frac{m_i}{L_1}pF'(L_1) + \left(1 - \frac{m_i}{L_1}\right)pF(L_1),\]

which is a convex combination of the values of the marginal and average products of labor, less than VMP\textsubscript{L} when average product is rising, and greater than VMP\textsubscript{L} when average product is falling.

From (3.3), for partners in the collective hiring partnership,

\[(3.6) \quad \frac{\partial y_i}{\partial m_i} = \frac{m_i}{L_1}pF(L^*) - wL^* + w = \frac{m_i}{L_1}w + \left(1 - \frac{m_i}{L_1}\right)pF(L^*) - wL_2,\]

which is a convex combination of the wage rate and the net value of the average product of labor (dividend rate).

For hired employees of the partnership, we find from (3.4):

\[(3.7) \quad \frac{\partial y_i}{\partial h_i} = w = F'(L^*).\]
It is obvious from (3.6) and (3.7) that work incentives for partners in the hiring partnership are larger, other things equal, than for hired employees. From (3.5) and (3.7), it can be demonstrated that partners in the non-hiring partnership also have higher work incentives, other things equal, than do hired employees in the hiring partnership, at least in the range of declining average product for \( L_1 \). To verify this, note that \( pF'(L^*) < pF'(L_1) \) for \( L_1 \leq L^* \) in that range. If \( L_1 \) is in the range of increasing average product, incentives for hired workers in the hiring partnership may be larger than those for non-hiring partners if the wage rate is greater than the value of the average product of labor.

It is not obvious from (3.5) and (3.6) which partnership offers the greater work incentive. For values of \( L_1 \) less than \( L^* \), the first term in the non-hiring partnership incentive equation is larger than the corresponding term in the hiring partnership incentive equation, i.e., \( pF'(L) \) is greater than \( w \); but the situation is reversed for the second term, i.e., \( pF'(L_1) \) is less than \( pF'(L^*) - wL_2 \). It is likely, however, that for at least some range of \( L_1 \) less than \( L^* \), incentives in the hiring partnership exceed those in the non-hiring firm. It can be shown that as a function of \( L_1 \), (3.5) increases, reaches a maximum, then decreases. In equation (3.6), however, marginal income is a decreasing function of \( L_2 \). Since incentives are equal when \( L_1 = L^* \), it appears plausible that incentives for partners in hiring partnerships are greater than those for non-hiring partners for \( L_1 \) less than \( L^* \), or for some range of \( L_1 \) less than \( L_2 \), where \( L_2 \) is less than \( L^* \).

**Interdependent Incomes**

An interesting characteristic of producer cooperatives which seldom appears in capitalist labor markets is the interdependence between one individual's work decision and another man's income and incentives. For example, in the collective partnership, the effect on the \( i \)th partner's income of an additional unit of work
contributed by partner \( j \) is given by

\[
(3.8) \quad \frac{\partial y_i}{\partial m_j} = - \frac{m_i}{L_1} \left[ pF(L_1) - pF'(L_1) \right]
\]

and the impact on the \( i \)th partner's incentives is

\[
(3.9) \quad \frac{\partial^2 y_i}{\partial m_j \partial m_i} = \frac{1}{L_1} \left[ \frac{m_i}{L_1} \left[ pF(L_1) - pF'(L_1) \right] + m_i pF''(L_1) \right].
\]

The corresponding equations for the collective hiring partnership's partners are

\[
(3.10) \quad \frac{\partial y_i}{\partial m_j} = - \frac{m_i}{L_1} \left[ \frac{1}{L_1} (pF(L^*) - wL_2) - w \right]
\]

\[
= - \frac{m_i}{L_2} [pF(L^*) - wL^*],
\]

and

\[
(3.11) \quad \frac{\partial^2 y_i}{\partial m_j \partial m_i} = \frac{1}{L_1} \left[ \frac{m_i}{L_1} \left[ (2 - \frac{m_i}{L_1} - 1) \left( \frac{1}{L_1} [pF(L^*) - wL_2] - w \right) \right]
\]

\[
= \frac{1}{L_2} \left[ \frac{m_i}{L_1} \left[ (2 - \frac{m_i}{L_1} - 1) (pF(L^*) - wL^*) \right] \right].
\]

