

Some Problems of Job Evaluation

By Yoshiaki Shimabukuro

I would like to write on some problems of job evaluation: pertaining to job evaluation, ILO., 1960.

Primary Purposes of Job Evaluation. In brief we may state the primary purposes of job evaluation as follows:

1. To establish a general wage level for a given plant which will have parity, or an otherwise, desire relativity, with those of neighbor plants, hence with the average level of the locality.

2. To establish correct differentials for all jobs within the given plant.

3. To bring new jobs into their proper relativity with jobs previously established.

4. To accomplish the foregoing by means of facts and principles which can be readily explained to, and accepted by, all concerned.⁽¹⁾

While the general level of wages and comparisons on national, regional and community scales are essential, the more frequent concern of the wage administrator is with comparisons made by the workers themselves within the firm or work group. The worker will evaluate his paycheck by a number of standards. Some of these standards may seem quite rational as when he compares job difficulties and requirements. Other standards such as historical patterns of social concepts may appear to be irrational. But, a primary concern in wage administration is that the plan or program of wage structuring be accepted by the workers.

The wage program of the firm may take many forms. The administration may be through highly formalized plans such as job evaluation and incentive systems. Or, there may be no formalized

1 Job evaluation Methods, by Charles W. Lytle 1954, p.7.

plan and wage structure is just allowed to develop; this policy may be adequate if it passes the standard tests (turnover, grievances, etc.) of personal administration.

Formalized tools of the wage administrator include job evaluation plans and wage incentive systems. With the increased mechanization and automation of procedures and processes, there is an apparent trend away from incentive payments and increased reliance on some form of job evaluation independent of production rates. (Organized labor has chosen to apply the production factor to general wage level bargaining) job evaluation affords an opportunity to systematically appraise each job in the light of predetermined factors and permit comparisons with other jobs not otherwise recognized as being related.

It is doubtful that any formalized program would be universally accepted. It is doubted by some that jobs can be systematically appraised (or related) in the first place.

THE EVALUATION PROCESS

JOB DESCRIPTION The first step in the evaluation process is to determine job content. This description may be in any degree of detail, but its primary purpose for wage administration is to enable the evaluators to determine how factors of this job differ from, and are similar to, other jobs.

JOB EVALUATION The job is then evaluated by any one of several plans. This evaluation allows comparisons to be made and, dependent upon the factors used in the plan, the relative position of each job can be determined on a scale.

ASSIGNMENT OF RATES On the basis of relative positions on the scale, wage rates are then determined for each job. Rates for key jobs (standardized jobs which occur in other firms) are usually assigned wage rates first by comparisons with other firms. Non-key jobs are assigned rates in accordance with their position on the scale in relation to key jobs.

With this approach, when the janitor asks why the lathe operator has a higher rate of pay, management can point out that the lathe operator needs more skill and has more responsibility. The personnel man no longer need rely on the argument that lathe operators have always had a higher rate than janitors. It is hoped that the janitor will not ask why greater skill and more responsibility are more important for pay purposes than poor working conditions and great effort. However, the criteria used in job evaluation have by and large been accepted by workers, and if the term "wage rationalization" (i.e. fitting the formula to the answer) seems more appropriate, the plan is still of great aid to the personnel administrator.

Some Problems of Job Evaluation

One question that has not been discussed so far is that of the application of the results of job evaluation in the fixing of wages by converting points into wage rates. This question will be discussed below. It would, however, seem desirable first to dispose of a few other questions that have been raised in connection with the very principle of using job evaluation in the determination of wage rates, since it has even been contended that, whatever its merits for other purposes, the method is not a suitable basis for wage-fixing. Questions have also been raised in connection with the selection and weighting of factors. A few aspects of both problems will first be discussed, especially with reference to the point rating method; some of these matters are also relevant to other analytical methods.

a. Technical and Economic Aspects of Wage Determination

Job evaluation has been described as a means of establishing a pattern of wage differentials that will be accepted as "equitable" and "fair" within certain limits, such as those set by a firm's external environment.

