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cycle suggests that the less rapid fall in their incomes during 1929–33 may reflect secular rather than cyclical influences. As for the impact of revival, we cannot draw a valid conclusion even for lawyers, let alone for the professions in general.

CHAPTER 9

Summary

1 PROFESSIONAL WORKERS AND OTHERS—NUMBERS AND EARNINGS (CH. 3)

OF THE 50 million persons listed in the 1930 Census as gainfully occupied, only 3 million were professional workers. Some 500,000 were independent practitioners; the rest, salaried employees of private enterprises or governmental agencies. Judged by earnings, the 3 million professional workers are a fortunate group. Their earnings, though less equally distributed than those of nonprofessional workers, are between two and three times as large. A small part of this difference in average earnings reflects the concentration of professional workers in large communities. The average earnings of professional workers are apparently between 85 and 180 per cent larger than those of nonprofessional workers in communities of the same size, rather than between 100 and 200 per cent larger, as suggested by the nationwide averages.

The long and intensive training needed for professional work involves not only direct expenses for tuition fees, books, and the like, but also the postponement of the date when the worker can begin to earn an income. It is difficult to estimate

precisely the difference in earnings that would compensate for the professional man's capital investment, but available data suggest that, at a maximum, he would have to earn 70 per cent more than the nonprofessional worker to make the two pursuits equally attractive financially. Evidently, the extra returns from a professional career exceed the extra costs.

The difference between extra returns and extra costs may reflect a higher level of ability of professional workers, or certain nonpecuniary advantages of their work. But there is some basis for supposing that at least in part it reflects the fact that professional workers constitute a 'noncompeting' group. The social and economic stratification of the population leaves only limited groups really free to enter the professions. A young man must not only have the ability to practise a profession and must not only want to enter it; he must also be able to finance his training and be cognizant of opportunities; and both his entry into the profession and his success in it will be greatly facilitated if he has the proper background and connections.

These factors have apparently led to underinvestment in professional training. Unlike high returns on capital invested in machinery, high returns on capital invested in professional training need not lead to an increase in investment. Capital invested in human beings is not separable from the individual and cannot be bought and sold on the open market. Individuals might invest in themselves, their children, or their protégés, even though they did not expect the added income to repay the cost; no investor in search of profit would invest in the education of strangers even though a high return to the latter were expected. The amount invested in professional training will depend less on expected returns than on the number of persons who have or can get the money to finance their training. If they are few, relatively to the demand for the services of professional workers, underinvestment will result; in the contrary case, overinvestment.

These remarks apply, of course, solely to voluntary investment by prospective practitioners themselves, their parents,

or their direct benefactors. They take no account of the large expenditures on education by government and private philanthropists, expenditures that in part at least are made necessary by the absence of any automatic tendency for profit-seeking investment to equate the return on capital invested in professional training to the return on capital invested elsewhere.

2 EARNINGS FROM INDEPENDENT PRACTICE AND FROM SALARIED EMPLOYMENT (CH. 6)

Independent practice of a profession tends to be more lucrative than salaried employment; while professional workers, independent and salaried, earn on the average between two and three times as much as all other workers, independent practitioners alone earn about four times as much. In large measure, the high average earnings of independent practitioners reflect their concentration in the better-paid professions. But there is also some evidence that, profession by profession, independent practitioners receive larger arithmetic mean earnings than their salaried brethren. The earnings of independent practitioners are less equally distributed than those of salaried workers: a larger proportion of independent than of salaried workers receive very low earnings, a larger proportion, very high earnings.

Independent practice tends to predominate in professions that sell services primarily to ultimate consumers (e.g., medicine, dentistry); salaried employment, in professions that sell services primarily to business enterprises and governmental agencies (e.g., engineering, accountancy). In the former, salaried employment is often a step toward independent practice, partaking of an apprenticeship, and might be expected to yield lower earnings. In the latter, on the other hand, salaried employment is the usual life career. Independent practice is engaged in primarily by the more highly skilled and better-known members of the profession who render specialized services that the employees of the business enterprises or governmental agencies cannot perform and that are required in amounts too small to justify the full-time employment of high-

salaried men. Consulting engineers and independent certified public accountants are examples of such auxiliary professional groups.