From equations (3.8) and (3.10) we see that, other things equal, an additional hour worked by a partner in the non-hiring partnership makes all the other partners better off, in terms of income, when average product is rising, but makes everyone else worse off when average product is falling (the normal production range); while an additional hour worked by a partner in the hiring partnership always reduces all other partners' incomes. An additional hour contributed by a hiring partner also reduces incentives for all other partners, provided that \( L_1 \) is greater than \( 2m_i \), as can be deduced from (3.11). With \( L_1 \) greater than \( 2m_i \), (3.9) shows that an increase in work performed by one partner in the non-hiring partnership
will reduce incentives for other partners in the declining-average-product range, but will increase incentives for others for part of the range of increasing average product of labor.

It should be clear that increases in the number of partners (n) in the two organizations will have the same impacts on incomes and incentives of other partners as increases in \( m_j \). As can be seen from equations (3.4) and (3.7), changes in \( h_j \) have no impact on income or incentives of the \( i^{th} \) hired employee in the hiring partnership.

The interdependence between one partner's work and other partners' incomes evident in both hiring and non-hiring partnerships of the collective type may be expected to cause jealousy, dissention, and inefficient labor-leisure decisions as individuals attempt to prevent their income shares from eroding. Pressures to set maximum allowable working hours might develop under these circumstances.

**Income, Incentives, and Changes in Parameters**

The impact on income and incentives of changes in firm scale, prices, wages, rent, and taxes can easily be determined.

**Scale effects.** If all factors of production are allowed to vary by a scale factor, \( k \), and the production function is homogeneous in the relevant range, it can be denoted by \( F(kL) \), where \( F(kL) = k^r F(L) \), and \( F'(kL) = F^{r-1}F'(L) \), with \( r \) being the degree of homogeneity. The effect of a change in scale on a non-hiring partner's income is given by

\[
\frac{\partial y_i}{\partial k} = \frac{\partial}{\partial k} \left[ \frac{m_i}{kL_1} \frac{pF(kL_1)}{L_1} \right] = (r - 1) \frac{m_i k^{r-2}}{L_1} \frac{pF(L_1)}{L_1} \leq 0 \quad \text{as} \quad r \leq 1.
\]

For a partner in a hiring partnership, the scale effect on income is

\[
\frac{\partial y_i}{\partial k} = \frac{\partial}{\partial k} \left[ \frac{m_i k^{r-2}}{kL_1} (pF(kL^*) - wkL^*) + \frac{w}{m_i} \right]
\]

\[
= (r - 1) \frac{m_i k^{r-2}}{L_1} \frac{pF(L^*)}{L_1} \leq 0 \quad \text{as} \quad r \leq 1.
\]
A change in scale affects incentives for non-hiring partners in the following way:

\[
\frac{\partial^2 y_i}{\partial k \partial m_i} = \frac{\partial}{\partial k} \left[ -\frac{m_i}{kL_1} pF'(kL_1) + \left(1 - \frac{m_i}{kL_1}\right) \frac{1}{kL_1} pF(kL_1) \right] \\
= \frac{m_i}{L_1} \frac{r-3}{kL_1} \frac{1}{pF(L_1)} + \frac{1}{L_1} pF(L_1) + (r-2)pF'(L_1) \\
+ (r-1)kr^{-2}(1 - \frac{m_i}{kL_1}) \frac{1}{L_1} pF(L_1),
\]

which is positive when \( r \geq 1 \) and average product is declining, and positive everywhere if \( r \geq 2 \).

For partners in hiring partnerships,

\[
\frac{\partial^2 y_i}{\partial k \partial m_i} = \frac{\partial}{\partial k} \left[ (1 - \frac{m_i}{kL_1}) \frac{1}{kL_1} (pF(kL^*) - wKL^*) + w \right] \\
= (r-1)kr^{-2}(1 - \frac{m_i}{kL_1}) \frac{1}{L_1} pF(L^*) + \frac{m_i}{kL_1} \frac{1}{r-2} [kr^{-1}pF(L^*) - wL^*],
\]

which is positive if \( r < 1 \). Note that with constant returns to scale (\( r = 1 \)), (3.13) has a value of zero and (3.15) is positive. Hence, if two identical collective hiring firms were to be combined, increases in incentives for all members would result, without a reduction in any partner's income. A change in the scale of a hiring firm will not affect the income or incentives of hired workers.

