

pay income tax. In addition, they retain their "dependent" status and are eligible for some health insurance coverage under their spouse's plan and are entitled to receive some pension from the government. Moreover, the household head receives a dependent deduction from his taxable income and typically receives a family allowance from his employer. In 1989, family allowance payments averaged 14,000 yen per month (about \$140) in large firms and 6,300 yen per month (about \$63) in small firms.

Thus, certain aspects of Japanese industrial relations and tax law provide incentives for many women to seek part-time and temporary rather than regular positions. Business surveys

have provided some insights into the reasons Japanese companies hire nonregular workers. In the Survey on the Diversification of Employment, conducted by the Ministry of Labor in 1988, company officials were asked if they expected to increase the number of nonregular workers within 3 years of the survey and, if so, why.

Reduction in cost was the most frequent reason cited for hiring more part-time workers and the second most frequent reason cited for hiring more temporary and day workers and dispatched workers. (See table 5.) The need to hire workers temporarily also was an important factor in companies' decisions to increase hiring in each of these categories of employment, and, perhaps not surprisingly, was the most frequent reason given for increasing the hiring of temporary and day workers. Only for dispatched workers was the inability to find regular workers among the five most important reasons cited for increasing the hiring of nonregular workers. By law, dispatched workers must possess special skills that companies have difficulty finding among regular workers.

In sum, two principal reasons why Japanese companies say they hire nonregular workers is to lower labor costs and to hire workers on a temporary basis. With respect to the latter, a company may wish to hire part-time and temporary workers who can be dismissed more easily than regular workers to provide a buffer against fluctuations in demand.

Labor costs. Labor costs associated with part-time and temporary workers may be less than those of regular workers for several reasons. Under the *nenko* system, wages and promotions are determined to a large degree by individuals' tenure with the company. Although the wages of nonregular workers and regular workers may not differ substantially for those with little or no tenure, wages for nonregular workers, who are not covered by the *nenko* system, do not increase with tenure, or at least do not increase at the same rate, as they do for regular workers. As a result, over time, a company may reduce labor costs by hiring part-time and temporary workers if the wage savings from hiring nonregular workers more than compensate for any higher productivity that regular workers may achieve.⁶ Part-time and temporary workers also generally receive fewer company-provided fringe benefits.

In addition, Japanese employers are not subject to unemployment insurance, pension, and health insurance payroll taxes on many part-time and temporary workers. The unemployment insurance premium in Japan is 1.15 percent of wages, excluding bonuses. Japanese employers pay 0.75 percent for unemployment insurance and employees pay 0.40 percent. Before 1989, employers were not required to pay unemployment insurance taxes on part-time workers. Under current law, employers must pay unemployment insurance taxes for part-time workers who work more than 20 but fewer than 30 hours per week, who are expected to work at least 1

Table 3. Incidence of part-time and arubaito and temporary and day employment in Japan, by sector, 1982-92

[In percent]

Sector	1982	1987	1992
Total:			
Part time and arubaito	11.0	14.2	16.1
Temporary and day	11.5	12.0	11.2
Agriculture:			
Part time and arubaito	16.3	23.7	30.3
Temporary and day	36.2	36.5	36.6
Fisheries:			
Part time and arubaito	6.9	9.7	12.1
Temporary and day	15.4	16.8	16.1
Construction:			
Part time and arubaito	5.8	6.9	7.5
Temporary and day	21.1	17.8	13.7
Manufacturing:			
Part time and arubaito	11.4	14.4	14.3
Temporary and day	9.9	9.9	8.3
Trade:			
Part time and arubaito	19.4	25.2	28.1
Temporary and day	13.9	15.6	14.6
Finance, insurance:			
Part time and arubaito	3.9	5.6	7.4
Temporary and day	3.7	4.7	4.7
Transportation, communications:			
Part time and arubaito	3.4	5.4	8.2
Temporary and day	4.3	5.6	6.3
Utilities:			
Part time and arubaito	2.3	2.5	2.8
Temporary and day	4.3	4.5	3.8
Services:			
Part time and arubaito	11.1	13.7	16.5
Temporary and day	11.6	12.6	12.8
Public administration:			
Part time and arubaito	3.4	3.5	4.6
Temporary and day	6.7	6.6	7.3

NOTE: Self-employed and family workers are excluded from the tabulations. For definitions of part-time, arubaito, temporary, and day workers, see exhibit 1.

