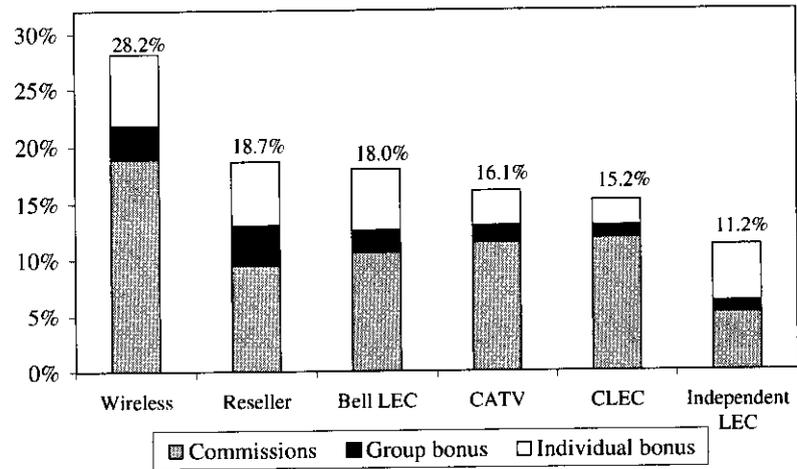


FIGURE H Incentive pay methods of service representatives by industry segment, 2003



Sources: Batt et al. (2004).

Union effects on employment practices in telecommunications

Unionization affects most aspects of the employment relationship in ways that substantially improve the quality of jobs for workers. In the analysis of the survey data, we found that wages are 18% higher and benefits are 30% higher for union technicians compared to their non-union counterparts (**Table 10**). Unionization has an even more powerful effect on the traditionally female service workforce: unionized service reps receive 32% more in wages and 82% more in benefits.²

These benefits for the unionized female workforce have occurred in part by bargaining through a common structure with higher-paid technicians. Consequently, instead of being isolated into a separate “female” standard, unionized service representatives receive and participate in the same benefit packages as those received by the traditionally male technician occupation. As a result, many of these demanding call center jobs are taken by single working mothers, not only because of higher wages, but because they offer the ability to provide families with decent health benefits. The total compensation effect of unionized workplaces is 21% for technicians and 42% for service representatives (**Table 10** and **Figure I**).

Unionized workplaces often afford non-college graduates (73% of the U.S. labor force) an opportunity for both stable employment and advancement. This is partly accomplished because employers spend significantly more on training – 83% more for technicians and 90% more for service representatives – in union compared to nonunion establishments. Employers can reap the benefits of their training investments because unions reduce all forms of turnover (except for retirements) by

TABLE 10 Union-nonunion comparisons, 2003

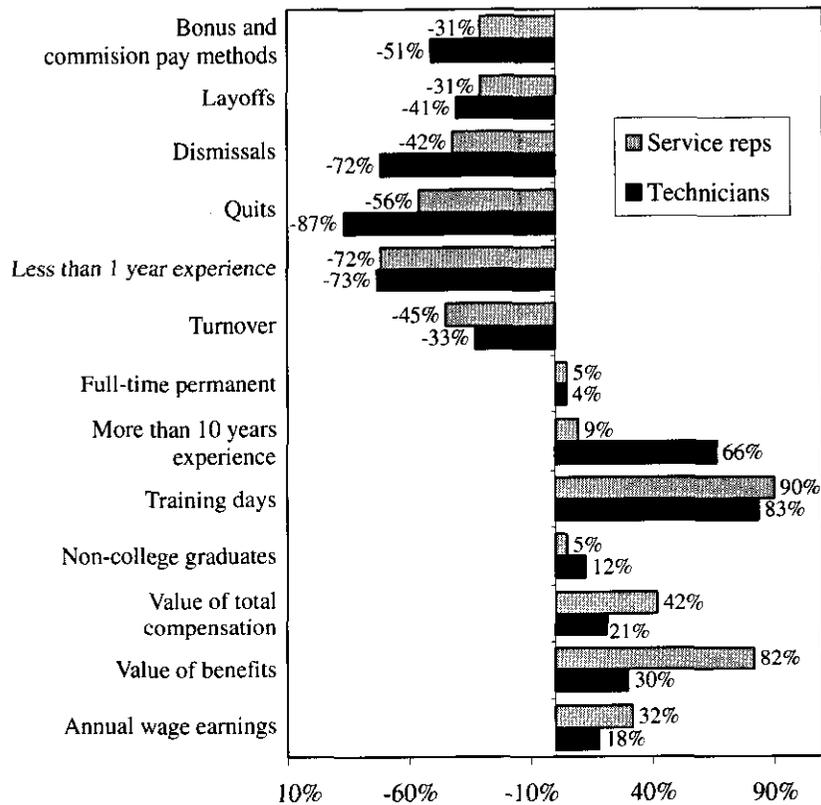
	Technicians			Service representatives		
	Non-union	Union	Union effect	Non-union	Union	Union effect
Annual wage earnings	\$37,965	\$44,718	18%	\$30,381	\$40,000	32%
Value of benefits	\$12,023	\$15,622	30%	\$7,930	\$14,396	82%
Value - total compensation	\$53,704	\$65,109	21%	\$40,009	\$56,683	42%
Non-college graduates	89%	100%	12%	87%	91%	5%
Qualifying training weeks	51	93	83%	18	35	90%
More than 10 years tenure	42%	70%	66%	37%	41%	9%
Full-time permanent	94%	98%	4%	89%	96%	5%
Turnover	16%	10%	-33%	34%	19%	-45%
Less than 1 year experience	10%	3%	-73%	23%	7%	-72%
Quits	7%	1%	-87%	12%	5%	-56%
Dismissals	4%	1%	-72%	9%	5%	-42%
Layoffs	3%	2%	-41%	3%	2%	-31%
Retirement rate	1%	6%	364%	1%	3%	354%
Variable pay methods	11%	6%	-51%	20%	14%	-31%
Individual bonus and commission	5%	2%	-53%	17%	13%	-27%
Group bonus	2%	3%	38%	2%	1%	-56%
Establishment size	55	154	178%	160	506	215%

