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# SPECIAL FACTORS AFFECTING PRODUCTIVITY

## UNEVEN FLOW OF DEMAND

UNLIKE those industries in which the supplier has considerable control over the rate of production, barber and beauty shops are largely dependent on the pace set by the consumer. Consumers show a marked preference for the services of barbers and beauticians toward the latter part of the week and on days preceding holidays, and the flow of traffic into shops is therefore very uneven. If enough full-time employees are hired to handle the demand at peak periods, many of these workers must remain idle and unproductive during the slack days and hours of the week.

Evidence of the low average productivity of barbers is now available as a result of publication by the Bureau of the Census of material informally called the "one-in-a-thousand sample." [49] This source provides data which show that beauty parlors have managed to meet this problem much more successfully than barber shops. The 1/1,000 sample consists of punch cards or tape containing the separate records of the characteristics of a .1 per cent sample of the population of the United States as recorded in the 1960 Census. Information such as number of hours worked and earnings for the self-employed barber, as distinct from the wage and salary worker, is provided.[50] The publication thus makes possible analysis based on average annual earnings as well as average hourly earnings, information not available before.

[49] Department of Commerce, Bureau of the Census, *U.S. Census of Population and Housing, 1960, 1/1,000, 1/10,000: Two national samples of the population of the United States,* Washington [n.d.].

[50] The self-employed among barbers are more representative of the industry than are the wage and salary workers. The 1/1,000 sample showed that they received 14 per cent more per year and 8 per cent higher hourly earnings than employees.

Occupation, age, race, sex, education, earnings, and other characteristics are provided for each individual included in the 1/1,000 sample. On the basis of this information, the average hourly earnings of workers in all nonagricultural industries in 1959 were estimated for 168 different combinations of color, age, sex, and education.[51] The "expected" [52] hourly earnings of each barber and beautician were calculated from these estimates. Then, from the 1/1,000 sample, the actual hourly earnings of each barber and beautician were calculated. Industry averages were computed for both the actual and "expected" hourly earnings, and the ratio of actual to "expected" for each industry compared.

### ACTUAL AND "EXPECTED" HOURLY EARNINGS

Table II-11 gives the results. Barbers have a low ratio, .67; the beautician's is relatively high, .91. The actual hourly earnings of barbers is almost the same as that of beauticians, $1.68 compared to $1.64. Such low actual hourly earnings suggest that barbers spend much unproductive time while at work. Consider what a barber would earn in an hour if he were busy the full hour. A haircut takes twenty minutes to complete. In one hour three can be given. Prices in twenty standard metropolitan cities run from about $1.25 to $2.50. If $1.50 is assumed as the average price of a haircut, in one hour a barber would take in $4.50. An employee on a straight commission would receive about 75 per cent of this, or $3.38. The earnings in the sample data include tips. Add 10 per cent of $4.50 for tips to the $3.38, and the fully productive barber should earn $3.83 per hour. But he actually earns less than half this amount, only $1.68.

It may be noted that if it is necessary for either the barber or the beautician to be idle while waiting for customers, it is reasonable that it be the barber rather than the beautician. Alternative earnings of men are higher than those of women, but barbers and hairdressers earn about the same.[53]

The low unemployment rate among barbers supports the suggestion

[51] Unpublished material compiled at the National Bureau of Economic Research, using computer programs written by Charlotte Boschan. Persons with a job but not at work were excluded in all tabulations based on the 1/1,000 sample.

[52] I.e., the average for all workers of given age, sex, color, and education.

[53] I am indebted to Yoram Barzel of the University of Washington for this observation.

