

Two Tier Wage Systems

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Introduction

It is a commonplace of labour economics that money wage rates do not respond quickly to market forces. This wage rigidity is usually considered most noticeable under conditions of excess supply in the labour market, that is, during periods of high unemployment. Indeed, since an employer's demand for labour is derived from the demand for his output, a decline in demand for output is translated into unemployment because wages do not fall readily. Unlike other markets, then, labour markets initially respond to changes in demand by quantity rather than price adjustments. Empirical evidence of this unique nature of labour markets is readily available. During the two most severe recessions of the twentieth century (the Great Depression and the recent 1981-82 recession) not only did layoffs result in high unemployment, but, at least initially, real wages - that is, money wages adjusted for changes in consumer prices - actually rose.¹

Explanations for this characteristic of labour market adjustment are also readily available. Wages are an integral part of employers' cost structure and define peer relationships among workers. Consequently, neither group of participants in the labour market is likely to favour unexpected fluctuations in wage rates. Wages are often defined over long periods of time by the institutional device of the collective agreement.

While collective agreements insulate wage rates from market pressures to a considerable degree in the short run, there is no doubt that negotiated wage settlements do respond to labour market forces. Econometric evidence has shown that, when catch-up for past inflation and expectations of future price movements are accounted for, wage settlements are moderated by excess supply conditions, that is, by high unemployment. This relationship between the unemployment rate and the rate of change of money wages was strongly demonstrated during the recession of 1981-82, and wage settlements have remained at or near the rate of inflation during the recovery period. Recently, however, a number of novel contractual features have emerged which suggest that wage deceleration has not provided a sufficient response to continuing excess supply in the labour market.

These contractual features include lump-sum payments, which increase labour compensation for the term of the agreement without raising wage levels; linking wages to output prices in primary resource industries, and negotiating new, lower wage scales for future employees. This last innovation has been commonly referred to as a two-tier wage system.

The purpose of this paper is to examine in more detail the nature and scope of two-tier wage systems in a Canadian context. The plan of the paper is as follows: first, it will examine the form which two-tier settlements have taken and provide some data on their prevalence. Second, it will examine possible legal implications of two-tier agreements, and in particular, whether a union which agrees to a lower wage rate for new hires risks violating its duty of fair representation. The final section assesses the long-term viability of two-tier wage systems.

¹ See Ostry and Zaidi (1979) for a discussion of wage levels and changes in Canada since 1900 and for a summary of empirical work on wage settlements. See also Kumar (1987).

Definition of Two Tier Systems

At the outset, it is necessary to arrive at a working definition of two-tier wage systems. A variety of contractual provisions have emerged which create two-tier systems (see Appendix B for three examples of tiered wage settlements in Canadian collective agreements). In job-rate pay systems, for example, in which all workers in a job class are paid the same, a "probationary" or hiring-in rate may be established. Provisions of this type usually specify that, after the agreement becomes effective, new hires are to be paid a fixed percentage of the job rate, usually for a fixed period of time or convergence period. Hiring-in rates have been a feature of many agreements in manufacturing industries for many years, but there has been a tendency in recent years to increase the difference between the new-hire and job rate and to lengthen the convergence period. For example, automobile industry agreements have contained hiring-in rates since at least the early 1960s, but until recently the difference between the start and job rate was less than 10 percent and the convergence period was relatively short (12-16 weeks). Since 1982, however, new hires have been paid 85 percent of the job rate, progressing to full pay over an 18 month period.

A similar pattern exists in the meat packing industry. A 1978 Canada Packers national agreement gave labourers start rates nine cents per hour below the job rate for their first thirteen weeks work. In the 1984 bargaining round, however, the differential was increased to \$2.99 (25 percent of the job rate) and the convergence period was extended to 24 months. Similar provisions were negotiated between the United Food and Commercial Workers and other major meat packing firms in the 1984 round.

In contrast to the relatively straightforward new-hire provisions in job-rate systems, wage progression systems, in which an employee's wage rate is determined by seniority, provide scope for a variety of approaches. Such wage structures are common in education, the retail food, health care, and airline industries.

Three basic types of new-hire provisions have emerged. First, new, lower steps may be added to an existing progression, as is the case in the current agreement between Air Canada and the Canadian Airline Flight Attendants' Association (CALFAA, now the Canadian Union of Public Employees). The agreement extends the already existing seven-year wage progression to eight years by the addition of a new, lower first step. Second, the wage progression may be steepened by lowering start and intermediate steps while maintaining the same top rate. This approach is typified by the current Pacific Western - CALFAA agreement in which new hires start at a lower rate but progress to the previous maximum rate over the same seven-year period. Third, an agreement may provide an entirely new progression for new hires unrelated to the one for existing employees. Examples of this type of provision are the 1983 and 1985 Wardair - CALFAA agreements. Flight attendants hired after November 1, 1983 are paid according to a three-year progression whose top rate is below the start rate of the seven-year progression for employees hired prior to that date.