Product price. Income and incentives of non-hiring partners are affected by a change in product price in the following manner:

\[
\frac{\partial y_i}{\partial p} = \frac{m_i}{L_1} F(L_1),
\]
For partners in the hiring partnership, the corresponding effects are:

\[
(3.18) \quad \frac{\partial y_i}{\partial p} = \frac{m_i}{L_1} F(L^*),
\]

and

\[
(3.19) \quad \frac{\partial^2 y_i}{\partial p \partial m_i} = (1 - \frac{m_i}{L_1}) \frac{1}{L_1} F(L^*).
\]

All four of these derivatives are positive. The price effect on individual partner income is larger in the hiring partnership than in the non-hiring partnership for \( L_1 \) less than \( L^* \). Other things equal, changes in product price will affect neither income nor incentives of employees hired by the partnership.

**Wage rate.** A change in the market wage rate affects income and incentives hired employees and partners in the hiring partnership.

For the hired employee,

\[
(3.20) \quad \frac{\partial y_i}{\partial w} = h_i,
\]

\[
(3.21) \quad \frac{\partial^2 y_i}{\partial w \partial h_i} = 1,
\]

and for the partner,

\[
(3.22) \quad \frac{\partial y_i}{\partial w} = - \frac{m_i L_2}{L_1} = m_i (1 - \frac{L^*}{L_1}),
\]

\[
(3.23) \quad \frac{\partial^2 y_i}{\partial w \partial m_i} = \frac{m_i}{L_1} - (1 - \frac{m_i}{L_1}) \frac{L_2}{L_1} = 1 - (1 - \frac{m_i}{L_1}) \frac{L^*}{L_1}.
\]

As expected, wage increases raise the income and incentives of the hired employee, and lower the income of the partner. The impact of a wage
increase on the incentive of a partner will be negative, provided that

\[
\frac{L_1}{L^*} < (1 - \frac{m_i}{L_1}).
\]

Rent. If rent \((R)\) is paid by the two firms, income to the \(i\)th partner becomes, from (3.2) and (3.3),

\[
(3.2a) \quad y_i = \frac{m_i}{L_1} [pF(L_1) - R]
\]

in the non-hiring partnership, and in the hiring partnership,

\[
(3.3a) \quad y_i = \frac{m_i}{L_1} [pF(L^*) - wL^* - R] + wm_i.
\]

Changes in rent have the same income and incentive effects on partners in both non-hiring and hiring partnerships:

\[
(3.24) \quad \frac{\partial y_i}{\partial R} = - \frac{m_i}{L_1},
\]

\[
(3.25) \quad \frac{\partial^2 y_i}{\partial R \partial m_i} = - \frac{1}{L_1} (1 - \frac{m_i}{L_1}).
\]

Both derivatives are negative. Changes in rent do not affect income or incentives of the hired employees.

Output tax. The imposition of a tax \((t_1)\) on the value of gross output changes partner income to

\[
(3.2b) \quad y_i = \frac{m_i}{L_1} (1 - t_1)pF(L_1)
\]

in the non-hiring partnership, and

\[
(3.3b) \quad y_i = \frac{m_i}{L_1} [(1 - t_1)pF(L^*) - wL^*] + wm_i
\]

in the hiring partnership.

The effects on income and incentives of a change in \(t_1\) are given by
(3.26) \[ \frac{\partial y_i}{\partial t_1} = - \frac{m_i}{L_1} pF(L_1) \]
and
(3.27) \[ \frac{\partial^2 y_i}{\partial t_1 \partial m_i} = - \left( \frac{m_i}{L_1} pF'(L_1) + \left( 1 - \frac{m_i}{L_1} \right) pF(L_1) \right) \]

for partners in the non-hiring partnership, and by
(3.28) \[ \frac{\partial y_i}{\partial t_1} = - \frac{m_i}{L_1} pF(L^*) \]
and
(3.29) \[ \frac{\partial^2 y_i}{\partial t_1 \partial m_i} = - \left( \frac{m_i}{L_1} pF(L^*) \right) \]

for partners in the hiring firm. All four derivatives are negative.