3 AVERAGE LEVEL OF INCOME IN THE FIVE PROFESSIONS (CH. 4)

Of the five professional groups we study in detail, consulting engineers and certified public accountants receive the largest average incomes from independent practice. The Department of Commerce data on which our detailed analysis is based do not permit a satisfactory estimate of the absolute level of income of consulting engineers, though they do enable us to rank them relatively to other professional groups. The data suggest that the average (arithmetic mean) earnings of independent certified public accountants were about $5,300 during 1929–34 ($5,200 during 1929–36), of physicians, about $4,100 during 1929–34 ($4,000 during 1929–36), and of dentists, about $3,100. Lawyers had average net earnings about the same as, or somewhat larger than, physicians; the data do not permit a satisfactory estimate of the absolute level.

As already implied, the high earnings of consulting engineers and independent certified public accountants are easily explained by the character of these small and select segments of broader professional groups. Neither consulting engineers nor independent certified public accountants are comparable to independent practitioners in law, medicine, and dentistry, professions in which independent practice predominates. On the other hand, medicine and dentistry, the two remaining professions for which our data permit intensive analysis, are comparable. They are closely related, serve much the same public, and require similar abilities and training. The proportion of physicians and dentists in salaried employment is small, probably well under one-fifth, and is about the same in both professions. Consequently, it is decidedly more difficult to explain the sizable difference between average earnings in medicine and dentistry, a difference of $1,000, or almost a third of the dental average. Moreover, this difference between the nationwide averages understates the difference between physicians

and dentists in the same community and in practice the same number of years.

Factors associated with the free working of supply and demand do not account for the whole difference between average earnings of physicians and dentists. If they did, the numbers seeking to enter the two professions would be approximately in proportion to the numbers already in the professions. In fact, three and a half to four times as many persons were seeking in recent years to become physicians as were seeking to become dentists, although the total number of physicians is only slightly more than twice the number of dentists. At existing levels of remuneration, prospective practitioners apparently consider medicine more attractive than dentistry: were entry into the two professions equally easy, there would be a tendency for the number of physicians to increase relatively to the number of dentists and for the gap between average incomes in the two professions to narrow. But entry is not equally easy. There has been only a minor increase in the number of physicians relatively to the number of dentists from 1930 to 1940, in contrast with a marked decline in the ratio from 1910 to 1920 and 1920 to 1930. The gap between average incomes in the two professions showed no tendency to narrow during the period covered by our data. Part of the difference between the average incomes of physicians and dentists is therefore attributable to the greater difficulty of entry into medicine.

It is not easy to assess the quantitative importance of each of the factors responsible for the difference in average incomes. The factors are numerous and varied, many are vague and subjective, and their effects are merged. The cost of the three years additional training required of physicians is the only one whose influence is at all susceptible to quantitative measurement. We estimate that alone it would account for not more than a 17 per cent differential in average incomes. We have tried to evaluate the influence of the remaining factors associated with the free working of supply and demand—the greater variability of income in medicine than in dentistry,

the nonpecuniary advantages and disadvantages of the two professions, and the conditions of demand for their services—by combining personal judgment, theoretical analysis, and such meagre empirical data as are relevant and available. We hazard the guess that on balance these factors alone would lead to lower average income in medicine than in dentistry, partly counterbalancing the influence of extra costs of medical training. If this guess is correct, completely free and moderately rational choice of profession could at most account for a 17 per cent difference between average incomes in medicine and dentistry. The observed difference is over 32 per cent. Thus about half of the observed difference seems attributable to greater difficulty of entry into medicine. This difficulty is encountered when individuals apply for admission to medical schools. In recent years between 40 and 50 per cent have been refused. Some, of course, apply again in later years, but the available data suggest that approximately a third of all who seek admittance to medical schools are never admitted. The corresponding percentages for dentistry are much smaller.

The difference in ease of entry is open to three interpretations. It may reflect, first, a public policy of raising the standards of medical practice to levels that create a shortage in the relative supply of 'innate abilities' needed for the medical as compared with the dental profession; second, a related public policy of raising the standards of medical training to levels that are difficult for medical schools to meet and that make it impossible for the accredited schools to handle large numbers of students; or, third, a deliberate policy of limiting the number of entrants in order to keep down the total number of physicians, that is, to prevent 'overcrowding' of the profession. We are in no position to judge the relative importance of these possible causes of the greater difficulty of entry into medicine.