TABLE II-11

*Actual and "Expected" Hourly Earnings, Barbers and Beauticians, 1959*

| | Number in Sample | Actual Hourly Earnings | Standard Error | "Expected" Hourly Earnings | Actual / "Expected" |
|---|---|---|---|---|---|
| All barbers | 160 | 1.68 | (.07) | 2.51 | .67 |
| All beauticians | 261 | 1.64 | (.15) | 1.80 | .91 |
| White male barbers: | | | | | |
| Native, native parents | 95 | 1.71 | (.09) | 2.61 | .652 |
| Native, one or both parents foreign-born | 28 | 1.93 | (.16) | 2.67 | .725 |
| Foreign-born | 21 | 1.73 | (.23) | 2.46 | .705 |

Source: *U. S. Census of Population and Housing: 1960, 1/1,000, 1/10,000.*

that many of the hours spent at work are idle ones. The difference between the number of barbers in the experienced civilian labor force and employed barbers, according to the *Census of Population,* 1960, is only 1 per cent.

Historically, the barber shop was the gathering place for a kind of social activity among men. It had the air of an informal club where men could relax and exchange opinions while awaiting or receiving service. This quality has not altogether disappeared, especially among barbers themselves. Some of them, rather than leave the industry, prefer spending many idle hours for each active one in the shop, accepting as compensation the opportunity for verbal intercourse, plus the status of being "employed." Such disguised unemployment obviously results in a lowered rate of productivity for the industry.

It might be thought that the foreign-born depress barbers' earnings, but the data reject such an explanation. When earnings of the foreign-born are computed separately, as in Table II-11, the ratio of their actual to "expected" earnings is higher than that of natives with native parents, and just slightly lower than natives with one or both parents foreign-born. It should be pointed out that Table II-12 is based on white male barbers. The ratio of actual to "expected" is the same for all barbers or for white male barbers working 50–52 weeks.

That the native-born with one or both parents foreign-born have both the highest actual earnings and the highest "expected" earnings can be explained by their age distribution. Only 18 per cent of such barbers are over 55 years of age, whereas 57 per cent of the foreign-born barbers and 31 per cent of the native-born with native-born parents are over 55.

The explanation of the special age distribution seems to lie in the time pattern of immigration from Italy, a prime source of labor for barbering. During the years 1901–15, Italians entered this country at a rapid rate, averaging about 250,000 a year. The rate tapered off to about half that level by 1924,[54] when the Immigration Act went into effect, and then decreased sharply.

A majority of foreign-born parents with sons who are native-born barbers probably came from these immigrants. The oldest a son could

[54] Imre Ferenczi and Walter F. Willcox (eds.), *International Migrations,* New York, National Bureau of Economic Research, 1929, I, 195.

have been in 1958, then, was 58, if his parents were among the earliest to arrive in 1901. It is the 55-year-and-over group of barbers that has the lowest average hourly earnings, only $1.58 per hour, in contrast to $1.74 for those 39 years or less, and $1.92 for barbers between 40 and 54 years of age. The heaviest concentration of native-born barbers with foreign parents is in the 40–54 age group, whose earnings are highest.

It has been suggested that the low ratio of actual over "expected" earnings could be explained in terms of barbering being a declining industry. As such, the ratio could be expected to be around 1 for young men and very low for the older group, but the 1/1,000 data do not provide strong support for such a theory. There is a slight variation with age, as Table II-12 shows, but the ratio for men of age 25–34 is only .71.

### ACCURACY OF DATA

How accurate are the data on earnings and hours reported in the 1/1,000 sample? One test of their reliability is a comparison of total earnings from the 1/1,000 sample data, based on the 1960 *Census of Population,* with personal consumption expenditures for barbers,[55] based mainly on *Census of Business* figures. It was previously pointed out that the barber receives about 75 per cent of his receipts when he is paid on a straight commission basis. The beautician customarily receives a salary plus a varying commission on her receipts in excess of twice her salary; translated into a straight commission basis, her wage would be less than 75 per cent of receipts. If the ratio of total earnings from the 1/1,000 sample to OBE estimates of personal consumption expenditures on barbering and beauty services showed a figure of about 75 percent for the former and less for the latter, this result would increase confidence in the sample data.