The current agreement between CP Air and CALFAA represents a hybrid of the first two types. The new-hire progression is both longer (by one year) and steeper than that for employees hired prior to July 8, 1985, but both have the same top rate. An added wrinkle is that flight attendants hired prior to the cut-off date receive a four percent increase during the term of the agreement, while new hires do not.

To summarize, all these variants of two-tier systems have the effect of discriminating among workers on the basis of date of hire and increase the dispersion of wages paid for the same job. While the complexity and variety of wage progression systems prevents precise comparison, the impact of these airline agreements is to reduce the wage paid to new hires by between twenty and thirty percent at the first level of the progression.

Articles on two-tier plans in the United States have classified them as either permanent or temporary, according to whether or not new hires ever reach the wage scale of existing employees. While classifying them in this manner is tempting because of its simplicity, it is far from easy when actual collective agreement provisions are examined.

For example, a "temporary" tiered structure in which new hires do not achieve parity with existing employees before the expiry of the agreement is functionally indistinguishable from a "permanent" one in which parity is never achieved. While such a system may be easier for a union to accept because it appears to offer the prospect of eventual convergence, the company is under no legal obligation to pay negotiated wages once the agreement expires. In such a case the "permanent/temporary" classification appears to be more a matter of negotiating expediency than substance.

A further complication in the "permanent/temporary" classification arises with wage progression systems. For instance, in the current Air Canada CALFAA agreement discussed above the impact of adding the new lower step is to prevent an employee hired one day after the agreement became effective from achieving parity with an employee hired under the previous agreement until both reach the maximum rate after eight years, even though both are on the same wage progression. In a sense, these industries have always had two or multi-tiered wage structures, and they cannot usefully be described as permanent or temporary.

Thus even the term "two-tier" seems misleading. Nonetheless, since the term has achieved widespread recognition in the industrial relations community, it will be used here to refer to wage settlements which discriminate among employees on the basis of date of hire and increase the range of wages paid for the same work, i.e. increase wage dispersion.

Impact on Labour Costs

The variety of two-tier provisions limits the degree to which one can generalize about the reductions in labour costs which may result from their use. Cost savings will depend on the new-hire differential and on the proportion of a firm's labour force which is paid the new, lower rate. Firms whose work force is expanding may reap substantial savings, while firms with a stable or shrinking labour force will gain more modest benefits.

If the number of employees remains relatively constant, then cost savings will be determined by turnover, since this will determine the percentage of the work force that is subject to the lower starting wage at any point in time. The nature of turnover is also important: if it is concentrated among newer or younger

employees, the cost savings of a two-tier system will be more modest than if turnover is distributed evenly or is concentrated among older workers.²

The crucial role of turnover in determining the labour cost savings of a reduction in new-hire wages could lead some firms, at least temporarily, to attempt to increase separations. For example, in the current Pacific Western - CALFAA agreement, a new provision offers time-limited early retirement and voluntary severance plans. The resulting savings will, of course, have to be balanced against the increase in training costs attendant on any increase in turnover. The issue of labour cost impact is considered in more detail in Appendix A below.

Scope of Two Tier Settlements

Commentators on the apparent trend towards using two-tier systems have emphasized that the concept is not new. For example, Stephen Ploscowe (1986) notes that dissatisfaction over a newly introduced two-tier pay system caused a revolt in the Roman army in the third century A.D. While isolated examples of agreements with new-hire provisions have existed for many years, two-tier wage systems have become more common recently. Also, as noted above, in collective agreements which have traditionally contained a hiring-in rate there is a trend towards increasing the length of service before a new hire reaches the job rate and increasing the differential between the new-hire and job rate.

American evidence indicates that the frequency of two-tier agreements in that country has increased from five percent of all non-construction agreements in 1983 to eight percent in 1984 and eleven percent in 1985 (BNA 1986). The incidence of two-tier plans is most marked in non-manufacturing industries - in 1985, 20 percent of agreements in these industries had a lower rate for new hires. The heaviest concentration was in the airline industry (62 percent), the postal service and railroads (all 1985 agreements) and retail and wholesale trade (37 percent). Also, in 1985, only 16 percent of two-tier plans were "permanent", that is, had an undefined convergence period. Finally, these two-tier agreements tended to be concentrated in concession-prone areas - 45 percent of the agreements establishing a two-tier wage system also involved a wage cut or no increase in the first year, while only 25 percent of all non-construction agreements involved no increase in the first year.

Unfortunately, comparable data for Canada is not available. Labour Canada does report outlines of settlements for bargaining units of 500 or more employees in the Collective Bargaining Review (Labour Canada, monthly) but new-hire wage provisions are not consistently reported. As a result, the incidence of two-tier wage systems is probably significantly understated in this database. However, a special tabulation from Labour Canada does identify at least 30 agreements negotiated in 1984-85 which established lower wages for new hires, see Table 1. These agreements constitute only about three percent of all agreements negotiated during this period. Although the data are not sufficient to support detailed analysis, Canadian experience appears to be broadly consistent with American experience. Two-tier agreements have been negotiated in the airline industry, retail and wholesale trade, transportation

² There are no data on Canadian turnover but information from the Bureau of National Affairs indicates that a figure of 10% per year is representative of a number of industries in the U.S.A. Limited data from General Motors of Canada suggests that 10% turnover may be typical of Canadian manufacturing as well.

equipment manufacture, and meat packing. The majority of these settlements appear to involve modification of pre-existing wage progressions or "probationary" rates.