4 VARIABILITY OF INCOME IN THE FIVE PROFESSIONS (CH. 4)

The five professions differ not only in level of income but also in the extent to which the incomes of individuals vary about

the average. In the accompanying tabulation the professions are ranked in the order of the level, absolute variability (variability measured in dollars), and relative variability (variability measured in percentages of average income) of annual income.

RANKING OF PROFESSIONS IN DECREASING ORDER OF

LEVEL OF INCOME	ABSOLUTE VARIABILITY	RELATIVE VARIABILITY
Consulting engineering	Consulting engineering	Consulting engineering
Certified public accountancy	Law	Law
Law	Certified public accountancy and Medicine	Medicine
Medicine	Dentistry	Certified public accountancy
Dentistry		Dentistry

Except for the position of certified public accountancy, the three rankings are identical. We are inclined to regard this similarity among the rankings, striking though it is, as coincidental, since we can find no reasonable explanation for it. The variability of income among practitioners is determined primarily by the degree to which their services vary in quality, as judged by consumers; the importance attributed by consumers to securing services considered superior in quality and hence the premium they are willing to pay to the man they consider 'better'; and the variability among consumers in resources and hence in the prices they can afford to pay. None of these seems intimately connected with the factors that determine the level of income.

5 STABILITY OF RELATIVE INCOME STATUS (CH. 4 AND 7)

The same variability of *annual* income in two professions may reflect different underlying circumstances. In one profession each individual may, year after year, occupy the same relative position in an array of practitioners by size of income. In another, the relative status of individuals may shift widely from year to year, so that many who are at the top in one year are at the bottom the next, and conversely. In the first profession, the variability of annual income would be essentially the same as, and would provide a reasonably good measure of, the vari-

ability of income for a longer period. In the second, the variability of annual income would greatly overstate lasting or long-run variability.

All our professions are characterized by a considerable degree of stability of relative income status. An individual's income rises and falls with the ups and downs in the fortunes of the economy and of the profession as a whole; but his relative income status changes little from year to year. The variability of income for a two- or three-year period is not much smaller than the variability of annual income. Moreover, the stability of relative income status is even greater over long periods than would be suggested by a comparison of incomes in successive years. Individuals tend to return to the same relative position after reverses or successes. Stability of relative income status is greatest in professions like medicine and dentistry in which custom is so important, and somewhat less in the 'business' professions in which competitive forces have larger scope.

In all the professions except possibly accountancy there appears to be a linear relation between the average incomes in different years of groups of individuals classified by their incomes in one of those years. One interpretation of this finding is that the transitory forces leading to changes from year to year in the relative income status of individuals affect all income classes alike.

6 FACTORS DETERMINING SIZE OF EARNINGS WITHIN THE PROFESSIONS

As we have seen, the profession an individual chooses has a decided effect on the income he can expect to earn, the range of income he can consider possible, and the stability of income he can hope to attain. But the choice of a profession by no means determines his income uniquely. It depends in addition on where he practises, how long he has practised, the kind of practice he engages in, how he organizes his practice, and his ability, social and business connections, personality, and good fortune. Adequate statistical analysis is possible for a few of the many factors that determine his income: location, type of prac-

tice, organization of practice, and number of years in practice.

Though each has a significant influence on average income, even taken all together these factors account for only a small part of the marked inequality of income that characterizes independent professional practice. There are so many other factors making for inequality that individuals who have the same number of years' experience and engage in practice of the same type or organization in the same community receive incomes that vary almost as much as the incomes of all members of the profession.

The effect of the factors studied on the stability of relative income status is similarly limited. Professional men typically remain in the same community for long periods and rarely change the type or organization of their practices. Differences in income arising from differences in location, type, or organization of practice tend to persist and to lead to stability in the ranking of individuals by size of income. On the other hand, differences in income arising from differences in number of years in practice militate against stability: individuals become older and gain experience, and tend to shift upward or downward. However, it is doubtful that the factors enumerated exercise any greater influence on the stability of relative income status than on the variability of annual income.

a Location of practice (Ch. 5)

Of the many features characterizing the location of practice, we have concentrated on two: size of community and geographic region. The paucity of data forced the use of broad categories even for these two characteristics. We have generally used six to eight size of community classes and the nine Census regions.