It has, however, been objected that the idea of fixing wage differentials in terms of "equity" is altogether ill-conceived. It

has been argued that relative wages, like relative prices for commodities, ought to be determined by the relative supply of and demand for various types of labor, i. e. by economic factors.

Another critic, while admitting that a proper system of job evaluation will give the firm, at the moment of introduction of the plan, "an up-to-date knowledge of the duties and content of all the evaluated jobs and a rationalization of their relative values," raises the following pertinent questions regarding the lasting value of job evaluation!

How long can this situation last; how long can the enterprise accept with confidence the value-relationship of jobs originally established by the plan; are there any indications that this initial value-relationship will be disturbed and become outdated? The answers to these questions depend mainly upon the degree of economic change operating in the economy and the industry of which the enterprise is a part. . . ,

Job evaluation, as we know it today, makes no provision to meet these dynamic process so prevalent in our economy. All the existing plans, whether simple or complicated, whether technically sound or otherwise, have up to now lacked a method by which external or internal economic changes and structural adjustments can be automatically incorporated. Some authorities fail to realize the need for this adjustive capacity, while others, realizing it, are prepared to accept the shortcoming. As a result of this technical limitation, all existing plans retain the initial job-value structure throughout their operation. Trying to solve this problem of change in a piecemeal fashion, certain "emergency" measures are introduced.

Sometimes a complicated "maintenance" procedure is devised by which individual jobs are re-examined, job descriptions are revised. Where a discrepancy seems serious or where the economic change affects the labor market so that the supply of a particular skill is threatened, special bonuses are paid to retain or attract

employees. This step is always taken in the expectation that the disturbance is of short duration and things will return to "normal" again. If in the meantime more jobs show similar signs of manpower scarcity, the same piecemeal solution is adopted. . . ,

The main weakness of job evaluation is that it cannot adjust adequately and successfully to the dynamic elements of our economy as they affect the process of wage determination. In the long run, in spite of "emergency" adjustments to change, under the impact of the dynamics of the labor market, the whole job evaluation structure will disintegrate and collapse.⁽²⁾

Of course, rates for the various jobs should be fixed in an acceptable and more or less logical relation to each other and to those that are determined externally. Viewed as a strictly mathematical problem, this might be an impossible task. From this angle there might appear to be more conditions, some of them perhaps even contradictory, than any job evaluation formula could satisfy simultaneously. Practical wage fixing is, however, not a matter of mathematics or precision engineering.

A further question is that of changes in job contents and in the supply of (or demand for) particular skills in the employment market. It is true that such changes occur and that many of them cannot be "automatically incorporated" in systems of job evaluation. In fact, they could not be automatically incorporated in any system of wage determination. It should, however, be emphasised that job evaluation as an aid in the fixing of relative wages is not intended to do away with the normal practice of periodical review of a wage structure.

Finally, a new production method may call for skills not previously required in the firm.

These considerations suggest that, when job evaluation is applied within an individual firm, any difficulties that might arise

2. L. G. Nicolopoulos: Formal job evaluation and some of its Economic Implications. Research report No.1. (Job Evaluation ILO., 1960, p.47).

out of possible conflicts between technical and economic criteria for wage determination can usually be kept within manageable bounds. Conflicts of this kind may, however, be more serious if efforts are made to apply job evaluation (particularly a union job evaluation scheme) on a more general level. In such cases greater importance would seem to attach to the questions whether and how far the factors and degrees used in job evaluation schemes reflect conditions of supply and demand in the employment market, and whether they could be made to do so to a greater extent than they actually do.

b. Factors, Degrees and Weights

Differences in Factors and Weighting

The point rating systems applied in various industries and countries differ rather widely as to the number and nature of factors and subfactors used for evaluating jobs, the number of degrees distinguished, and the weights attached to them.

These differences have been interpreted by some observers as evidence of inconsistencies and contradictions in the selection of factors and weights. One writer has stated the problem in the following terms: . . . who can reconcile the difference in weighting between, for example, the National Electrical Manufacturers' plan and the Carnegie-Illinois Steel Company plan? The former has eleven factors; the later twelve. In each case these factors are logically placed in the four groups that are nearly universal in all job evaluation plan, namely skill, effort, responsibility, and job conditions. But in the N.E.M.A. plan the skill group receives 50 per cent, of the total points, while the Steel plan assigns only 31 per cent.