Table 1

Two-Tier Agreements, 1984-1986

Industry	Company	Number of Employees
Manufacturing	<ul style="list-style-type: none"> • Burns Mart Winnipeg • Canadian Handbag Manufacturers • Chrysler Canada • General Motors Scarborough • Libbey St. Clair • Domglas 	15,370
Transportation and Communication	<ul style="list-style-type: none"> • Air Canada (Maintenance) • Air Canada (Flight Attendants) • CP Air • CP Air (Flight Attendants) • Wardair • Air Canada Winnipeg • Bell Canada 	31,255
Utilities	<ul style="list-style-type: none"> • Edmonton Public Utilities • CDN Western Natural Gas • Northwestern Utilities 	2,415
Trade	<ul style="list-style-type: none"> • Food Group Inc. • Steinberg, Quebec • Steinberg, Ontario • Steinberg, Ottawa • Canada Safeway, Manitoba 	9,540
Other Services	<ul style="list-style-type: none"> • Atomic Energy of Canada • Greater Vancouver Hotels 	3,750
Public Administration	<ul style="list-style-type: none"> • Quebec City • Hamilton-Wentworth Police 	2,650
Total		64,980

Source: Labour Canada, unpublished data

Legal Implications

The most obvious injustice of two-tier wage systems is the unfairness of paying workers different wages to perform the same work, with no justification other than they were hired at different times. Since this appears to be a patent denial of natural justice, one might expect there to be a legal remedy.

There are two potential legal issues raised by the negotiation of a two-tier wage system. The first would arise if an employer were to hire only women or members of a particular racial group into the lower tier, thereby contravening "equal pay for equal work" provisions in human rights or employment standards legislation. The second issue is that employees in the lower tier could bring a complaint against their union for failing to represent them fairly at the bargaining table. This section considers the second issue in some detail.

The historical origin of the legal requirement that unions must represent all employees in a bargaining unit fairly lies in a United States Supreme Court decision (*Steele v. Louisville and Nashville Railroad Co.* 323 U.S. 192 (1944) (U.S.S.C.)). The union and the Railroad had negotiated an agreement which denied the opportunity for promotion to black firemen. The court determined that a duty of fair representation was implied by the applicable labour statute, and that the union had failed to fulfil this duty. Since that time, most Canadian jurisdictions have incorporated a provision into their labour legislation that expressly imposes a duty of fair representation on certified unions. Table 2 provides a summary of these provisions.

The duty of fair representation is a means of protecting individual rights in both the administration and negotiation of collective agreements. Clearly, in the present context only the latter aspect of the duty is relevant. A recent case suggests that a close scrutiny of the legislation is necessary to determine whether the duty actually applies to the negotiation process. This case is also interesting because it arose as a result of the negotiation of a two-tier wage provision in the federal jurisdiction. In *Parsley et al. v. Kennedy and Longshoremen's Protective Union, Local 1953* ((1986) 12 CLRBR (Ns) 272), the employer and the union had negotiated an agreement which set a lower wage rate for casual longshoremen. A group of casuals brought a complaint to the Canada Labour Relations Board, arguing that the union had thereby failed in its duty of fair representation. The Board, while appearing sympathetic to the casuals, found that section 136-1 of the Canada Labour Code (as amended in 1984) restricted the union's duty of fair representation to employees' "rights under the collective agreement!" In other words, the duty applies only to grievance processing, and not to the negotiation process.

It appears likely that the result of a challenge would be the same in any jurisdiction where the duty of fair representation is framed in a similar manner. Only Ontario, Quebec and British Columbia have provisions worded broadly enough to include the negotiation of agreements, see Table 2. This does not mean, however, that employees in other jurisdictions have no legal recourse if they feel their union has not represented their interests at the bargaining table. Employees could pursue their claim before the civil courts, as was the case before the enactment of statutory fair representation provisions. In fact, in the *Parsley* case, the Canada Labour Relations Board was careful to point out that its decision was not a bar to a civil action.