Dividing the total earnings by the number of workers, as reported in the sample, reveals average annual earnings of $3,916 per barber and $2,708 per beautician. In 1959 there were 172,765 barbers and 288,747 beauticians working in barber and beauty shops, according to the *Census of Population.* In addition, there were other workers employed in these establishments, 16,616 in barber shops and 23,403 in beauty

[55] Office of Business Economics, *Survey of Current Business,* July 1963.

TABLE II-12

*Actual and "Expected" Earnings of White Male Barbers by Age, 1959*

| Age Group | Number in Sample | Actual Hourly Earnings | Standard Error | "Expected" Hourly Earnings | Actual / "Expected" |
|---|---|---|---|---|---|
| 25–34 | 32 | 1.72 | (.14) | 2.41 | .71 |
| 35–44 | 21 | 2.03 | (.18) | 2.75 | .74 |
| 45–54 | 33 | 1.80 | (.14) | 2.73 | .66 |
| Total | 86 | 1.83 | (.09) | 2.61 | .70 |

Source: *U.S. Census of Population and Housing: 1960, 1/1,000, 1/10,000.*

salons.[56] These workers must be included because the *Census of Business,* on which personal consumption expenditures depend, includes them. If earnings of $2,500 a year are assumed for these unskilled other workers, total earnings in barber shops were $717,569,000 and $824,265,000 in beauty shops. Personal-consumption expenditures in barber shops amounted to $932 million and $1,236 million in beauty shops.[57] The respective ratios of total earnings in the 1/1,000 sample to personal-consumption expenditures expressed in percentages were 77 per cent and 67 per cent. These results are sufficiently close to the figures previously cited to provide evidence supporting the accuracy of the sample data.

Another check on earnings data can be had by comparing *Census of Business* payroll figures per employee in barber and beauty shops with the average earnings per salaried barber or beautician in the 1/1,000 sample. If total payroll for barber shops is divided by all employees, the average salary is $2,867 per employee.[58] Eliminating self-employed barbers from the 1/1,000 sample results in $3,544 as the average median earnings per salaried barber. The difference between the two figures narrows when correction is made for the fact that low-salaried employees' wages are included in the *Census of Business* figures, pulling the average wage down. Approximately 10 per cent of barber-shop employees are bootblacks, porters, and other miscellaneous workers. Their average annual earnings are considerably less than those of barbers; a reduction of 5 per cent from barbers' earnings is probably approximately correct. Also, tips are included in the *Census of Population* figures, but not in the *Census of Business.* If 8 per cent is assumed

[56] These figures were estimated in the following way. There were 215,709 males working in barber and beauty shops. From them, 31,144 male hairdressers were subtracted and 4,816 female barbers added, giving 189,381 workers in barber shops. When the 172,765 barbers are subtracted, this leaves 16,616 miscellaneous workers in barber shops, assuming that all miscellaneous males worked in barber shops and all females in beauty salons. The same process was used for beauticians.

[57] *Survey of Current Business,* July 1963, p. 20. A combined figure of $2,196 million is given for barber and beauty shops and baths. The last year for which separate figures are given for all three services was 1950. At that time, baths were 1.3 per cent of the total; 1.3 per cent of $2,196 million was therefore subtracted. The remaining figure was allocated between barber and beauty shops in the same proportion as they exist in the 1958 *Census of Business* receipts, i.e., 43 per cent of total receipts by barber shops and the remainder by beauty salons. See *Census of Business,* V, 1–6.

[58] *Ibid.,* total payroll for the year divided by total paid employees for the workweek ended nearest November 15, 1958.

for tips, this reduces the average income by $269 a year, to $3,098, or $241 above the *Census of Business* figure. There is no reason, therefore, to suspect underreporting of income in the 1/1,000 sample relative to other sources.