Hired workers' incentives and incomes are unaffected by the tax.

**Income tax.** A tax \( t_2 \) on net firm income (before dividend payments) leaves individual partners with incomes of

(3.2c) \[ y_i = \frac{m_i}{L_1} (1 - t_2) pF(L_1) \]
and
(3.3c) \[ y_i = \frac{m_i}{L_1} (1 - t_2) [pF(L^*) - wL_2] \]
in the non-hiring and hiring law firms, respectively. As \( t_2 \) changes, incomes and incentives for partners change in the following ways:

In the non-hiring partnership,
(3.30) \[ \frac{\partial y_i}{\partial t_2} = - \frac{m_i}{L_1} pF(L_1), \]
(3.31) \[ \frac{\partial^2 y_i}{\partial t_2 \partial m_i} = - \left( \frac{m_i}{L_1} pF'(L_1) + \left( 1 - \frac{m_i}{L_1} \right) pF(L_1) \right). \]

In the hiring partnership,
(3.32) \[ \frac{\partial y_i}{\partial t_2} = - \frac{m_i}{L_1} [pF(L^*) - wL_2], \]
Again, all four derivatives are negative. In the absence of rent, the income and output taxes have identical effects on the non-hiring partnership, but not on the hiring partnership. A tax on net firm income does not affect employees.

**Impact on Hours Worked**

The income and incentive effects of changes in various parameters derived above are useful in helping to determine the impact of those changes on individual labor-leisure decisions.

Assume the utility function of the \(i^{th}\) partner or employee is of the form \(U^i = U^i(y^i, H - m^i)\) [or \(U^i = U^i(y^i, H - h^i)\)], where \(H\) is the total number of hours available to divide between working and leisure, and \(y^i\) is a function of \(m^i\) (or \(h^i\)) and a parameter \(\gamma\), which is used as a proxy for any one of the parameters \(m_j, h_j, n, k, p, w, R, t_1, t_2\). The first-order conditions for utility maximization require that

\[
(3.34) \quad \frac{\partial U^i}{\partial y^i} \frac{\partial^2 y^i}{\partial m^i} - U^i_2 = 0,
\]

where \(U^i_1\) is the marginal utility of income for the \(i^{th}\) individual and \(U^i_2\) is the marginal utility of leisure. Differentiating (3.34) totally with respect to \(m^i\) and \(\gamma\) and solving for \(\frac{dm^i}{d\gamma}\) yields

\[
(3.35) \quad \frac{dm^i}{d\gamma} = \left[ \frac{U^i_1}{U^i_2} \frac{\partial^2 y^i}{\partial m^i} + \frac{\partial y^i}{\partial \gamma} \frac{\partial y^i}{\partial m^i} \right] \left( \begin{array}{ccc}
U^i_1 & -U^i_2 & \frac{\partial y^i}{\partial m^i} \\
-U^i_1 & U^i_2 & -U^i_2 \\
U^i_1 & U^i_2 & 1
\end{array} \right) \left( \begin{array}{c}
\frac{\partial^2 y^i}{\partial m^i} \\
\frac{\partial y^i}{\partial m^i} \\
\frac{\partial y^i}{\partial m^i}
\end{array} \right)
\]
Since equation (3.35) represents the change in the utility-maximizing amount of labor contributed by the $i^{\text{th}}$ partner in the non-hiring or hiring partnership, the sign of the derivative is of considerable interest. The corresponding equation for the hired worker is obtained by replacing $m_i$ with $h_i$ in (3.35).

A sufficient condition for the denominator of (3.35) to be negative, assuming that $U^i$ is strictly concave, is $\frac{\partial^2 y_i}{\partial m_i^2} < 0$. In the non-hiring partnership,

\begin{equation}
\frac{\partial^2 y_i}{\partial m_i^2} = \frac{m_i}{L_1} pF''(L_1) + \frac{L_1 - m_i}{L_1^2} [pF'(L_1) - \frac{1}{L_1} pF(L_1)],
\end{equation}

which is negative when average product of labor is at its maximum or falling.