Table 2
Fair Representation Provisions In Canadian Labour Legislation

Newfoundland	The Labour Relations Act, s.Nfld 1977, c. 64, s. 126 - applies only to grievances.
Nova Scotia	The Trade Union Act, s.N.s. 1986, c. 54 - no provision.
Ontario	Labour Relations Act, R.S.O. 1980, c. 228, s. 68 -'A trade union ... shall not act in a manner that is arbitrary, discriminatory or in bad faith in the representation of any of the employees in the unit ..."
Prince Edward Island	Labour Act, R.S.P.E.I. 1974, c. L-1 - no provision.
Quebec	Labour Code, R.S.Q. 1977, c. co27, s. 47-2 - 'A certified association shall not act in bad faith or in an arbitrary or discriminatory manner or show serious negligence in respect of employees comprised in a bargaining unit represented by it ..."
Alberta	Labour Relations Act, R.S.A. 1981, c. 69, s. 138(i) - "No trade union ... shall deny an employee or former employee who is or was within the bargaining unit the right to be fairly represented by the trade union with respect to his rights under the collective agreement:'
British Columbia	Industrial Relations Act, R.S.B.C. 1979, c. 212, s. 7(1) - "A trade union ... shall not act in a manner that is arbitrary, discriminatory, or in bad faith in representing any of the employees in an appropriate bargaining unit ..."
Manitoba	Labour Relations Act, S.M. 1972, c. 75, s.16 - "Every bargaining agent ... which in respecting the rights of an employee under the collective agreement ... (b) in any other case, acts in a manner which is arbitrary, discriminatory or in bad faith commits an unfair labour practice:'
New Brunswick	Industrial Relations Act, R.S.N.B. 1973 - no provision.
Saskatchewan	Trade Union Act, R.s.s. 1978, c. T-17, s. 25-1 - "Every employee has the right to be fairly represented in grievance or rights arbitration proceedings under a collective bargaining agreement ..."
Canada	Canada Labour Code, R.S.C. 1970 (ammended 1983-84), s. 136-1 - trade union ... shall not act in a manner that is arbitrary, discriminatory or in bad faith in the representation of any of the employees in the unit with respect to their rights under the collective agreement that is applicable to them."

A decision by a court or labour board that a two-tier provision violates the union's duty of fair representation may appear to concern only unions. In fact however, an employer cannot insist on a bargaining proposal which a union cannot legally accept without risking a violation of the statutory duty to bargain in good faith (Carter 1983). Hence, the result of a fair representation action by lower tier workers before a court or a labour board would be of considerable interest to both employers and unions. In the absence of specific case law, however, an attempt to estimate the likelihood of a successful action would only be speculative. It may nonetheless be useful to consider the reasoning a union might use to defend itself before a court or labour board.

One argument would be that by accepting a job new hires implicitly accept the fairness of the wage they are offered. This argument is, however, self-defeating from the union standpoint since any wage sufficiently high to attract some applicants could be rationalized. Unions would be unlikely to defend themselves against a fair representation complaint on the basis of minimum acceptability of a negotiated wage rate. Such an argument would amount to a denial of their responsibility for the negotiation process.

A second line of defense might be that, as commentators on the duty of fair representation often point out (e.g. Adell 1986), a union must have a wide degree of discretion in the reconciliation of competing interests in the bargaining unit. For example, a union will seek to negotiate a wage differential between skilled and unskilled workers, and to reward more senior employees with more generous benefits. The acceptability of the bargain which is struck is then left solely to a ratification vote. The duty of fair representation, however, was developed precisely to protect individuals and minority groups from this tyranny of the majority.

A third line of argument could be made from the analogy between the union's duty of fair representation and the constitutional doctrine of equal protection. A recent paper by Harper and Lupu (1985) suggests that the duty of fair representation is analogous to the constitutional doctrine of equal protection enshrined in the U.S. Constitution and the Canadian Charter of Rights and Freedoms. According to this view, a union must take into account the rights of all those affected by its decisions in the same way that the state must accord equal respect to all citizens when enacting or enforcing laws, even if some constituents are disadvantaged materially by its actions. In other words, equal protection requires equality of opportunity, but not necessarily equality of results. In the Steele case noted above, it was the denial of opportunity for promotion to blacks that was proscribed by the Supreme Court, not the fact that there were no black engineers. Thus, in the present context, a union which disregards the rights of new hires could not be seen to provide equal protection to all those affected by the exercise of its statutory bargaining rights. Equally clearly however, the doctrine of equal protection does not require the union to bargain to impasse over new-hire wage rates in the blind pursuit of equality of results. For a court or labour board to question the legality of reduced wages for new hires would be to question the legality of all wage progressions - clearly an anomalous and unlikely event.

The question remains, then, how far may a union go in agreeing to differential pay for new hires, while still according them equal protection? The limit appears to be reached when a collective agreement denies new hires the opportunity to ever reach the wage level of existing employees who perform the same work.

Unfortunately, it may still be argued that this interpretation of equal protection is no protection at all since any wage progression, provided that its length is finite, passes the test. Also, collective agreements are

themselves temporary documents, typically covering a term of not more than three years, so that any guarantee of parity beyond the term of the agreement has little meaning. To this criticism there is no ready answer, other than to point out that collective agreements are the legal expression of an ongoing relationship between employers and unions, and frequently express bargaining goals, such as pension plans, which outlive the paper document which spawned them.