Source: Batt et al. (2004).

one-third for service representatives and by 45% for technicians. Unionized technicians are 87% less likely to quit than are their nonunion counterparts, as are 56% of unionized service representatives. Unionization is also associated with reductions in dismissals (72% less for technicians and 42% less for service representatives) and layoffs (41% less for technicians and 31% less for service representatives). Unions also increase the one form of turnover that most workers find desirable, retirements, by more than 350% for both technicians and service representatives.

Unions also reduce undesirable incentive pay methods (51% for technicians and 31% for service representatives), which employees often view as unfair and which significantly contribute to employee quit rates (Batt, Colvin, and Keefe 2002). In particular, they reduce individual

FIGURE I How unions affect technicians and service representatives: increased earnings and training, and reduced turnover, 2003

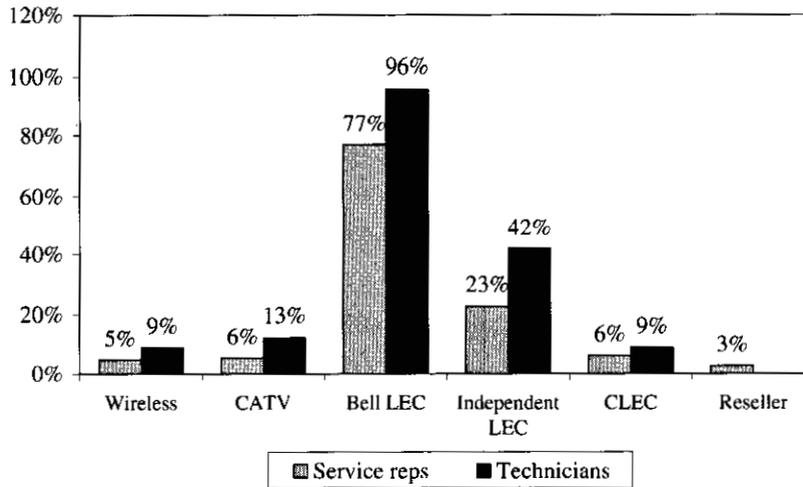


Sources: Batt et al. (2004).

bonus and commission pay methods for both technicians (53%) and service representatives (27%). Unions tend to represent workers in larger (three times the size) and often more urban establishments (see Table 10).

The success of union avoidance practices in the newer segments of this industry are illustrated in **Figure J**. Most of the unionization in this industry is in the incumbent wireline segment, particularly the Bells. There are some notable exceptions, such as Cingular in the wireless industry. Nevertheless, the newer competitors in this industry in the main

FIGURE J Unionization rate by telecommunications industry segment, 2003



Sources: Batt et al. (2004).

have resisted unionization and have decided to compete with reduced pay, benefits, stability, and training. Further accentuating this downward trend in employment practices, however, are a set of regulatory and tax policies that disproportionately disadvantage good employers in this industry.

In the next section we develop employer report cards by industry segment for technicians and service representatives.