The beautician's earnings from the 1/1,000 sample is close to the *Census of Business* figure, $2,454 contrasted with $2,437. Correction for lower wages among the miscellaneous workers need not be made for hairdressers as was necessary for barbers. A little over 50 per cent of these workers earn more than the operator, so that the average wage is not greatly affected by including them. Allowance for tips at 8 per cent brings the 1/1,000 sample figure down to $2,258, or $179 per year less than the *Census of Business* figure.

The number of hours worked is the other variable whose accuracy must be examined. One possible explanation of the low average ratio of actual to "expected" earnings for barbers is that the self-employed exaggerate their hours of work when they report them, in contrast to the wage and salary worker, who is more aware of the hours he has put in. If the self-employed are distinguished from the wage and salary worker (as has been done in Table II-13), they are seen to have higher actual hourly and "expected" earnings, and the ratio of actual to "expected" is also higher. Furthermore, average weekly hours reported by the self-employed working 35 hours or more are 50.0; wage and salary workers report 48.1. This is consistent with the figures quoted in the *Occupational Outlook Handbook* for 1957, which reports barbers as working 45 to 50 hours per week. Beauticians working 35 hours or more average 44.6 hours per week in the 1/1,000 sample data. The *Occupational Outlook Handbook* for 1961 reports full-time beauticians as working 40–44 hours per week (see also Table II-5). Comparison of earnings and figures of the 1/1,000 sample with other sources results in differences small enough to warrant confidence in the sample data.

### PART-TIME WORKERS

The number of idle hours barbers spend because of the uneven flow of customer traffic has been discussed previously. Demand for beauticians' services is also highly peaked; but to ameliorate this threat to productivity, a high percentage of part-time workers are employed who work mainly during those periods when traffic is brisk.

TABLE II-13

*Comparison of Hourly Earnings, White Male Self-Employed and Wage and Salary Barbers, 1959*

| | Number in Sample | Actual Hourly Earnings | Standard Error | "Expected" Hourly Earnings | Actual / "Expected" |
|---|---|---|---|---|---|
| Self-employed | 84 | 1.85 | (.03) | 2.63 | .700 |
| Wage and salary | 60 | 1.61 | (.10) | 2.55 | .632 |

Source: *U.S. Census of Population and Housing: 1960, 1/1,000, 1/10,000.*

Table II-14 shows a tripling of the percentage of part-time beauticians between 1939 and 1958, from 11.1 to 33.3 per cent; in the same period, the barbers' percentage went from 5.1 to only 10.1 per cent. In absolute numbers the contrast is more pronounced since the beauticians' percentage increase was made on an expanding base, whereas the barbers' was contracting. The use made of part-time help in the beauty salon is probably a major factor in explaining the enhanced productivity of the beautician and the barbers' failure to utilize such workers contributes to the industry's low increase in productivity.

Part-time help is often believed to be of lower quality and consequently less efficient. It might therefore be argued that increased productivity gained from fewer idle workers during slack periods might be offset by the lower productivity of the less efficient participation of part-timers. To test the validity of this objection, the 1/1,000 sample data were again utilized by computing the expected earnings for both part- and full-time beauticians separately. At the same time, the actual hourly earnings for both part-time and full-time workers were computed. The results are shown in Table II-15.

The "expected" earnings of part-timers are just about the same as for full-timers. This is true if part-time is defined as those working under 35 hours or those working fewer than 50 weeks, or both. This indicates that the quality, defined in terms of age and education, of the white female part-time beautician is equal to that of the full-time operator.

Actual hourly earnings are the same for part-timers as for full-timers who work less than 50 weeks. Of those working 50–52 weeks, the part-timer earns considerably more, $2.08 in contrast to $1.30.[59] This excess differential may be partly spurious, but the evidence suggests that a true differential does exist. The explanation probably is that the part-timers have fewer idle hours than do those working full-time.