In the hiring partnership,

\begin{equation}
\frac{\partial^2 y_i}{\partial m_i^2} = -2 \left( \frac{L_1 - m_i}{L_1^2} \right) [pF(L^*) - wL^*] < 0,
\end{equation}

and

\begin{equation}
\frac{\partial^2 y_i}{\partial h_i^2} = 0.
\end{equation}

The sign of the numerator of (3.35) depends upon $\frac{\partial y_i}{\partial m_i}$, $\frac{\partial y_i}{\partial y m_i}$, and $\frac{\partial^2 y_i}{\partial y \partial m_i}$, all of which have been determined above, and upon $U^1_i$, $U'^1_i$, and $U'^{11}_i$. If we make the usual assumptions $U^1_i > 0$, $U'^1_i < 0$, and $U'^{11}_i \geq 0$, ...
the sign of \( \frac{dm_i}{\partial Y} \) or \( \frac{dh_i}{\partial Y} \) can be determined, though in some cases additional assumptions are needed.

Table 3 summarizes the effects of changes in various parameters on incomes, incentives, and hours worked by partners in collective hiring partnerships, collective partnerships, communal partnerships, and by employees of collective hiring partnerships. The results for communal partnerships and for employees of collective hiring partnerships are based on those derived for communes and for capitalist workers in Israelsen [1980a]. In communal partnerships, it is assumed that each partner receives an equal share, though the results are qualitatively the same as long as shares are not determined by work contributed to the partnership. For a communal partnership, a partner's income is given by

\[
Y_i = \frac{1}{n} F(L),
\]

and the work incentive is

\[
\frac{\partial Y_i}{\partial L_i} = \frac{1}{n} F'(L), \quad \text{where } L_i \text{ represents labor contribution.}
\]

As can be seen, work incentives are much lower in a communal partnership than in collective partnerships, with or without hiring, as the partner in the communal partnership receives only \( \frac{1}{n} \)th of his marginal product as marginal income. Recall that the collective partner marginal incomes are greater than marginal product in the normal production range. For a partner in a communal partnership, it doesn't matter who does the work, as is shown in equation (3.41), the impact on partner i's income of additional work contributed by partner j.

\[
\frac{\partial Y_i}{\partial L_j} = \frac{1}{n} F'(L).
\]

Note that the derivative has the same value as in (3.40). Hence, we might expect that hours contributed by communal partners would be fewer than those contributed by collective partners, other things equal. We might also expect
### TABLE 3

The Effect of Changes in Various Parameters on Incomes, Incentives, and Hours Worked by the $i^{th}$ Partner or Hired Worker*

<table>
<thead>
<tr>
<th>Nature of Change</th>
<th>Effect on Income</th>
<th>Effect on Incentives</th>
<th>Effect on Hours Worked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in $m_j$ or $h_j$</td>
<td>$-a$</td>
<td>$0$</td>
<td>$-a$</td>
</tr>
<tr>
<td>Increase in $n$</td>
<td>$-a$</td>
<td>$-a$</td>
<td>0</td>
</tr>
<tr>
<td>Increase in $k$</td>
<td>$0^b$</td>
<td>$0^b$</td>
<td>$0^b$</td>
</tr>
<tr>
<td>Increase in $p$</td>
<td>$+b$</td>
<td>$+a,b$</td>
<td>$b$</td>
</tr>
<tr>
<td>Increase in $R$</td>
<td>$-b$</td>
<td>$-b$</td>
<td>0</td>
</tr>
<tr>
<td>Increase in $t_1$</td>
<td>$-b$</td>
<td>$-b$</td>
<td>0</td>
</tr>
<tr>
<td>Increase in $t_2$</td>
<td>$-b$</td>
<td>$-b$</td>
<td>0</td>
</tr>
</tbody>
</table>

*Assuming $u_1^j > 0$, $u_1^{j1} < 0$, $u_2^{j1} > 0$.

$^a$In the range of declining $AP_L$.

$^b$For $r = 1$.

$^c$RRA = 1.

$^d$( $u_1^j > 0$, $u_2^{j1} = 0$).
pressure to set required minimum contributions in communal partnerships.