Employer report cards: the quality of employment practices

In this section, we translate the findings from Chapter 2 into report cards for employers. We use the same definition of job quality as before (compensation, employment stability, training and skills, workplace rights and representation, and work environment), and compare each segment's work practices to the score of the best-performing segment. For each practice, the segment with the highest score receives 100%; all others are measured in relation to it by dividing their scores into the best score and expressing it as a percent of the best.

As in Chapter 2, we compare the three major local access networks – wireless, wireline, and cable TV. In addition, we subdivide wireline into Bell incumbent local exchange carriers, independent incumbent local exchange carriers, and competitive local exchange carriers. For the customer service representatives, we also examine resellers. We use a generous grading scale: A: 90-100%, B: 80-89%, C: 70-79%, D: 60-69%, and F: below 60%.

The quality of jobs for technicians

In the area of compensation, the data show that the Bell companies provide the highest annual earnings for technicians (**Table 11**). They receive a score of 100%, while cable TV and the competitive exchange carriers pay the least, with their technicians earning 77% of what Bell technicians earn. The independent telephone companies earn a 100% score by providing the most valuable benefits packages on average, while cable TV and wireless carriers provide benefits packages valued at 60% and 63%, respectively, of what technicians at the independent telephone

TABLE 11 Employer report card: quality of jobs for technicians, by access network, 2003 (best in bold, worst in italics)

	Wireless	CATV	Bell LEC	Independent LEC	CLEC
Compensation	C	<i>D</i>	A	A	C
Wages	85%	77%	100%	91%	77%
Benefits	63%	60%	86%	100%	71%
Stable employment	D	<i>D</i>	A	B	C
Retention	79%	84%	100%	97%	94%
Retirements	5%	2%	100%	59%	31%
Tenure	93%	87%	100%	97%	91%
Training and skills	D	<i>F</i>	A	C	D
Computers	89%	31%	100%	83%	88%
Qualifying training	24%	44%	100%	72%	54%
Workplace rights and representation	F	<i>F</i>	A	D	F
Union	9%	13%	100%	44%	9%
Labor relations	76%	70%	100%	92%	73%
Work environment	B	B	B	B	A
Free from e-monitoring	94%	89%	48%	81%	100%
Free from punishment	91%	84%	94%	100%	93%
Autonomy index	100%	87%	86%	92%	87%
Secure pay (% non-variable)	100%	88%	100%	99%	100%
Gender diversity (% male)	45%	73%	91%	73%	100%
SCORE	69%	64%	93%	84%	77%
GRADE	D	<i>D</i>	A	B	C

Definitions: Wages – indexed relative to segment with highest annual wage earnings. Benefits – indexed to segment with highest level of benefits. Retention – segment with lowest turnover rate (turnover - quits, dismissals, and layoffs). Retirements – indexed to segment with highest share of employees retiring. Tenure – indexed to segment with highest value of employees with more than 10 years of service. Full-time permanent – indexed to segment with share of non-temporary and non-part-time employees. Qualifying training – indexed to segment with highest number of hours of qualifying training provided. Unionization – indexed to segment with highest unionization rate. Labor relations – indexed to segment with the best labor relations score provided by managers. Free of e-monitoring – indexed to segment with lowest share of time spent at work without electronic monitoring. Punishment – indexed to segment with lowest rate of punishment (*dismissals + formal disciplinary action*). Autonomy – indexed to segment with highest value of technicians' relative autonomy on job score provided by managers. Pay that is secure – share of pay that is not incentive-based. Teams – indexed to segment with highest proportion of workers organized into self-directed work teams. Gender diversity – indexed to segment with highest share of female workers in this male-dominated occupation.

Grading scale: A – 90-100, B – 80-89, C – 70-79, D – 60-69, F – below 60.

Source: Author's estimates.

companies receive. The Bells and the independent telephone companies score the highest on compensation and both receive an A grade. Cable TV receives a grade of D and is the worst-paying segment of the industry.

Using our first measure of employment stability (lack of churn, or the percent of employees who stay with their employer in a given year), we find that the Bell companies have the highest score (100%), but are closely matched by the independent telephone companies and the competitive exchange carriers (97% and 94%, respectively). By contrast, wireless (79%) and cable TV (84%) have significantly higher rates of annual turnover, with wireless having the highest rate of technician churn in the industry. The second measure of stability, longevity, measures the proportion of technicians with more than 10 years of service with their employers. Again the Bells earn the highest score (100%); cable earns the lowest (87%). In terms of the percent of employees reaching retirement age and retiring in a given year, the Bells have the highest scores (100%), while wireless receives a score of 5% and cable TV 2%, as these companies report virtually no retirements at all. Wireless has the highest level of employment instability, followed by cable TV, earning them both an employment stability grade of D.