The size of the community in which an individual practises has a much greater effect on his income than the region in which that community is located. Not only are regional differences in average income smaller than size of community differences, but also they are largely attributable to regional differences in degree of urbanization. Indeed, for the professions other than medicine and dentistry, this appears to be the

whole story: the regional differences in average income not accounted for by differences in degree of urbanization apparently reflect sampling fluctuations.

In general, average income increases consistently with the size of community. Medicine constitutes the one exception: medical incomes are higher in middle-sized than in very large cities. In all professions, the most striking disparity is between communities with populations under 2,500 and those with populations over 10,000; average incomes in the former are one-half to two-thirds as large as average incomes in the latter. Communities between these two groups in population are also between them in income. The variability of income displays a much less consistent relation to size of community. One measure of relative variability, the coefficient of variation, tends to decline with size of community for most of the range, but to be larger for the smallest communities than for somewhat bigger ones. Another measure, the relative interquartile difference, displays no consistent relation to size of community. Neither measure displays consistent regional differences.

The absence of substantial regional differences in average income suggests that there is sufficient geographic mobility to prevent them from arising or being maintained. If this is the case, size of community differences cannot easily be attributed to immobility. Mobility among large, middle-sized, and small communities in the same region is probably at least as great as among regions. The size of community differences in income must therefore reflect either the concentration of abler men in the large cities or nonpecuniary advantages of small communities.

The size of community differences in professional income are similar, both in direction and magnitude, to the corresponding differences in the income of the public at large. This parallelism of results suggests a parallelism of causes. If the differences in professional income are interpreted as reflecting mobility rather than immobility, it seems reasonable to interpret the differences in the income of the public in like manner. This would imply that regional differences in the

income of the public also reflect mobility and hence should be similar to those in professional income, since professional and other workers would be unlikely to agree in their evaluations of the nonpecuniary advantages of communities of different size but disagree in their evaluations of the nonpecuniary advantages of regions. This conclusion is not supported by the data. Regional differences in professional income display some similarity in direction to the corresponding differences in the income of the public at large, but practically none in magnitude. The income of the public at large seems to vary more from region to region than the income of professional workers. There are several possible explanations of this apparently contradictory result; to decide which, if any, is valid would require a more intensive analysis of this problem than we have made.

b Specialization (Ch. 6)

The complex character of professional activity has occasioned specialization in all professions. In medicine and dentistry specialization has taken the form of a limitation in the kind of service rendered by individuals practising independently and coordinated by the impersonal mechanism of the market. Sharing of office space, nonprofessional help, and some types of equipment is frequent, but formal organization into partnerships or firms is rare. In law, accountancy, and engineering, specialization by separate professional units has been supplemented by the formation of larger units, or firms, the individual members or employees frequently concentrating on specific fields of practice. Our data suggest that about a quarter of the lawyers, a third of the accountants, and almost half of the consulting engineers who practise independently are members of firms.

Specialization is far more widespread in medicine than in dentistry. About one-fifth of all physicians in independent practice consider themselves complete specialists and almost two-fifths, partial specialists. Only about 3 per cent of all dentists in independent practice consider themselves complete

specialists, and fewer than 10 per cent, partial specialists. In both professions complete specialists receive higher average incomes than partial specialists, and partial specialists than general practitioners. In dentistry complete specialists receive an average income about 30 per cent larger than that of partial specialists and 70 per cent larger than that of general practitioners. In medicine complete specialists receive an average income more than 50 per cent larger than that of partial specialists and twice that of general practitioners. According to the Department of Commerce data for physicians, the average income for 1929–36 of complete specialists was approximately $5,900; of partial specialists, $3,800; and of general practitioners, $2,900.