In conclusion, it appears that the duty of fair representation provides protection for new hires against the apparent injustice of two-tier wage systems only to the limited extent that unions are proscribed from negotiating a permanent lower tier. To conclude otherwise would be to question the validity of seniority-based compensation systems which have enjoyed long-term acceptance in many collective bargaining relationships.

The Future of Two Tier Wage Systems

Tiered wage systems or wage progressions have been a feature of labour markets in Canada for many years. The subject of this paper, however, is the enhanced popularity of this form of compensation. Specifically, lower rates for new hires are appearing in agreements for the first time in some industries, existing wage progressions are being lengthened, and, in a small number of cases, a permanent lower tier is being established. One question which remains is whether this trend towards greater wage dispersion within firms is a transitory or long-term development. In attempting to answer this question, the issue of permanent lower tiers is disregarded.

Reformulating this issue in terms of a trend away from job-rate pay systems towards wage progressions raises the question of why these two forms of compensation coexist in the first instance. The key to this question lies in the relationship between seniority and productivity. If senior workers are intrinsically more productive, then the pressures of competition will tend to force employers to reward them by means of a seniority-based wage progression. To do otherwise would lead to high turnover among older workers and the payment of a subsidy to new hires. In cases where productivity increases are specific to a particular employer's operation, so that a senior worker's enhanced skills are not marketable outside the firm, the link between wages and productivity can be weakened somewhat, but a wage progression still provides a disincentive to costly turnover. In general, then, one would expect to find wage progression systems in occupations and industries where on-the-job training and experience make a significant contribution to a worker's productivity, and where turnover costs are correspondingly high. On the other hand, jobs which require relatively little on-site training are effectively compensated by a job-rate system. Such jobs include ones where skill requirements are low, initial skills acquired in an apprenticeship program are widely applicable, the job itself is transitory, or any skills acquired are not transferable.

Can the increased popularity of wage progressions be explained, then, by a widespread increase in the importance of on-the-job training? In other words, is the link between productivity and seniority becoming stronger? There is some reason to believe that this is the case. Skill mismatching is certainly one aspect of the current high level of unemployment, and new hires who require substantial orientation are unlikely to command high wages. In addition, technological change is creating skills requirements for which education and apprenticeship programs do not exist. To the extent that rapid adoption of new technology is becoming essential to economic survival, the importance of on-the-job training is likely to increase in the future. This secular trend is likely to encourage the spread of pay by seniority to areas

where job-rate compensation has proved adequate in the past. In this sense, two-tier pay systems may be a partial response to the perceived need for enhanced labour market flexibility (OECD 1986).

Technological change and labour market flexibility cannot fully account for the adoption of a wage progression system in a particular collective agreement, however. Nor can this explanation alone lead to accurate predictions of the adoption of such provisions in the future. Other relevant factors which must be considered are supply conditions in the labour market and the related willingness of unions to accept concessions, since wage progression provisions have invariably taken the form of a lower hiring-in rate, not an increase in pay for experienced workers.

Excess supply in the labour market creates conditions which are favourable to the adoption of lower rates for new hires. First, the existence of a large number of qualified job applicants such as was seen during the recent mass hiring of workers for a new American Motors plant in Toronto should indicate to management that negotiated wage rates are too high in that the wage rate did not act as a rationing mechanism. The hiring-in wage is the interface between a firm's internal labour market and the national market and excess supply in the market as a whole necessitates expensive and inefficient (in the economic sense) non-price rationing mechanisms such as screening.

Even in periods of high unemployment shortages of particular skills can, however, limit the viability of lower new-hire rates. For example, the 1986 agreement between McDonnell Douglas Corporation and the Canadian Auto Workers (reported in *cw Reports*, Nov. 17, 1986) removed the new-hire rates for skilled trades while maintaining the wage progression for production workers, a change which reflected differential supply conditions. Similarly, the 1984 General Motors - CAW agreement exempted skilled trades from the new-hire progression. Wage progressions which lower existing wage rates for new hires are only viable, then, when excess supply conditions prevail in the relevant labour market. The present shift from job-rate to seniority based compensation systems will only continue while unemployment remains high.

A final consideration is whether concession bargaining will continue, since lower new-hire rates are, to some extent, bargaining losses for the union. This in turn requires a consideration of the factors which have influenced concessions in the past and the prospects that these factors will be important in the future. These factors include enhanced competition in product markets, with its attendant labour cost and productivity pressures, changing attitudes on the part of the parties to collective bargaining, and, as discussed above, persistent excess supply in the labour market. Essentially, the argument is that these factors together have recently exerted downward pressure on wage settlements to an extent unprecedented in recent history, and two-tier wage settlements, as just one response to this pressure, will only continue while these conditions remain.

An in-depth analysis of the factors which have led to wage concessions in the past and the likelihood of continuing concession bargaining in the future is beyond the scope of this paper. Nonetheless, some observations can be made. First, the Canadian economy is continuing to expand strongly, albeit with some regional weaknesses. Unemployment continues to fall, so it is reasonable to expect the moderating pressure on wage settlements exerted by excess labour market supply to weaken. Second, the pressure of foreign competition is also being moderated by the long overdue realignment of exchange rates, which

has the effect of reducing international differences in unit labour costs. Overall, the economic climate is becoming less conducive to concession bargaining.