In the area of training and skills, we examine the amount of training supplied to new technicians to qualify them in their jobs. The Bell companies supply the most (earning 100%), and wireless companies provide the least, 24% of what the Bells provide. Cable TV offers 44% of what the Bells offer. To capture the skill requirements of jobs, we examine the extent of computer use, a measure of digital skill complexity that is particularly important for field technicians. Bell technicians (100%) are the most likely to use computers in their jobs, while cable TV technicians (31%) are the least likely. Overall, the Bells earn a grade of A for training and skills, while cable TV earns an F, the independent telephone companies a C, and both wireless and the competitive exchange carriers a D.

In terms of unionization, only the Bell companies earn an A. Wireless has 9% the level of unionization as the Bells, cable TV 13%, and the competitive exchange carriers 9%. The Bells have the best labor relations (100%), and cable TV the worst (70%). Because of their decisions to operate as nonunion companies and to employ a range of union avoidance techniques, rather than develop positive labor rela-

tions, cable TV, wireless, and the competitive exchange carriers each receive failing grades for their record on workplace rights and representation.

In the area of work environment, technicians in the wireless sector have the greatest job autonomy (100%), whereas Bell technicians have the least, earning them an 86% score. The competitive exchange carriers score 100% for their limited use of electronic monitoring, compared to the Bell operations (48%), which rely most on electronic monitoring, GPS tracking, and specific work practices to control their technicians' performance. Cable TV relies more on punishment, formal discipline, and dismissals than does any other segment of the industry, which earns it an 84% score, while the independents rely on it the least. Wireless employers rely least on incentive pay for technicians, while cable TV uses it most, earning it an 88%. As for gender diversity, which measures the relative extent of female employment in this occupation, the competitive exchange carriers have the highest level (100%), while wireless has the lowest level (45%) of female employment. Overall, when the work environment scores are averaged, the competitive exchange carriers receive an A, while everyone else earns a B.

The overall summary of employment practices reveals the following rankings on the quality of jobs for technicians: the Bell companies offer the best jobs, and cable TV provides the worst:

93%	A	Bell local exchange carrier
84%	B	Independent local exchange carrier
77%	C	Competitive exchange carrier
69%	D	Wireless
64%	D	Cable TV

These scores suggest that the Bell companies offer the high road in technician employment – decent jobs and high productivity growth, while cable TV takes the low road – poor jobs and no productivity growth. Unfortunately, wireless has decided to follow cable down the low road, while the competitive exchange carriers, a creation of regulatory policy, provide the worst employment practices for their technicians among the wireline service providers.

The quality of jobs for service representatives

Among customer service representatives who work in call centers (Table 12), the Bell companies offer the highest wages and benefits, earning them a score of 100%, while cable TV centers offer approximately half of the wages (56%) and benefits (51%) that a Bell service rep receives in a year. Resellers offer the most unstable employment, while the Bell companies score 100% on employment stability: they have the lowest turnover, the highest proportion of long-serving service representatives, the greatest likelihood that employees will stay until retirement, and the greatest ratio of full-time permanent employees, who are entitled to regular wages and benefits. Wireless call centers have the highest churn rate. Resellers' call centers have the lowest longevity and retirement rates, and competitive exchange carriers make the greatest use of temporary and part-time service representatives. (The low-road call centers rely on a disproportionately female, part-time labor force with high turnover, which keeps all forms of compensation low.) The Bell companies also score 100% on initial qualifying training, while the competitive exchange carriers have the worst score (23% of a Bell center). Bell call centers are the most likely to be unionized and resellers are the least unionized, though they boast the best labor relations. Cable TV centers have the worst labor-management relations in the industry.