But the N.E.M.A. plan allots but 20 per cent of the points to the responsibility group while the Steel plan gives it 45 per cent. The other two groups of factors are weighted about alike in the two Plans. Now, it must be obvious that there will be some discrepancies between the final grading of a group of jobs as rated by these two plans. If so, which plan is correct? And if there

is no difference in grading of the same jobs between the two plans then why do the experts bother to make such a fuss over the factors and their weightings.⁽³⁾

The report submitted to the Ninth International Management Congress concluded that the results of the experiment had given—a clear indication of the need for further research and comparison of job evaluation schemes on a practical basis. The results also indicate the wide differences which occur between existing schemes and between the interpretations placed upon job descriptions by different groups of experienced assessors. There is certainly a need for the development and adoption of a uniform method of job evaluation if the present variances between groups and jobs are to be reduced.

There is indeed scope for further research along these lines; at the same time, it should not be forgotten that many people regard the main objective of job evaluation as the establishment of a more equitable internal wage structure.

Differences between Groups of Jobs

When the nature of the work, the social back ground and status of the workers, and the organizational frame work in which the work is carried out are all substantially different, there is generally much less need for applying the same factors and weights to all the jobs. In practice it is often found desirable to apply different systems of job evaluation to each group. For example, the work of manual, clerical and managerial staff is often considered to be so different that a uniform system would have to include large number of factors that are essential for one group but irrelevant for any of the others. For this reason separate systems of job evaluation are sometimes applied in the same firm for manual and non-manual workers.

Senior executive jobs are often regarded as altogether unsuitable:

3. "Job Evaluation—A Discussion", in *Personnel Journal*, Vol. 28. No. 8, Jan. 1950, p. 309 (Job Evaluation ILO., 1960, p. 51).

for application of any method of job evaluation. Uniformity of factors and weights is apparently also regarded as necessary in planned economies. According to one East German author, jobs involving "labour of equal complexity" should be assigned the same value irrespective of the firm or industry in which they are found and of the persons evaluating them.

c. Problems of Rating

It is important to ensure that the rating is done with a good deal of accuracy. If job evaluations is to result in a wage structure which is accepted as equitable by the workers, the job ratings should at least be capable of providing a sound basis for wage discussions, even though in the course of these discussions it may be found necessary to make changes in the original rating and grading of certain jobs.

The major difficulty of rating lies in the fact that there are few or no yardsticks for measuring the degree in which a job calls for various requirements. It is true that the amount of physical exertion involved in a particular job can sometimes be measured by the weight of the objects handled, oxygen consumption, expenditure of calories or other physiological criteria. On the whole, however, the practical possibilities of using such objective measurements are limited, and in some cases—especially for factors such as "mental effort" or even "skill"—virtually non-existent. Therefore, rating is essentially a matter of estimation. This, of course, does not mean that it is a matter of guesswork. Experience gained through the widespread use of time study has in fact shown that it is possible to learn the art of appraising various aspects of labor effort quite satisfactorily.

Accurate ratings can be achieved through proper training of those in charge of this operation, use of carefully written manuals with definitions and examples, and effective consultation procedures. One author lists the following mistakes as commonly made in the process of rating:

(1) "halo effect", i. e. a tendency to assign a high or low rating to several factors of a job simply because the first or the most important factor was so rated ;

(2) "central tendency", i. e. reluctance to assign high or low values to most factors, and tendency to rate them at mid-points on the scale ;

(3) "leniency", i. e. tendency to assign high rather than low ratings in case of doubt, or to avoid altogether assigning low values either to individual factors or to the jobs themselves ;

(4) harshness (the opposite of leniency) ; and,

(5) bias or prejudice.

d. The Determination of Relative Wage Rates

The final step, that of translating the evaluated job structure into a structure of wage rates, is a decisive one. It must result in an acceptable system of wage differentials. The subject of what constitutes a rational wage structure has already been discussed. The requirements which such a structure should meet are briefly recapitulated below.