Finally, employers who propose lower hiring-in rates in future bargaining are likely to encounter increasing resistance from union negotiators. Regardless of the precise contractual form which two-tier settlements take, the effect is an unambiguous increase in wage dispersion, and this conflicts with the long-standing union value of equal pay for equal work.³ Widespread reporting of two-tier settlements in the media has made such settlements less attractive to unions as a politically expedient means of avoiding concessions for existing employees.

Summary and Conclusions

Two- or multi-tiered wage settlements are a contractual response to persistent excess supply in the labour market. While Canadian data on the phenomenon are extremely limited, it appears that most settlements of this type have taken the form of temporary, lower hiring-in rates, or the extension of existing wage progressions. Agreements which provide for a permanent lower tier are rare, even in the United States, where such plans have been widely publicized.

The labour cost savings resulting from a tiered wage structure are dependent on the nature and volume of turnover. In operations with relatively low turnover, these savings are likely to be quite modest. In addition, in the long run pay based on seniority provides a disincentive to voluntary quits, so future cost savings may be even lower than anticipated.

The principal legal issue raised by two-tier wage systems is whether unions violate their duty of fair representation by negotiating lower starting rates for new hires. This paper suggests that if this duty is interpreted as a requirement for "equal protection", only unions which negotiate permanent lower tiers risk violating the law. It was also pointed out that an employer who insists on a permanent lower tier risks violating the duty to bargain in good faith, since a union cannot legally accept such a wage structure. In the absence of case law on the issue, however, these conclusions remain tentative.

If one disregards permanent plans, the increased popularity of two-tier wage systems can be viewed as a gradual shift away from job-rate compensation systems towards seniority-based wage progressions. There are two possible explanations for this shift. First, it may reflect the strengthening of the link between productivity and seniority as on-the-job training becomes more important because of technological change. Secondly, a lower hiring-in rate may be a form of wage arbitrage between the firm's internal pay structure and the external labour market. Regardless of which effect predominates, the result is enhancement of the responsiveness of the collective bargaining system to changing labour market forces.

³ Work by Freeman (1982) and Hirsch (1982) attests to the strength of this ethic. Both researchers found much lower wage dispersion in unionized establishments than in non-union establishments.

Appendix A

The Impact of a Two-Tier System on Labour Costs

The cost savings of a two-tier wage system can be investigated by employing a simple mathematical model. Consider first a firm which employs N workers, at a wage rate W . For simplicity, we ignore benefits and other employment costs. Total labour cost per hour ($n.c$) is given by equation (1).

$$TLC = NW \quad (1)$$

To isolate the impact of a two-tier wage system, assume that the size of the work force, N , remains unchanged, although, of course, its composition will change over time due to turnover. Now suppose that a hiring-in rate of some fraction of the job rate, say aW , where $0 > a < 1$, is negotiated and is paid to some fraction, b , of the work force, according to seniority. When the plan has been in effect for at least the length of the hiring-in period, total labour costs per hour will be given by equation (2).

$$TLC1 = bNaW + (1 - b)NW \quad (2)$$

This expression may be rearranged as

$$TLC1 = [1 - b(1 - a)]NW \quad (3)$$

Dividing equation (3) by equation (1),

$$TLC1 / TLC = 1 - b(1 - a) \quad (4)$$

The expression on the right side of equation (4) is the factor by which the hiring-in rate has reduced hourly labour cost. The value of this expression depends on the values of a and b . The value of a is simply the ratio of the negotiated hiring-in rate to the job rate, by definition. The value of b is determined partly by the negotiated hiring-in period and partly by the turnover rate. If, for the sake of simplicity, we assume that the hiring-in period is one year, then b is equal to the average annual rate of turnover. That is, if turnover is 10 percent of the work force per year, then on average 10 percent will have less than one year's seniority at any given time and will accordingly be paid the lower hiring-in rate.

To provide an estimate of the reduction in labour costs resulting from the implementation of a lower hiring-in rate, Table A-1 presents values of equation (4) for some values of turnover and the hiring-in rate relative to the job rate. Hence, if turnover is 10 percent per year, and the hiring-in rate is 90 percent of the job rate, labour costs per hour are 99 percent of costs per hour with a single-tier wage system.

Table A-1

Impact on Labour Costs for Various Values of a and b

Turnover (b)	Hiring-in wage/ Job Wage(a)	1-b(1-a)
.1	.9	.99
	.8	.98
	.7	.97
	.6	.96
.2	.9	.98
	.8	.96
	.7	.94
	.6	.92
.3	.9	.97
	.8	.94
	.7	.91
	.6	.88

Even at a turnover rate of 30 percent, and a hiring-in rate of 60 percent of the job rate, costs are only reduced by 12 percent. Clearly, for "reasonable" values of turnover and the hiring-in rate, the savings are relatively modest. It should be noted that the values in Table A-1 assume a hiring-in period of one year; a shorter "probationary" period would reduce savings, while a longer period would increase them.