For employees of the hiring partnership, income is

\[ y_i = w_1 \]

and incentives are

\[ \frac{\partial y_i}{\partial x_i} = w = F'(L). \]

The impact of additional work contributed by partners or other employees on the income and incentives of a given employee is zero.

Superscripts attached to signs in table 3 refer to assumptions sufficient to obtain the reported sign. One particularly useful assumption suggested by Arrow [1971] is that "relative risk aversion," defined as

\[ \text{RRA} = \frac{-U_i}{U_i} y_i, \]

is close to unity.

It is clear from the table that hiring employees makes little difference in the impact on income, incentives, or hours worked in collective partnerships, at least in terms of the direction of change. With only minor qualifications, impacts are always in the same direction for partners in hiring and non-hiring partnerships. The major difference in the two cases is that the impacts shown are more certain for hiring partnerships than for non-hiring partnerships. There are tremendous differences, however among collective partnerships, communal partnerships, and employees. None of the parameter changes examined had any effect on income, incentives, or hours worked by employees, while the impact on communal partners was opposite that on collective partners in about half of the cases. Of particular interest are the impacts on hours worked. For increases in work contributed by others \( (m_j) \), increases in partnership size \( (n) \), and increases in scale of operation \( (k) \), partners in collective firms respond
by increasing their individual contributions, while partners in communal firms cut back on the amount of work contributed. When combined with the findings from section II, the results summarized in table 3 allow us to come to some conclusions about law firms as economic organizations, and to offer some conjectures about recent trends in the U.S. legal profession.

IV. **Summary, Conclusions, and Speculations**

What can be concluded about the law firm as an economic organization? Our final observations are grouped into comments on labor utilization efficiency; individual income, incentives, and hours worked; problems related to the foregoing categories in law firms of different types, as suggested by the theory and as evidenced by recent trends and concerns in the legal profession; and, finally, suggestions for further research.

**Rankings**

**Labor-use efficiency.** In the model of section II, with number of partners fixed in the short run, but variable in the long run; with the number of hours contributed by partners or employees fixed; and with the quantity and quality of work performed the same for all, only partnerships (or simple firms) able to hire associates or paralegals will be efficient in the short run. In the long run, optimal partnership size entails total labor use efficiency for hiring firms, while partnerships without hiring maximize income per partner at an inefficiently low level of labor utilization as long as wage rates for legal work are less than partnership dividends. In terms of number of partners, the optimal number for a partnership with hiring will always be less than that of a partnership without hiring. As shown in figure 2, the optimal number of partners in the non-hiring firm is found at $(L^*_3)$, where $\text{VMP}_L = \text{VAP}_L$. For the hiring partnership, $D$ is a decreasing function of $L_1$ as long as $w$ is less than $\text{VAP}_L$ at the total labor utilization point. Hence, with optimization, $L^*_1$
equals one unless \( w \) is greater than or equal to maximum \( \text{VAP}_L \).

In addition to utilizing an inefficiently small amount of labor, the non-hiring partnership shows "perverse" labor utilization and output adjustments in response to changes in product price, rent, and tax on gross output value. Hiring partnerships show the same economically-efficient adjustment as do competitive capitalist firms. These differences are shown in table 2.

**Income.** With labor hours fixed for partners and employees, income of partners in hiring firms will be higher than income of partners in non-hiring firms if \( w \) is less than \( \text{VAP}_L \), other things equal, as illustrated in figure 1. With optimization, income to a hiring partner will exceed that to a non-hiring partner unless \( w \) is greater than or equal to maximum \( \text{VAP}_L \), as seen in figure 2. Since the income of employees of the hiring partnership will be equal to \( \text{VMP}_L \), it will be less than that of partners as long as \( w \) is less than maximum \( \text{VAP}_L \). In general, then, partners in hiring firms will enjoy the largest incomes, with incomes of partners in non-hiring firms being second, and incomes of employees being smallest, as long as \( w \) is less than \( \text{VAP}_L \), and the hiring partnership is employing the optimal amount of aggregate labor. If optimization of partnership size is allowed, the differences in incomes among the three groups are increased. Allowing for flexibility in hours contributed magnifies the differences even more. With a given number of partners in the firm, incentives to work for partners exceed those for hired workers in both hiring and non-hiring partnerships. In addition, it seems likely that incentives for partners in hiring firms exceed those of partners in non-hiring firms. This raises the possibility that partners will work more hours than employees, other things equal, and that hiring partners will work more hours than will non-hiring partners. If so, income differentials will be even larger with variable work hours.
Incentives. In the normal production region, work incentive is likely greatest for a partner in a collective hiring partnership, followed by those for a partner in a collective partnership, for an employee, and for a partner in a communal partnership, respectively.