(1) The rates should stand in a suitable relationship to comparable rates paid by other employer. In particular—(a) hiring rates should not be substantially lower than relevant external rates ; (b) other rates should not be so much lower than those external rates with which workers are apt to make comparisons as to cause serious dissatisfaction ; and (c) where the firm's wage rates exceed relevant external rates, the difference should be kept within reasonable bounds.

(2) The firm's rates should stand in an acceptable relationship to each other. For example—(a) When time and incentive payment co-exist, the relative rates should be fixed so as to ensure an acceptable relationship between the earnings of different jobs ; (b) particularly within narrow job clusters, relative rates should be in accordance with people's views concerning the equity of wage differentials compared with differences in job contents ; and (c) the

new wage structure as a whole—and the differences between the new and the old systems—should be acceptable to a substantial majority of the workers.

Points and Wage Rates

Some authors, for example, Hanger and Weng, object to a curved wage line on the ground that it means paying the higher-ranking jobs better “at the expense” of the lower and middle groups. They feel that the wage line should be straight. Lytle, on the other hand, sees no justification at all for a straight line and believes that—“Unions, if smart, know that a straight line overpays all intermediate jobs when the end jobs are staked correctly—Managements suspect that some geometric curve would be more correct but few managements have the slightest idea as to what geometric curve should be used.”⁽⁴⁾

Classification of Jobs into Grades

The grouping of jobs into grades may be justified on several grounds. For one thing, the fixing of a separate rate for each point score assumes that job evaluation has achieved a degree of precision of which in fact, at its present stage of development, it is quite incapable. Secondly, in cases where a worker regularly has to perform different jobs slightly differing in point value, he would have to be paid different wages every time he changed from one job to another; this is avoided when the same rate is paid for a group of jobs with similar point values. Finally, a reduction in the number of different wage rates mean a corresponding reduction in the cost of wage administration.

On the other hand, especially if the inter-grade wage differences are large, difficulties may arise because workers become interested in demonstrating that they should be classified in a higher grade. Some workers will also fail to understand why, although their job has been recognized to be more “difficult” than others, they should

4. Job Evaluation ILO., 1960, p. 66.

nevertheless be paid the same wage; since the primary purpose of job evaluation is precisely to establish appropriate wage differences, such criticisms may often be justified.

e. Introducing the New Wage Structure

Especially if the difference between the existing wage structure and that resulting from the job evaluation scheme is very large (a high proportion of the existing rates lying far above or below the new wage line) quick adjustment will not only be very costly but the drastic changes in the wage structure may also cause discontent. Though aware of certain anomalies in the existing system, people may not be prepared to accept wholesale changes. If such a situation arises it should be asked whether the system is after all a good one, and whether a different selection of factors and weights would not have resulted in a more acceptable and less costly ranking of jobs as compared with the existing structure.

f. Job Evaluation and Incentive Wages

The problem of "Normal performance"

Job evaluation looks at comparative job contents. One job requires greater effort or entails a greater degree of responsibility than another and the difference may be expressed in general grade descriptions (under the classification method) or in factor degree definitions (under the point rating method). When one of the jobs is on a time wage and the other on a piece rate, the same comparison has to be made, but with the qualification that there are now two reasons why earnings may differ, namely—(a) because the jobs are differently rated, and (b) because of differences in workers' individual performances. An Attempt has to be made to eliminate the effect of the second factor by comparing the jobs on the basis of a "normal performance".

Suppose it is found that in the past the piece worker earned 20 per cent more than the time worker, although job evaluation rates the two jobs as equivalent. If this difference can be attributed entirely to the fact that the piece worker's individual performance

was superior to a "normal" performance accurately determined by means of work measurement, it can be concluded that the piece rate was a fair one.

In other cases, job evaluation will have shown that the piece rate was either too "tight" or too "loose". Thus, if job evaluation is to convert piece rates, difficulties are liable to arise unless it is possible through work measurement to determine normal performance in an acceptable manner.