Relaxing the assumption of a fixed work force yields somewhat different results. Clearly, if the work force shrinks, so do the savings of a two-tier system, and if the reduction is accomplished by not replacing quits and retirees, there are no savings at all until the reduction is completed. On the other hand, if the work force is expanded, a once-and-for-all saving is realized as the entire addition to the work force is paid the hiring-in rate for the negotiated period. Of course, once the labour force stabilizes, only the turnover-generated savings of Table A-1 will be obtained.

Two-tier wage systems of the "permanent" type, where new hires never reach the same wage rate as existing employees, must be modeled in a different fashion. As above, the hourly labour costs are a weighted average of the two wage rates, but the weights change over time as older workers are replaced by new hires. The way in which these weights change depends on the amount, and nature, of employee turnover.

Two polar cases are of interest. Consider first the case in which all turnover occurs in the lower tier. In this situation, the lower tier will not in fact grow as a proportion of the work force, and the cost savings realized can be closely approximated by equation (4) above. Such a situation may not be particularly unrealistic: a lower wage rate for new hires, particularly of the permanent type, increases the opportunity

cost of voluntary quits among upper tier workers. Further, anecdotal evidence from both unions and management in the air transport and food retailing industries, who have considerable experience with wage progressions, suggests that turnover among senior employees is very low.

In the other polar case, where all turnover occurs in the upper tier, labour cost savings will grow over time as the proportion of the work force in the upper tier declines geometrically. Mathematically, if turnover is at an annual rate t , the fraction of the work force remaining in the upper tier after n years is given by $(1-t)^n$. As an example, if annual turnover is 10 percent, only a little more than one half of the work force will remain in the upper tier after six years. Actual savings will, of course, depend on the negotiated wage differential between the tiers.

The main conclusion to be drawn from the foregoing is that the cost savings actually achieved by the replacement of a job-rate wage system by a tiered system depend primarily on the nature of turnover. In particular, savings are maximized when turnover occurs primarily among senior employees. This result appears to fly in the face of conventional thinking which regards turnover, particularly among senior, experienced workers, as a bad thing. In addition, as noted above, wage differentials based on seniority provide a disincentive to voluntary quits among older workers. This in turn suggests that substantial incentives in the form of early retirement plans and lump sum separation bonuses may be necessary to maximize labour cost savings. Overall, two-tier plans may prove to be largely self-defeating as a device to reduce labour costs in the long run.

Appendix B

Examples of Two Tier Settlements

General Motors of Canada - Canadian Auto Workers (1984) Section XIII - Wages

Article 97(a) New employees hired on or after the effective date of this Agreement, who do not hold a seniority date in any General Motors plant and are not covered by the provisions of Paragraph (97)(c) below, shall be hired at a rate equal to eighty-five (85) percent of the maximum base rate of the job classification. Such employees shall receive an automatic increase to:

- (1) ninety (90) percent of the maximum base rate of the job classification at the expiration of one hundred and eighty (180) days.
- (2) ninety-five (95) percent of the maximum base rate of the job classification at the expiration of three hundred and sixty-five (365) days.
- (3) the maximum base rate of the job classification at the expiration of five hundred and forty-five (545) days.

Article 97(d) The foregoing Paragraph (97)(a), (97)(b) and (97)(c) shall not apply to skilled trades classifications

Wardair - Canadian Airline Flight Attendants Association (1983)

Article 6 - Rates of Pay:

6.01 (a) Flight attendants hired by the Company on or prior to November 1, 1983 will be paid for their flight time in accordance with the following schedule:

Classification and Years of Service	Hourly Rates Effective November 1, 1983
First Six Months	21.39
Second Six Months	22.10
Third Six Months	22.79
Fourth Six Months	23.49
Third Year	25.32
Fourth Year	26.45
Fifth Year	27.61
Sixth Year	28.91
Seventh Year	30.18

6.01 (b) Flight attendants hired by the Company after November 1, 1983 will be paid for their flight time in accordance with the following schedule:

Classification and Years of Service	Hourly Rates Effective November 1, 1983
First Six Months	15.00
Second Six Months	15.75
Third Six Months	16.54
Fourth Six Months	17.37
Fifth Six Months	18.24
Sixth Six Months	19.15

Burns Meats Ltd. - United Food and Commercial Workers International Union (1984)

Schedule "A" - Application of Rates

1. The term "grade" shall mean the rate set down for labour operations under the Company's schedule, provided however the following rates apply for the first twenty-four (24) months of earnings:

Starting rate	\$ 9.00
Upon completion of six (6) months	9.60
Upon completion of twelve (12) months	10.20
Upon completion of sixteen (16) months	10.80
Upon completion of twenty (20) months	11.40
Upon completion of twenty-four (24) months	12.00
	Labour Rate

Annotated Bibliography

Bureau of National Affairs, Inc., 1231-25th St. N.W., Washington, D.C. 20037

The Bureau of National Affairs maintains an extensive data bank on collective bargaining in the U.S. The Bureau has been monitoring two-tier settlements since 1984 and periodic updates have appeared in their newsletters, *Bulletin to Management* (issues of 1-5-84, 11-21-85, 11-28-85, 12-19-85), *What's New in Collective Bargaining Negotiations and Contracts* (issues of 7-19-84, 4-24-86, 10-23-86, 2-26-87) and *Contract Clause Finder* (8-2-84).