Hours worked. Other things equal, hours worked will probably be smallest for a communal partner, with those for an employee, a collective partner, and a collective hiring partner increasing in order. In terms of efficiency, only the employee will work the socially-efficient number of hours. Hours worked by communal partners will be inefficiently small, and those worked by collective partners and collective hiring partners will be inefficiently large. With a given number of partners, communal and collective partnerships may show "perverse" output responses to changes in product price, and will respond in socially inefficient ways to changes in rent, as shown in table 3.

Implications

The theory developed in this work suggests that problems of various types are likely to beset law firms. Collective partnerships and communal partnerships may not be operating with the economically efficient capital-labor ratios, underutilizing labor, hence increasing production costs and creating deadweight losses for society. An obvious way out of this difficulty is to utilize hired employees. At the level of the individual, the theory suggests that communal partnerships will have difficulty inducing partners to work enough hours, while collective partnerships, with or without hiring, will be faced with excessive hours worked by partners, and by internal dissention, jealously, and breakdown of morale. Casual observation suggests that average hours contributed, as well as the partnership standard, are greater for collective partnerships than for communal partnerships. Increases in firm size in recent years has been accompanied by increases in average hours worked in collective partnerships, as predicted by the theory. This is evidenced
by widespread concern in the profession over the problem of "burnout."
Problems related to the difficulty of operating a system of determining
income shares without spending an excessive amount of partner time,
creating ill will among partners, and generally destroying cohesion within
the partnership are well recognized in the legal profession, and have led
to an ongoing dialogue on the matter within the profession as well as to
a lucrative opportunity for management consultants and facilitators (see,
for example, Knotter [1991]).

How might these incentive problems be resolved? One way would be
moving to simple firms, especially sole practitioners, who utilize hired
paralegals and associates. If the sole practitioner specializes in one
area of the law, he can capture gains from specialization, and by hiring
employees, also operate at the efficient labor utilization point and can
take advantage of economies of size and scale. This option would be most
attractive in a large market for legal services. Perhaps most important,
sole practitioners avoid the work incentive problems that drag down income
in communal partnerships and create dissention and burnout in collective
partnerships. There is another way. Because the incentive problems are
caused by interdependent incomes, the problems can be attacked by a strategy
designed to create interdependencies in utility functions. If my partner's
well-being makes me feel better, I will work more hours in a communal partner-
ship and fewer hours in a collective partnership than if I am concerned only
about my own income and leisure. In fact, if each of my partner's income
and leisure affects my utility function in the same manner as my own income
and leisure, I will work the economically efficient number of hours regardless
of the type of income determination scheme within the partnership. To the
extent that this strategy could be utilized, it would seem to be less difficult
the smaller the partnership.
Speculations. Given the implications discussed above, it would seem that the future looks brightest for collective partnerships which hire labor, and for sole practitioners who specialize and hire labor. The outlook for communal partnerships is bleak. Unless these organizations can find a way to increase incentives and income—perhaps by hiring employees and working on *esprit de corps*—they will have difficulty competing with the more productive alternatives.

Future Research. This line of research could go in a number of directions. The inclusion in the model of more factors, such as labor specialization, multiple products, uncertainty, and interdependent utility functions is one direction which should prove fruitful. Another is empirical testing of the hypotheses, including a survey of lawyers to identify the relationships among type of firm, size of firm, impacts of income share determination method on incentives and cohesion, and expected future trends in the profession.

* The author is Associate Professor of Economics at Utah State University, Logan, Utah. He is indebted to a number of attorneys with whom he has discussed this project, especially to Ned Israelsen of Escondido, California, and Gary Anderson of Logan, Utah.
REFERENCES