SOURCE: Sōmūchō Tōkeikyoku, Shūgyōkōzō Kihonchōsa hōkoku (Bureau of Statistics, Employment Status Survey), various issues.

Table 4. Part-time and temporary employment in Japan, by sector and firm size, 1993

[In percent]

Industry	Total	Number of employees				
		1,000 and more	300-999	100-299	30-99	5-29
Part-time employment						
All industries	11.5	9.5	8.5	12.0	13.6	13.0
Manufacturing	10.4	2.9	7.2	10.5	14.9	17.3
Transportation, public utilities, and communications	5.0	2.3	5.3	3.0	6.2	4.2
Trade	20.0	30.7	14.0	20.0	22.1	15.9
Finance, insurance, and real estate	5.3	7.6	1.8	5.2	10.2	10.4
Services	12.6	12.2	6.7	13.9	13.8	15.2
Temporary employment						
All industries	5.7	5.4	5.8	4.4	5.6	5.7
Manufacturing	4.0	3.0	3.7	3.5	3.3	6.4
Transportation, public utilities, and communications	4.7	2.8	1.8	2.3	5.2	4.2
Trade	6.9	12.9	10.6	4.1	8.8	1.3
Finance, insurance, and real estate	4.1	2.8	2.6	5.3	5.9	9.0
Services	7.2	8.1	4.7	6.7	6.2	6.9

NOTE: Self-employed and family workers are excluded from the tabulations. For definitions of part-time and temporary employment, see exhibit 1.

SOURCE: Rōdōshō, Kōyō Dōkō Chōsa hōkoku (Ministry of Labor, Survey of Employment Trend).

year, and who earn more than 900,000 yen per year (about \$9,000), although the rate is less than that assessed for full-time workers. For all part-time employees who work 30 or more hours per week, employers must pay the unemployment insurance tax rate applicable to full-time workers.

The payment for the public pension in Japan is 14.5 percent of wages, subject to a ceiling.⁷ As in the United States, half of the tax is paid by the employer and half by the employee. However, employers are not obligated to make these payments on part-time workers whose weekly work hours are less than three-fourths of those of regular workers.

A similar exclusion occurs for health insurance. Since 1961, everyone in Japan has been enrolled in some form of health insurance, and paid employees generally are enrolled in company-provided health insurance plans. Employers and employees pay taxes on both wages and bonuses to finance health insurance. The tax on wages is 0.41 percent for employers and employees; the tax on bonuses is 0.3 percent for employers and 0.5 percent for employees.⁸ However, employers are not required to cover part-time workers who work less than three-fourths of the weekly hours of regular workers.

Employers are required to pay social security and health insurance taxes for temporary workers except for those who are day workers; those who are engaged in seasonal work; and, those who are hired in an establishment operating temporarily (the labor contract must not exceed 6 months).

Employers also are required to pay unemployment insurance for all who work more than three-quarters of the weekly work hours of regular workers, regardless of employment status. If dispatched workers are covered by social insurance schemes, the applicable taxes are paid by the temporary help agency and

not by the company contracting for their services.

Data on the coverage of nonregular workers under various social insurance schemes were collected in the Ministry of Labor 1988 Survey on the Diversification of Employment. Although data on nonregular workers were not collected in this survey, data on workers who had been transferred to a subsidiary company were collected. The coverage of these so-called *shukko* workers is likely to be similar to that of regular workers. According to survey figures, 90 percent of *shukko* workers were covered by unemployment insurance, while only 37 percent of part-time workers, 63 percent of temporary workers, and 62 percent of dispatched workers were covered. Similarly, 93 percent of *shukko* workers, but just 37 percent of part-time workers, 59 percent of temporary workers, and 56 percent of dispatched workers received health insurance through their employer. Coverage under the government's mandatory pension scheme also was relatively low for nonregular workers: 36 percent of part-time workers, 54 percent of temporary workers, and 55 percent of dispatched workers were covered by the pension scheme, compared with 92 percent of *shukko* workers.

Nonregular workers as a buffer. In addition to saving wage, fringe benefit, and payroll tax costs, companies may hire part-time and temporary workers to increase employment flexibility. Medium-sized and large Japanese companies typically offer implicit guarantees of lifetime employment to regular workers. Moreover, Japanese courts have given these core workers fairly strong protection against layoff.⁹ Company personnel policies and court rulings have

not given part-time workers the same degree of protection that full-time, regular workers have received. Except in rare circumstances, companies may easily terminate temporary and dispatched workers by not renewing their contracts.