Mass market call centers have adopted similar procedures and methods of operation, a move that results in relatively little variation in the call center environment. Wireless call centers have designed jobs that provide the greatest degree of autonomy and teamwork (thereby scoring 100%), whereas both the Bell and cable TV centers afford the least autonomy (scoring 90% of wireless); Bell and cable TV centers also use self-directed teams the least (scoring 52%). In the area of electronic monitoring, the small reseller centers score 100% for relying on it the least; the large Bell call centers rely more heavily on electronic monitoring, but it is the competitive exchange carriers that use electronic monitoring the most. Cable TV relies most heavily on punishment of service representatives, with the highest rates of discipline and dismissals in the industry. Wireless centers, however, make the greatest use of incentive pay to motivate sales, while the independent local exchange carriers pay the highest proportion of pay on a fixed or hourly basis. Finally, with respect to gender diversity, the wireless call centers

TABLE 12 Employer report card: quality of jobs for service representatives, by access network, 2003 (best in bold, worst in italics)

	Wireless	CATV	Bell LEC	Independent LEC	CLEC	Reseller
Compensation	D	F	A	D	D	F
Wages	59%	56%	100%	68%	74%	63%
Benefits	58%	51%	100%	61%	56%	50%
Stable employment	C	C	A	B	C	D
Retention	84%	87%	100%	90%	86%	88%
Retirements	33%	33%	100%	67%	33%	0%
Tenure	84%	84%	100%	87%	87%	83%
Full-time permanent	89%	93%	100%	93%	77%	89%
Training	F	F	A	F	F	F
Qualifying training	29%	35%	100%	42%	23%	37%
Workplace rights and representation	F	F	A	F	F	F
Union	6%	8%	100%	30%	8%	4%
Labor relations	70%	60%	81%	81%	80%	100%
Work environment	A	C	B	B	B	B+
Free of e-monitoring	93%	81%	69%	93%	62%	100%
Free from punishment	99%	92%	100%	100%	99%	96%
Autonomy index	100%	90%	90%	93%	93%	95%
Teams	100%	52%	52%	62%	72%	69%
Non-incentive pay	85%	97%	93%	100%	95%	92%
Gender diversity	100%	61%	94%	53%	99%	86%
SCORE	72%	65%	92%	75%	79%	70%
GRADE	C	D	A	C	D	C-

Definitions: Wages – indexed relative to segment with highest annual wage earnings. Benefits – indexed to segment with highest level of benefits. Retention – segment with lowest turnover rate (turnover - quits, dismissals, and layoffs). Retirements – indexed to segment with highest share of employees retiring. Tenure – indexed to segment with highest value of employees with more than 10 years of service. Full-time permanent – indexed to segment with share of non-temporary and non-part-time employees. Qualifying training – indexed to segment with highest number of hours of qualifying training provided. Unionization – indexed to segment with highest unionization rate. Labor relations – indexed to segment with the best labor relations score provided by managers. Free of e-monitoring – indexed to segment with lowest share of time spent at work without electronic monitoring. Punishment – indexed to segment with lowest rate of punishment (dismissals + formal disciplinary action). Autonomy – indexed to segment with highest value of service reps' relative autonomy on job score provided by managers. Pay that is secure – share of pay that is not incentive-based. Teams – indexed to segment with highest proportion of workers organized into self-directed work teams. Gender diversity – indexed to segment with highest share of male workers in this female-dominated occupation.

Grading scale: A – 90-100, B – 80-89, C – 70-79, D – 60-69, F – below 60.

Source: Author's estimates.

have the highest proportion of male employees (scoring 100%), whereas independent telephone companies have the lowest ratio of male employment; they have just 53% the rate of male employment as the wireless centers.

Combining these employment practices yields the following rankings and grades on the quality of jobs for customer service representatives: the Bell companies provide the best jobs, and cable TV the worst:

- A 92% Bell local exchange carrier**
- C 75% Independent local exchange carrier**
- C 72% Wireless**
- C- 70% Reseller**
- C- 70% Competitive local exchange carrier**
- D 65% Cable TV**

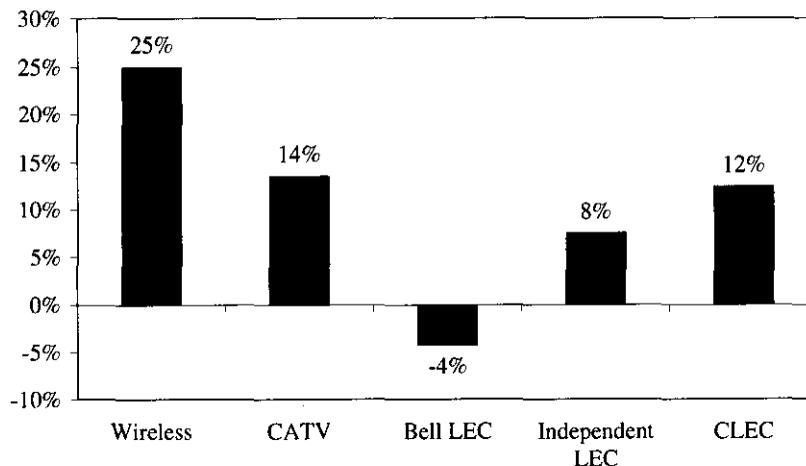
The Bells, which receive an overall A grade, offer the high road in employment practices with decent jobs and high productivity growth, while once again cable TV takes the low road with lower-quality jobs and no productivity growth. As we discussed above, unionization is the critical factor in separating the high road from the low road, as service representatives express their voice through unions to create more desirable workplaces in this industry, instead of relying on an endless job search for a decent place to work.