The differences among these countrywide averages mirror the effect not only of specialization but also of location and experience. Complete specialists are concentrated in the larger cities and in the middle age group. In effect, the averages for complete specialists and general practitioners compare one group in the most lucrative locations and the prime of life with another containing many who are in poorer locations and who are just getting started or are on the verge of retiring. Averages computed for physicians living in the same community and in practice the same number of years would show a difference of about 30 rather than 50 per cent between complete and partial specialists and of 60 rather than 100 per cent between complete specialists and general practitioners. Presumably the differences that remain are largely attributable to differences in training and skill and are a permanent concomitant of a segregation of physicians by criteria related to their chances of success, rather than a transitory phenomenon that will be eliminated by or would give rise to an influx into the specialties.

c Organization of practice (Ch. 6)

A classification of lawyers, accountants, and engineers into firm members and individual practitioners, though much less clear-cut analytically than a classification of physicians and

dentists into specialists and general practitioners, is yet essentially similar. Like specialists, and for the same reasons, firm members are concentrated in the larger cities, are seldom in the initial stages of their careers, and receive higher average incomes than other members of the profession in the same community and of the same age. According to countrywide figures, the average income of firm members exceeds that of individual practitioners by about 100 per cent in law, 40 to 90 per cent in engineering, and 25 to 60 per cent in accountancy. Unfortunately, from the available data we cannot estimate how much these differences would be reduced by allowing for differences in location and experience.

d Years in practice (Ch. 6)

The relation between income and number of years in practice is similar in all professions: income rises for a time and then declines. In medicine and dentistry, professions in which scientific advance has been rapid and physical skill and dexterity are required, younger men are at an advantage and the peak income is reached fairly early—between the thirteenth and twentieth year of practice. In law, the only one of the 'business' professions for which data are available, experience and contacts are more important and physical fitness secondary. In consequence, the peak income is reached much later—probably between the twentieth and fortieth year of practice.

For physicians, the data make possible a more detailed analysis of the relation between income and number of years in practice. It takes about 7 years for beginning physicians to attain an average income equal to the average for the profession; another 10 or 11 years brings them to the peak; and it is then between 15 and 20 years before their average income falls below the average for the profession. The patterns for different types of physicians vary in important respects from the pattern for all physicians just described. Though at first average income is about the same in all types of practice, after an initial period of 8 to 12 years the averages diverge considerably. The rise is larger for complete than for partial specialists

and for partial specialists than for general practitioners. General practitioners reach their peak income somewhat earlier than all physicians; the other two groups somewhat later. The percentage differences among the incomes of the three groups thus display a fairly uniform tendency to increase with number of years in practice.

The relation between the income of physicians and number of years in practice is not the same for all size of community classes: the initial rise and the later fall are larger, and the rise is sharper relatively to the fall, in large communities than in small. The relatively flat pattern in small communities is probably attributable to the absence of effective direct competition. The tendency for the rise to be more rapid relatively to the fall in the large communities appears in part attributable to the concentration of young physicians in large communities.

7 CHANGES IN INCOME FROM 1929 TO 1936 (CH. 8)

The average earnings of physicians, dentists, lawyers, and certified public accountants fell from 1929 to 1933 and rose from 1933 to 1936. For consulting engineers, we have data only for 1929–32. During this period, they experienced a much sharper decline in average earnings than other independent professional men. Both the fall and the rise in average earnings in the other four professions were about the same in percentage terms as the contemporaneous changes in the average earnings of all gainfully occupied workers. In this cycle, at least, professional earnings were neither more nor less stable over time than earnings in other pursuits.

Temporal changes in average earnings in the professions paralleled corresponding changes in the income of the public not only for the country as a whole, but also for separate regions. Short-run changes in income from independent professional practice seem to reflect primarily changes in general economic activity and consequently in the prosperity of the consumers of professional services.

Variability of income measured in dollars displayed tem-

poral changes similar to those in average income. Variability measured in percentage terms changed erratically. The evidence on this point is confused and difficult to interpret, but the only conclusion that seems justified is that relative variability changed in no consistent or regular fashion with changes in general economic conditions.

8 INCOME FROM INDEPENDENT PROFESSIONAL PRACTICE AND TOTAL INCOME

Most of the conclusions summarized in this chapter relate to net income from independent professional practice, not to the total income of professional men in independent practice. For most professional men in independent practice, income from practice is by far the major source of income. But often there are other sources—salaried professional or nonprofessional employment, property, etc. Whether the variability of total income will be larger or smaller than the variability of income from independent practice depends on the relation between this part of total income and the rest.