Other evidence supports belief in the high quality of the part-timer in relation to the full-time operator. Indeed, the opinion was expressed that part-time workers in the industry are often better workers than full-timers.[60] Why this is so is related to the answer to a question which

[59] The standard errors are so large in some instances that it cannot be concluded that part-timers earn hourly more than full-timers. Tests of the differences of means at the .05 level indicate that the hypothesis that the average hourly earnings are the same for part- and full-time beauticians cannot be rejected.

[60] Interview with L. A. Freiberg.

TABLE II-14

*Percentage of Part-Time Workers Among Barbers and Beauticians, 1939–58*

| | 1939<br>% Part-Time | 1948<br>% Part-Time | 1958[a]<br>% Part-Time |
|---|---|---|---|
| Barbers[b] | | | |
| Wage and salary workers | 5.1 | 7.7 | n.a. |
| Employed persons | n.a. | 6.5 | 10.3 |
| Beauticians[b] | | | |
| Wage and salary workers | 11.1 | 20.2 | n.a. |
| Employed persons | n.a. | 23.4 | 33.0 |

Source: *Census of Population,* 1940, pp. 171–172; 1950, pp. 1B–139, 145, 151, 157; 1960, pp. 191, 201.

[a]Only male barbers and female beauticians were used so as to keep data consistent with 1939 and 1948.

[b]Those working less than 35 hours per week.

TABLE II-15

*Actual and "Expected" Earnings of White Female Beauticians, Number of Hours and Weeks Worked, 1959*

| | Number in Sample | Actual | Standard Error | "Expected" | Actual / "Expected" |
|---|---|---|---|---|---|
| Less than 50 weeks | | | | | |
| Under 35 hours | 40 | 1.85 | (.57) | 1.64 | 1.124 |
| 35 and over | 61 | 1.86 | (.55) | 1.63 | 1.144 |
| 50–52 weeks | | | | | |
| Under 35 hours | 21 | 2.08 | (.62) | 1.69 | 1.230 |
| 35 and over | 84 | 1.30 | (.08) | 1.69 | .771 |
| All weeks | | | | | |
| Under 35 hours | 61 | 1.95 | (.41) | 1.66 | 1.173 |
| 35 and over | 145 | 1.49 | (.21) | 1.67 | .891 |
| All hours | | | | | |
| Under 50 weeks | 101 | 1.86 | (.41) | 1.63 | 1.140 |
| 50–52 weeks | 105 | 1.39 | (.12) | 1.69 | .820 |
| Total | 206 | 1.56 | (.19) | 1.67 | .934 |

Source: *U.S. Census of Population and Housing: 1960, 1/1,000, 1/10,000.*

immediately arises: If increased use of part-time help in beauty shops contributes so heavily to increased productivity, why does the barber not pursue the same policy? The answer seems to be that part-time help among males is not readily available, whereas the beautician can draw on married women whose economic situation is more conducive to acceptance of part-time work. Also, although the barber's skill is not very demanding, it is sharply different from any other male occupation. Part-time work in the field cannot, therefore, be used as a second job. According to the *Census of Population,* in 1930 only 40 per cent of female hairdressers were married, whereas today, 84 per cent of all female beauticians are married women.

In the interview previously referred to, the explanation offered for the superior performance of part-time operators was the maturity they had gained through marriage, child-bearing, and the responsibilities of managing households. The resultant sense of organization can be utilized to advantage in the beauty salon, not only by the entrepreneur but also by the employee. She often has several customers for whom she is performing different services over a given period of time. One customer may be under a dryer waiting to have her hair combed out; another has had permanent-wave lotion applied, which must be neutralized at the end of two minutes; at the same time this same operator may be shampooing a third customer who cannot be left with soap in her hair while another function is performed. It is evident how valuable a developed sense of organization is to the beautician.

Disguised unemployment may also exist among beauticians, but it takes a different form than in barber shops and has opposite repercussions on productivity. Among beauticians there are probably some who would prefer to work full-time, but who are forced to settle for part-time employment.