How public policy is destroying the best jobs

The results from the survey show that the segments in the local telecommunications market with the highest growth rates offer the lowest-quality jobs – lower wages and benefits, less training, a less-desirable working environment, and less access to workplace rights. The survey asked managers of network establishments to report on the change of their establishment's work volume. Not surprising, wireless had the greatest growth in work volume (25%), followed by cable television (14%), competitive exchange carriers (12%), and independent exchange carriers (8%). However, the providers of the best jobs, the Bells, experienced a 4% decline in work volume (**Figure K**).

Some labor economists might argue that this result is the logical outcome of an increasingly competitive product market, where the high-labor-cost providers lose market share to those firms that gain a competitive advantage by holding down their labor costs. But this hypothesis fails to explain the competitive dynamics of the telecommunications services market because the Bells' higher labor costs are offset by strong productivity growth and better service quality.

Instead, it is current public policy that bestows competitive advantage on the worst employers in the industry. We base this argument on an examination of three areas of public policy: special telecommunications taxes, economic regulation, and labor market policies. Each supports the growth of poor-quality jobs, while destroying the best jobs in the industry.

FIGURE K Change in technical work volume by Industry segment, 2001-03

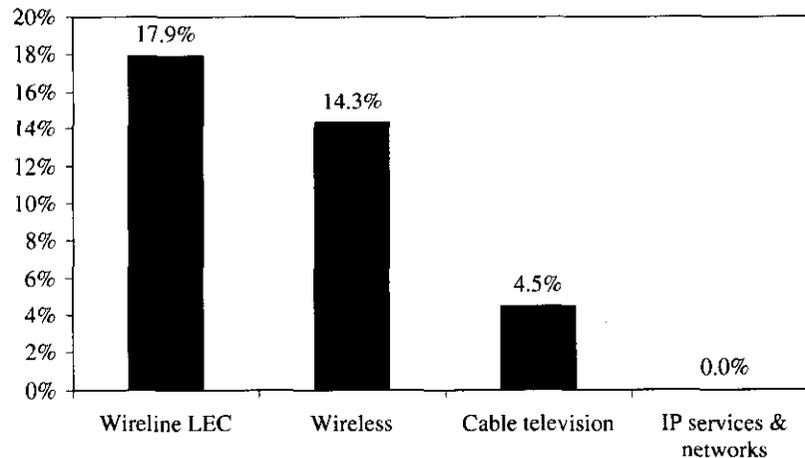
Sources: Batt et al. (2004)

Special telecommunications taxes

Telecommunications networks have always been subject to special taxes. The distribution of these taxes, however, is neither logical nor equitable in the present competitive environment. The traditional public switched network providers – the incumbent Bell and independent local exchange carriers – pay special federal, state, and local telecommunications taxes at the rate of 17.9% of gross revenue (**Figure L**), while all other telecommunications providers pay substantially lower taxes. Wireless providers are taxed at the rate of 14.3% of revenue. Franchise fees for cable TV are assessed at the average rate of 4.5% of revenue, which amounts to approximately one-quarter of the rate of special taxation levied on the incumbent exchange carriers. Moreover, rapidly growing broadband Internet protocol services and networks pay no special telecommunications taxes by federal law.

Special taxation has its origins in a period when telecommunications was regulated as a natural monopoly. Federal, state, and local taxing authorities imposed excise taxes as a source of general revenue. The logic was that, since telecommunications services were ubiquitous and

FIGURE L Federal, state, and local telecommunications taxes as share of gross revenue, 2002



Sources: Mackey (2004); BNA (2002); National Cable & Telecommunications Association (2003).

price inelastic, taxation would not adversely affect the industry or service demand. Universal service in this earlier period was funded through internal cross subsidies, mostly flowing from higher long distance charges that were used to lower local telephone residential service rates. Now, wireline incumbents and wireless providers are taxed to fund the federal universal fund. Some states also have their own universal service funds, which are supported by additional taxes on telecommunications services at the state level. Congress, however, has decided that no taxes will be levied on services provided over IP networks or on interstate commercial transactions conducted on the Internet.