Interprofessional comparisons also might be affected by the inclusion of income from sources other than independent practice. Opportunity to obtain such income obviously varies from profession to profession; and so may the relation between income from independent practice and from other sources. This problem of the composition of income, of how different sources of income combine, is relevant not only to studies of professional groups but also to all studies of the distribution of income by size. Fortunately, the exceedingly meagre data that have been available on the problem are being greatly supplemented by recent and current studies.

DIRECTOR'S COMMENT

by

C. Reinold Noyes

CERTAIN reservations seem to me to be required with regard to the scientific validity of some of the points made in this study.

1) The average income in all professions is compared with the average income in "all other pursuits" (p. 68), after allowance is made for amortizing the higher costs of education and the shorter span of working life in the former. The average of professional incomes is shown to be 85-180% higher, while amortization for higher 'cost of production' is estimated to require a difference of only 70%. The professional group is stated to be a "fortunate" (p. 390) and "non-competing" (p. 391) group with an average income which appears to be significantly higher than the "equilibrium level."

The figures show a very wide range of incomes within both the professional and the non-professional groups. Roughly we may say that they run from zero to $50,000 a year in the professions, and from zero to $500,000 a year in other pursuits.[1] Evidently, many other causes make for differences in income besides differences in cost of education. The latter are assumed to work on the average only as between the groups. But these other causes must also work between the groups. If the equilibrium level were to be equality of average incomes in the two groups, after allowing for differences in 'cost of production,' it would be necessary to suppose that the average effect of all other causes making for differences in income is precisely the same for both groups. Not only is there no evidence

[1] The round figure of $50,000 for the professions is taken from the Appendix to this study; that for other pursuits is taken from the figures published periodically by the Treasury Department for payments for services by corporations.

that this is the case, but it seems that it would be quite impossible to assemble evidence to prove it. *A priori,* it is unlikely that any such wide miscellany of forces operating in two fields would ever produce the same average effects in both. Nor, as a matter of common observation, do we usually expect such a result among income classes. There is a wide difference between the average income of motion picture stars and of longshoremen, for instance, which certainly cannot be accounted for by differences in cost of educational requirements.

Some, or perhaps all, of these other causes making for differences of income within as well as between income classes are mentioned by the authors. Among these are differences in ability, etc. No effort is made, nor probably could be, to appraise the distribution of effects of these other causes upon the two groups. But, without such measurement, there is no ground for rejecting the possibility that, if these other causes (*excluding* social and legal ease of entry) were measured they would warrant an average level of incomes in the professions, as compared with that of other pursuits, much higher than it is now. So far as we can know from these data incomes in the professions may be well *below* the equilibrium level.

It is true, as the authors say, that there are social and legal obstacles to entry into professional practice which do not exist, at least to the same extent, in most other pursuits. Thus it is also possible that these obstacles restrict entry to, reduce the number in, and thus raise the level of incomes in the professions above what they would be in the absence of these obstacles. (See pp. 93-4.) Nevertheless, without proof that the higher level of incomes in the professions is not wholly accounted for, or more than accounted for, by greater ability, etc., it does not seem justifiable to treat the relative difficulty of entry as the cause, or even as one of the chief causes, of the difference in average income levels. If a zoölogist were to find that, on the average, herbivora are 365 mm. (let us say) taller than carnivora, would he be justified in concluding that

the sole reason, or even a chief reason, is the advantages of a vegetarian diet?

It may be that professional men constitute a "fortunate," "non-competing" group, with incomes considerably higher than the "equilibrium level." On the other hand, so far as the evidence presented here is concerned, one would have equal warrant for concluding that they are an unfortunate group, subject to excessive competition due to over-crowding, and composed of men who have rejected the opportunity to earn much larger incomes in other pursuits only because they were determined to dedicate themselves to social service rather than to pecuniary rewards. One is left quite free to arrive at either of these extreme verdicts, or one anywhere between them.

2) When it comes to the similar contrast which the authors set up between the medical and dental professions, an attempt is made to establish a *ceteris paribus*. That is, it is assumed that the two professions require much the same type and degree of ability, etc., so that other causes of differences in average incomes (above) should operate about equally in both (pp. 136 and 393). If it is necessary to meet such a requirement for determining what ought to be equilibrium levels of average income in this case, it was equally necessary to do so in the case of professions vs. other pursuits. The difficulty would be that there could be hardly any warrant for the assumption, in the first case, that other pursuits require, on the average, much the same type and degree of ability as the professions do.