Cappelli, Peter. 1985. Competitive pressures and labor relations in the airline industry. *Industrial Relations* 24:316-338.

This paper describes the transformation of industrial relations in the American Airline industry following deregulation. Cappelli argues that contract concessions, often in the form of two-tier wage plans, resulted primarily because unions representing flight attendants and pilots were highly decentralized and poorly suited to withstand competitive pressures when federal regulation of fares was abolished. The increased willingness of individual carriers to continue to operate during strikes also contributed to the decline in union bargaining power.

Curtin, William. 1985. Airline labor relations under deregulation. In Industrial Relations Research Association, *Proceedings of the 38th Annual Meeting*, 158-164. Madison, Wisconsin: IRRA.

This paper focuses on the response to deregulation of unions representing pilots. The author emphasizes the importance of supply conditions in the labour market. In particular, the extremely severe two-tier plan negotiated by American Airlines (a permanent plan in which new hires were paid 50% of the salary of senior pilots) in 1983 was subsequently modified in the face of a shortage of new applicants and rapid turnover in the lower tier. Curtin also notes increasing resistance to the two-tier concept - in 1984 the Airline Pilots Association announced bargaining guidelines which include a prohibition of two-tier settlements.

Freeman, Richard. 1982. Union wage practices and wage dispersion within establishments. *Industrial and Labor Relations Review* 36:3-21.

This paper presents the results of a cross sectional study of wage dispersion in union and non-union firms. The author provides conclusive statistical evidence that the range of wage rates in unionized firms is much narrower than in non-union firms, reflecting entrenched union values of fairness and solidarity. In the context of two-tier settlements, which increase wage dispersion, the implication is that these settlements run counter to established practice and values in the labour movement and can be expected to meet increasing resistance in the future.

Jacoby, Sanford and Daniel Mitchell. 1986. Management attitudes towards two-tier pay plans. *Journal of Labor Research* 7:221-237.

This paper reports the results of a survey of attitudes of managers of union and non-union firms in California. The sample is stratified according to whether or not the respondents have experience with two-

tier plans. Generally, managers with two-tier plans are more optimistic although about half of these experienced a decline in morale, 35 percent reported worsening union management relations, and 25 percent believe productivity suffers. About one half of managers with two-tier plans expect "permanent" plans to be abolished in the future. Finally, as one would expect, a large majority of respondents felt that two-tier plans are more palatable to union negotiators than outright wage cuts.

Martin, James and Melanie Peterson. 1985. Two-tier wage structures and attitude differences. Industrial Relations Research Association, *Proceedings of the 38th Annual Meeting*, 72-79. Madison, Wisconsin: IRRA.

This paper reports the results of an organizational behaviour study of employee commitment. The results confirm the expectation that two-tier plans are detrimental to morale and commitment, although this negative impact is lessened if a firm's labour force is growing rapidly or if the tiers are geographically separated - e.g. the new hires are employed in a new plant.

Ploscowe, Stephen. 1986. Two-tier compensation plans. *ILR Report* 24(1):23-28.

This paper provides a good general overview of the two-tier issue. The author, an American labor lawyer and management consultant in labor relations, sees a two-tier wage structure as "a creative, if not wholly satisfactory, method of meeting the challenge of deregulation and growing competition from cheaper labor". Arguing from a perspective of enhanced wage flexibility, he sees a two-tier plan as a compromise between the alternatives of general wage cuts and mass layoffs. As such, these plans are politically attractive to unions because they preserve previous contract gains for experienced workers. On the other hand, the main disadvantages are the potential negative impact on productivity and morale and an increase in administrative costs. Ploscowe discounts legal problems with two-tier systems but does note increased union resistance, at least to "permanent" plans.

Premeaux, Shane, R. Mondy, and A. Bethke. 1986. The two-tier wage system. *Personnel Administrator* 31(11):92-100.

This paper reports the results of a survey of attitudes of managers, union leaders, senior workers, and new hires toward two-tier plans. Generally management and union leaders are more optimistic than are new hires. New hires generally believe that two-tier plans will reduce productivity, and product quality, and will cause unmanageable friction between junior and senior workers, while managers and union leaders discounted these problems. The difference in attitude between new hires and union leaders is particularly interesting because it appears to forecast serious political problems for unions as lower tier workers begin to make up a larger proportion of union membership.

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