Although it is widely believed that part-time workers help buffer regular workers during recessions, the lack of time series data makes formal analysis of this issue difficult. Annual data on part-time employment from the Survey of Employment Trend have been published since 1978. These data show that, at the aggregate and sectoral levels, part-time employment was quite cyclically sensitive, falling relative to trend during the recessions of the early and mid-1980's and the early 1990's. This pattern supports the view that part-time workers have helped buffer regular workers during recessions.

Data from the Bureau of Statistics Labor Force Survey provide more direct evidence on the use of temporary workers as a buffer in Japanese manufacturing. The Labor Force Survey breaks down employment for regular and temporary workers; temporary workers are defined as those employed on a definite contract for at least 1 month but less than 1 year.

Temporary employment declined sharply in response to the large drop in output during the recession in the mid-1970's and increased sharply during the subsequent recovery. In response to the decline in output during the most recent recession, temporary employment again fell sharply. In contrast, regular employment displayed little fluctuation throughout the period. (See chart 1.) Econometric analysis presented in the

appendix shows that the implied responsiveness of temporary employment to changes in production is significantly greater than that of regular employment.¹⁰

Growth in part-time employment. As evident in table 3, the rate of part-time employment has increased significantly in recent years across a broad spectrum of industries. Somewhat surprisingly, because the vast majority of part-time workers are female, there has been little increase in the female labor force participation rate to fuel the growth in the rate of part-time employment. The Japanese female labor force participation rate has remained relatively constant since 1970, falling somewhat during the deep recession of the mid-1970's and rising slightly since 1976. The female labor force participation rate in Japan in 1991 (50.7 percent) was barely higher than the rate in 1970 (49.8 percent).¹¹

Although the supply of potential part-time workers has increased only modestly in recent years, several economic developments have provided incentives to Japanese companies to increase their use of part-time workers. Many Japanese companies were hurt by their inability to shed excess workers during the severe recession in the mid-1970's, and in subsequent years moved to increase their use of part-time workers, who could be more easily dismissed.

The sharp appreciation of the yen has provided Japanese employers with additional incentives to hire part-time workers. In 1970, the yen traded at 360 yen per dollar; in 1994, it traded at less than 100 yen per dollar. Between 1985 and 1986 alone, the yen appreciated by about one-third against the dollar, moving from 238.5 yen per dollar to 168.5 yen per dollar. This sharp appreciation sparked a recession in Japan, and placed considerable pressure on employers, particularly those in manufacturing, to lower labor costs.

The aging of the Japanese work force also has put pressure on Japanese employers to lower labor costs. Under the *nenko* system, workers' pay and promotion depend greatly on their tenure. As the Japanese population has aged and economic growth has slowed, Japanese companies have become saddled with large numbers of well-paid, middle-aged and older workers. The problem of an aging work force will not be alleviated soon. The number of people in their twenties is expected to decline dramatically after 1995.

Many Japanese analysts believe that recent cyclical volatility, the appreciation of the yen, and the aging of the Japanese work force have strained Japanese industrial relations practices of lifetime employment and of *nenko* wages and promotions. One way companies have sought to increase labor flexibility and reduce labor costs, short of dismantling these traditional industrial relations practices, has been to hire more part-time workers, who are more easily dismissed during downturns, whose pay is not tied to seniority, and who generally are not eligible for promotion.¹²