3) It is doubtful that competent opinion would support the assumption that medicine and dentistry require much the same type and degree of ability, etc. Without disparaging dentistry, particularly in view of the enormous scientific advances it has made in the last few decades, it seems hardly proper to equate the manual skill required of a dentist to that required of a surgeon or the dentist's necessary fund of scientific knowledge and experience to that of a diagnostician or a neurologist.

4) The authors use average incomes in their contrast between medicine and dentistry. In medicine they estimate the average to be 32% higher than in dentistry. But both the median and the first quartile incomes are approximately the same in the two professions. The difference between the ratios of average and of median and first quartile incomes is accounted for by the fact that there is a considerable group of large incomes in medicine, while the higher incomes in dentistry are both much smaller and much fewer (pp. 111-2 and 128). The large incomes in medicine are presumably obtained by those who succeed in building up large practices and even in charging higher fees in free competition with all other physicians. That argues either a peculiarity in demand or one in supply, or both, which apparently does not exist in dentistry to anywhere near the same degree. To the extent that the peculiarity in supply is due to exceptional ability at the top in medicine which does not exist in dentistry, the assumption of equal average abilities (3, above) is not justified unless there is also an assumption that this is offset by a range of much lower abilities in medicine. To the extent that the peculiarity of demand is due to 'differentiation' of product, its higher price and larger sales cannot be attributed to lack of freedom of entry into the profession, for the whole existing profession is free to compete for these large and high-priced practices. On either basis the only portion of the medical profession that might be called non-competitive is the great rank and file. But the medians and first quartiles show that the great rank and file in medicine receive about the same income as the great rank and file of dentists. Thus there is no evidence of disequilibrium in income levels as between the two professions, after eliminating those who represent a peculiarity of supply or are able to take advantage of a peculiarity in demand which exist in much greater degree in one than they do in the other profession.

5) Approached in another way, which somewhat cuts across the last, there is the matter of specialists. In both professions the average income of specialists is considerably higher than

that of general practitioners (p. 264). But since specialists bulk large in medicine and are relatively few in dentistry (pp. 263-4), the result is that, while the average income of all physicians is higher than that of all dentists, the average income of general practitioners is about the same in both. Specialists have been for the most part recruited from general practice. At least, for one practising in either profession, there is complete freedom of entry into the specialties. They are then strictly competitive.[2] Thus, again, there is no evidence of disequilibrium in income levels as between the two professions when those are eliminated in each profession who succeeded, in open competition, in becoming specialists.

6) It seems logical to conclude from the points made in sections 4 and 5 above that there is one sector—or two sectors—in the medical profession the incomes in which are responsible for the fact that the average income is higher in medicine than in dentistry. The existence of this sector—or these sectors—either

(a) makes the requirements for the two professions incomparable on a *ceteris paribus* basis, if it is due to a peculiarity of supply, or

(b) is the outcome of free competition within the medical profession to meet a peculiarity of demand.

On neither explanation can the existence of these sectors be ascribed to greater difficulty of entry into the profession as a whole. The remainder of the two professions, whose incomes might be affected by differences in freedom of entry, are about on a parity so far as average income is concerned. Therefore it is more difficult to accept the authors' conclusion in the contrast between medicine and dentistry than it was to accept the first one with regard to the contrast between the professions as a whole and other pursuits. There the aver-

2 The authors say, "Presumably, the differences that remain are largely attributable to differences in training and skill and are a permanent concomitant of a segregation of physicians by criteria related to their chances of success, rather than a transitory phenomenon that will be eliminated by or would give rise to an influx into the specialties" (p. 401).

age for the professions was certainly higher and the question concerned only comparability. Here, when a reasonable degree of comparability is attained, the averages seem to be about the same. If, then, we were to accept the authors' general conclusions in Chapter 4, Section 2 [3] and in Chapter 9, it would seem to be necessary to suppose that 'equilibrium levels' between physicians and dentists would involve a lower average income for the great rank and file and for general practitioners in medicine than for the corresponding classes of dentists.

[3] And particularly that "the observed difference in incomes is therefore apparently greater than the 'equilibrium' difference" (pp. 124-5).