This new industrial tax policy has several perverse effects. For example, cable television is offering telephone service using voice-over-Internet-protocol technology. Since VoIP is an IP technology, cable's telephone service is not subject to either excise taxes or universal service fund contributions. VoIP requires a broadband connection, which means it will be used by more affluent households and businesses. In other words, tax policy will make telephone service to more affluent homes and businesses via VoIP less expensive than the same telephone

service provided over traditional public wireline networks. However, the lower-cost VoIP service will not be available to many less-affluent households, as shown in the most recent government data (U.S. Department of Commerce 2004). Those data indicate that the majority of households with Latino or African American members, with members over 50 years old, with incomes less than \$35,000, or located in central cities do not use the Internet and are not likely to have a broadband connection. It will be precisely these households that will continue to be subject to the 17.9% tax rate that is paid by the traditional public switched network. According to FCC data, only 59% of the typical monthly residential bill and 63% of the typical business bill pays for actual telephone service. The other 41% and 37%, respectively, are taxes, including subscriber line charges (taxes), 911 taxes, and other charges (FCC 2004a, Tables 5-11 and 5-12). Consequently, as business and affluent consumers switch to IP voice service, the telecommunications taxes on the traditional network will become increasingly regressive. In addition, by exempting interstate Internet transactions from sales taxes, Congress has strengthened the states' reliance on special telecommunications excise taxes as a source of general revenue, making tax reform more difficult given the precarious financial situation of most states.

If competition is going to take place on an equitable basis, it will require comprehensive reform in telecommunications taxes. If the best jobs are to be preserved, the providers of the best jobs, the Bells, cannot sustain a 17.9% tax disadvantage and successfully compete with the worst employers in the industry, cable television. This disadvantage is amplified when one considers the unequal costs generated by differences arising from economic regulation.

Economic regulation

Disparate economic regulatory regimes also contribute to destroying the best jobs in the industry. Current regulations reflect their origins in a world of monopoly telecommunications providers. They treat various access technologies differently in a "stovepipe" fashion (Maxwell 2005), imposing much heavier and costly regulations on the incumbent exchange carriers than on either wireless or cable TV providers. As the wireline, wireless, and cable access technologies functionally converge and their services capabilities compete with one another, a new system of regulation is needed. Such a system requires a horizontal model of regulation

that is applied equitably across access technologies, a system that would better reflect the increasing digitization of information, the convergence of service offerings, and the Internet's architecture. Horizontal equity is essential to the fostering of competition, the efficient use of resources, and the preservation of decent jobs. Simply put, what is needed is a level playing field. A new model should set forth minimal regulatory requirements for Internet-like "openness," including interconnection of networks, broadband transport available to all, and strong antitrust enforcement (Maxwell 2005).

Although the Telecommunications Act of 1996 was designed to promote competition and remove historically noncompetitive pricing and cross-subsidies, it has only been partially successful. The long-term goal of the act was to encourage market competition among firms that compete by investing in real facilities, i.e., upgrading the existing wireline system and building new telecommunications networks. The act has successfully promoted some types of new facilities competition, but it has been incapable of eliminating the legacy of noncompetitive cross-subsidy pricing policies. The unintended consequence of the act's implementation has been to create a regressive and inefficient pricing system with perverse incentives. When one examines local telephone service prices, one can readily see the residuals of non-cost-based pricing established by state regulatory commissions. These discrepancies are apparent in a comparison of a typical single business line rate with residential line rates. In 2003, the typical business rate for a single line before taxes was \$30.92, while the price for a similar residential line was \$14.57, or 47% of the price of business service. Historically, higher business prices have been used by regulators to subsidize lower residential service rates as part of the overall effort to promote universal telephone service. In the current competitive environment there is a predictable outcome to this pricing approach. The subsidy payers, businesses in this case, have incentives to leave the network for alternative cost-based services, a move that will allow them to not only escape paying the cross-subsidies (53%) but paying taxes as well. The incumbent exchange carriers will retain the subsidy recipients, but lose their economies of scale and incentives for investment, while being forced to continually petition for substantial rate increases to cover increased costs and to stay in business. This is a regressive, destructive, and inefficient policy outcome for the public, the incumbent exchange carriers, and their employees.