The problems that may arise are particularly well illustrated by the history of the protracted and, in the end, unsuccessful attempts by the United States steel industry to include incentive wages in its otherwise impressive wage inequities programme.

In 1945 and 1947 the United States Steel Corporation and the union agreed that the basis of incentive wages would be a "fair day's work", defined as "That amount of work that can be produced by a qualified employee when working at a normal pace and effectively utilizing his time where work is not restricted by process limitations".

Parties would develop "guideposts" or principles for determining what this "fair day's work" was to mean in practice. Serious efforts to that end started in 1947 and continued until mid-1950, "when the situation was recognized as hopeless on both sides". This disappointing conclusion is the more significant since, on the one hand, about half the production and maintenance workers in the industry were on incentive wages and, on the other, the parties had been able to reach agreement on both the general principles of job evaluation and their application to time workers.

Fluctuations in Earnings

Related to the difficulty of defining "normal performance" as a basis for the fixing of equitable wage differentials is the problem arising from the tendency of incentive earnings to fluctuate. In so far as this reflects variations in individual performance it is a

normal phenomenon, fully in keeping with the philosophy of incentive wages, namely that an increase or a fall in effort should be compensated by a change in the bonus earned.

But there are other reasons, quite unconnected with individual performance, why earnings can fluctuate even though there has been no change in actual rates of remuneration. Such fluctuations can affect different jobs in widely varying degree and result in disparities not reflected in the rates fixed for the respective jobs. Thus, even though the workers may have accepted the rates as fair and equitable in terms of effort or job contents (or both), they will tend to resent what they regard as unjustified differences in earnings.

For example, in spite of all the precautions normally taken when fixing rates by work study methods, actual earnings on a job may rise considerably above those attained during a period of testing and experimentation. As the worker gains experience he may improve his own working methods in ways that the industrial engineer had not foreseen when carrying out his time and motion studies. Or he may benefit from a more regular supply of parts or materials. For example, if the firm receives more orders, it may attempt to improve the over-all organization of its operations, enabling piece workers to increase their output and earnings without greater effort.

Furthermore, especially when incentive systems are initially introduced, piece rates may be deliberately set at a rather high level in order to overcome suspicions and resistance on the part of the workers. The need for such "loose" rates may, however, be greater in some departments than in others. As a result, differences in earning opportunities will appear and may persist for many years after the introduction of the system.

In all these cases relative wages tend to be distorted and thus to defeat the purpose of job evaluation. A wage structure that is acceptable at the moment of its introduction may show sharp

increases in earnings on some jobs, provoking claims for adjustment of other incentive and time wages. And once job evaluation has been accepted as the basis for determining "equitable" wage relations, it is hard to turn down such claims.

At the Conclusion of this Articles

If possible, I should like to research and study at the following institutes and companies about the problems mentioned below.

(1) The Industrial Relations Section of the Department of Economics and Social Institutions of Princeton University. This covered 73 companies, many in the metal trades, employing from 278 to 140,000 workers. The findings are based on replies to questionnaires sent out to the companies as well as on interviews with company executives, and on information obtained through interviews with one or more officials of 20 national or local unions.

(2) The Dartnell Corporation of Chicago

In surveys conducted by Dartnell Corporation, it is reported that the job evaluations of 75 companies, have improved their industrial relations such as collective bargaining and grievance settlement on wage questions.

(3) Several Aircraft Manufacturing Companies in the Los Angeles and Seattle areas.

It was found that . . . "the greatest difficulty arose from the frequent conflicts between measures of external and internal equity—the conflict between these different standards made for continuous obstacles to the consistent administration of the plan."⁽⁵⁾

The above quoted statement has its relevance to the proposed study of mine. I consider that I should bear this in mind in carrying on my survey of the baffling problem of wages in the United States.

I wish to carry on an analytical study of the experience of these companies, their job evaluation methods, and the failures and successes in these areas. I hope I may be able to present a clear

5. Job Evaluation ILO., 1960, p.89.

distinction between the wage administration in Japanese industries and companies as against the American.

I believe that this research study will prove helpful in rationalizing the wage system, wage structure, wage level, etc., in Japan.