There is one last statistic to support the importance of the use of part-time help to explain productivity increases. Almost all white male beauticians are full-time workers, in contrast to the many part-time white female beauticians. The lower productivity of the white male beauticians in the non-South, in contrast to the white female beauticians in the same area, is reflected in a comparison of their actual over expected average hourly earnings. For male beauticians this ratio is .74 (Table II-16). For female beauticians it is substantially higher, 1.04.

TABLE II-16

*Comparison of White Male Barbers and White Male and Female Beauticians, Non-South 1959*

| | Number in Sample | Actual Hourly Earnings | Standard Error | "Expected" Hourly Earnings | Actual / "Expected" |
|---|---|---|---|---|---|
| Barbers | 104 | 1.91 | (.09) | 2.62 | .73 |
| Male Beauticians | 22 | 2.10 | (.22) | 2.85 | .74 |
| Female Beauticians | 155 | 1.73 | (.26) | 1.67 | 1.04 |

Source: *U.S. Census of Population and Housing: 1960, 1/1,000, 1/10,000.*

EFFECTIVENESS OF RESTRICTIONS

Earlier some descriptive background of union and legislative controls was presented with the suggestion that further comments be postponed until the factors affecting productivity had been discussed. It had been anticipated, prior to use of the 1/1,000 sample to compute the barber's ratio of actual to "expected" hourly earnings, that the ratio would be greater than one, owing to the high degree of control over the industry. Actually, the ratio is considerably lower, about .7, which does not suggest that controls are very effective with respect to earnings.

Another comparison pointing to the same conclusion is that of the earnings of white male barbers and white male beauticians in the non-South.[61] The ratio of actual to expected hourly earnings is almost the same for both groups.

Evidence suggests that the attempted strong control of the barber industry has been less effective in limiting the supply of barbers than was previously believed. Illinois was earlier singled out for analysis of its barbering service.[62] The barbers' union is powerful in Chicago, which employs over 50 per cent of all barbers in Illinois, and violence has been resorted to in order to force compliance with union regulations. At the same time, legislative barriers to entry are stringent. Excluding Alaska, Illinois requires the highest number of hours of attendance at barber school, 1,872; higher than average formal education, ten years; and a very long apprenticeship, twenty-seven months. New Jersey, on the other hand, has the weakest restrictions—no length of time at barber school, no minimum education, and only the typical period of apprenticeship, eighteen months.[63]

Degree of unionization in New Jersey is presumably less than in Illinois,[64] although data on this are sketchy. However, governmental and academic sources agree that barbers in Chicago are very highly union-

[61] Comparison is limited to the non-South because the number of male beauticians in the South is too small to provide an adequate sample, and it is desirable to avoid the regional effect.

[62] Rottenberg, in *Aspects of Labor Economics.*

[63] *Research Report No. 33, State Barber Laws.*

[64] According to the 1960 *Census of Population,* there are 6,009 barbers in New Jersey. In unpublished material at the National Bureau of Economic Research compiled by Leo Troy, union barbers in New Jersey are estimated at 2,100 with about one-third unionized.

ized. Yet, according to the *Census of Population,* with control apparently rigid in Illinois and weak in New Jersey, the number of barbers per 1,000 males is almost identical in both states, 2.02 in the former and 2.01 in the latter. It may be thought that the importance of restrictions falls on age rather than numbers, but the median age of barbers in Illinois is 49.7 years and 50.0 in New Jersey.

As a result of the exodus to the suburbs in the postwar period, many New Jersey men continue to work in New York City. Since many of them may be presumed to use New York barbers, it may be argued that the ratio of barbers per 1,000 males in New Jersey is understated. New York City would then be expected to reap the benefit of this additional business and reflect a smaller decrease in the number of barbers per 1,000 males over the 1948–58 decade. However, it actually showed the second largest drop in the number of barbers per 1,000 males among large cities. Although this is not conclusive evidence, it certainly does not tend to support the objection.