Similarly, in the current context, unintended and perverse outcomes are associated with state-level practices of rate averaging. Many states still engage in rate averaging, whereby subscribers in densely populated areas pay higher prices than their underlying costs require in order to subsidize the rates of higher-cost rural subscribers within the state. In a competitive environment, this practice creates incentives for the subsidy payers in densely populated areas to leave the network and purchase a substitute service without a subsidy built into its price. This so-called legacy pricing, while having a laudable goal of promoting universal service, is no longer tenable in a competitive environment, where prices need to reflect the underlying costs of the services being provided. When regulators get involved in price setting in a competitive market, in particular in a high-fixed-cost industry like telecommunications, they create opportunities that can undo the goals they want to pursue.

Another major force in the destruction of quality jobs in the industry has been the FCC's implementation of network unbundling. The resale of access to the network and the unbundling of network elements are considered intermediary steps in promoting facilities-based competition. Both steps are intended to create a wholesale market for services and network elements that allow new entrants to build up a sufficiently large customer base to justify the investment in their own network. Disputes and litigation abound over the FCC's price setting of network elements, which is based on estimates of forward-looking long-run incremental economic costs. After more than eight years of rule making, there is still no system in place that can withstand judicial scrutiny. Nevertheless, the beneficiaries of this wholesale pricing system have been the competitive exchange carriers, which now have 32 million access lines, the overwhelming majority of which merely re-use existing facilities of the Bells and independent exchange carriers. The Bells and independent companies are required to lease their facilities at significant discounts, substantially below historical costs, a requirement that impairs their ability to recover their sunk investment and pay down their long-term debt. In addition, as the rules are challenged and changed, uncertainty is created about new investments, thereby raising the cost of capital for network modernization. Consequently, in 2004, capital expenditures in wireline were 14% of revenue, substantially below the historical trend of 19% of revenue (Shuper 2004). Substantial new investment is required simply to main-

tain the existing network. This five-percentage-point decline – a more than 25% reduction in the Bells' capital investment (approximately \$5.7 billion a year) – greatly slows network modernization, reduces the number of good jobs, and sets the United States further behind other industrialized countries in broadband deployment and penetration. The unbundling process needs to be rethought in a period in which alternative networks and technologies, the final step, have outrun the intermediate step of promoting competition.

Labor market policies

U.S. labor market policies are another contributing factor in the destruction of the best jobs in telecommunications. The nation's system of employer-funded health insurance along with rising costs put at a competitive disadvantage those employers that provide decent benefits to workers and their families. However, no matter how severe the health insurance problems may be, they cannot compare with the obvious ignominy of the National Labor Relations Act and the National Labor Relations Board's failure to guarantee the rights of American workers to form and join labor organizations. Although the majority of American workers indicate they want to join a union, only 8% of private sector employees in the United States are union members. While the legislation states that it is the employees' choice to form and join their own labor organizations, in practice it has become the employers' choice to avoid unionization that has prevailed in the United States. In telecommunications services, this trend is clearly reflected in the low level of unionization in the newer segments of the industry, even among those employers who provide substantially inferior wages, benefits, and other conditions of employment.

Preserving the best jobs requires comprehensive reform

As the analysis in this report shows, the best jobs in the telecommunications industry are provided by the Bell and independent local exchange carriers. By contrast, cable TV, with its poor productivity and inferior customer service, has created the worst jobs in the industry. Ironically, the unintended consequence of federal telecommunications policy is to support the worst employers with favorable tax and regulatory treatment, while greatly disadvantaging good employers and their workers and unions. The FCC, Congress, and the administration need to re-ex-

amine current telecommunications policy and reform it. A level playing field is needed to encourage competition across the growing number of traditional and innovative access technologies that make up the U.S. telecommunications infrastructure. Without substantial reform, present public policy will continue to destroy the best quality jobs in the telecommunications services sector.

Endnotes

1. The sample is a stratified random sample drawn from the Dun and Bradstreet listing of establishments. Establishments were stratified by size (10-99 employees, 100-plus employees), by SIC code (4812, cellular; 4813, wireline; 4841, cable), and by state location. Almost all establishments with more than 100 employees were sampled so that the survey would cover a larger percentage of the industry's workforce. Sampling of the remaining smaller establishments was done so that the total sample reflected the relative proportion of establishments in each segment of the Dun and Bradstreet industry listing. The sample was also stratified by state location, and all states are represented. The telephone survey was funded through a grant from the Alfred P. Sloan Foundation.

2. In simple cross tabulations, unionized service representatives earn 44% higher wages than their non-union counterparts; when we run wage regressions controlling for other factors such as organizational characteristics, markets, and human capital, they still earn 15% higher wages. In the raw cross tabulations, union service representatives receive benefits valued at 82% above those of nonunion workers. In multivariate analyses that control for the influence of other factors, unionization is associated with 53% higher benefit values.

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