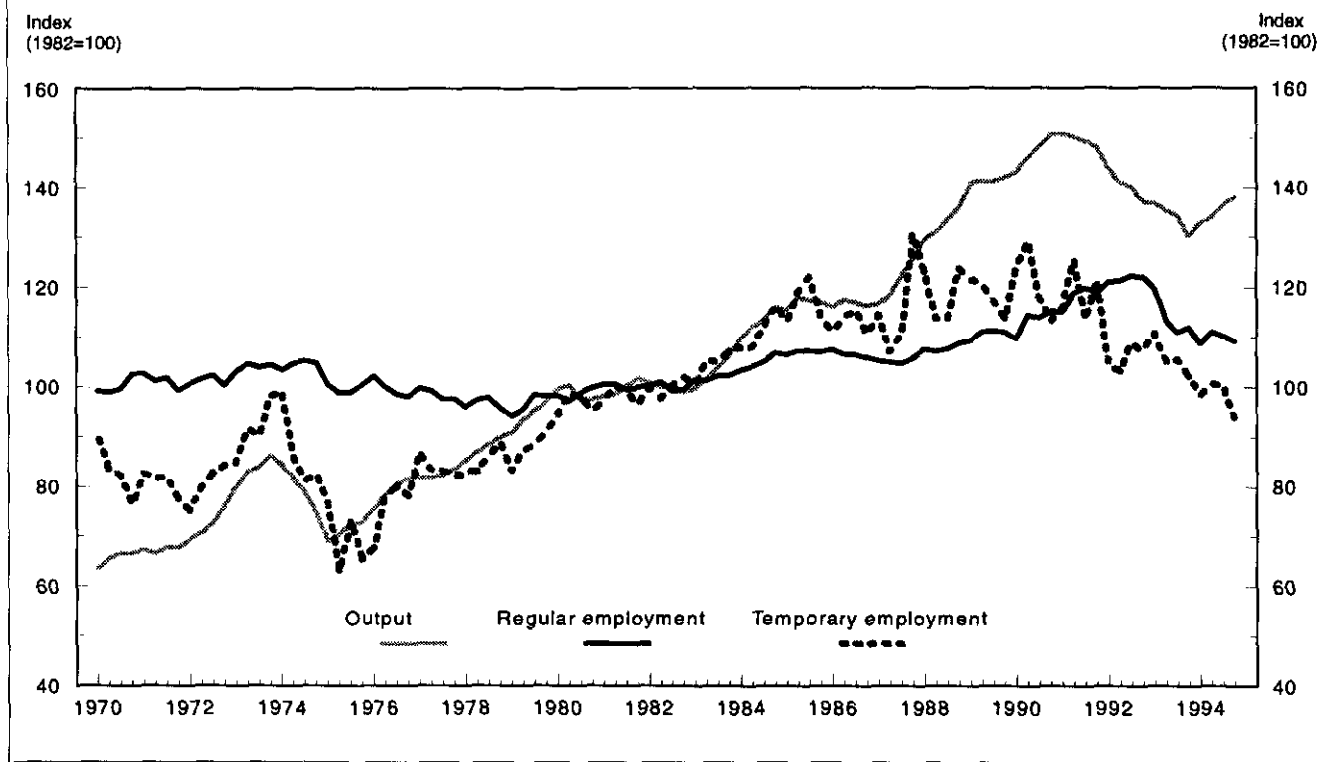
Table 5. Principal reasons for increasing nonregular employment among Japanese businesses expecting to hire more nonregular workers

Reasons	Percent reporting factor as important
Part-time workers:	
Reduction in cost	40.2
Increase in business	32.5
Simple task	32.4
Can respond to diversified work pattern	19.3
Need workers temporarily	17.4
Temporary and day laborers:	
Need workers temporarily	32.6
Reduction in cost	32.1
Increase in business	23.4
Simple task	23.3
Can respond to diversified work pattern	14.8
Dispatched workers:	
Workers with needed skills can work immediately	34.1
Reduction in cost	33.4
Need workers temporarily	24.8
Increase in business	21.0
Cannot hire regular workers	19.2

NOTE: Data are percent of businesses responding that the reason was important in decision to hire nonregular employees. For definitions of part time, temporary, day and dispatch workers, see exhibit 1.

SOURCE: Rōdōshō, *Shūgyō Keitai no Tayōka ni kansuru Jittai Chōsa hōkoku*, 1988 (Ministry of Labor, Survey Results on the Diversification of Employment).

Chart 1. Output, regular employment, and temporary employment in Japanese manufacturing, 1970-94



IN SUM, part-time and temporary workers account for a large and integral component of the Japanese work force. Because part-time and temporary positions allow workers to avoid committing to long hours and company transfers, these forms of employment have been attractive, particularly to women. At the same time, because these types of workers are not covered by industrial relations practices of *nenko* wages and promotion and lifetime employment, Japanese firms have long had an incentive to hire some part-time and temporary workers to reduce labor costs and increase employment flexibility. Government policies providing tax exemptions for part-time and temporary workers also are responsible for the large share of nonregular employees in the Japanese economy. The spectacular growth in part-time employment may partly reflect the need for further labor flexibility in Japanese companies due to recent cyclical volatility, the appreciation of the yen, and the aging of the Japanese work force. □

Footnotes

¹ "Report on the Status of Part-Time Workers," Japanese Ministry of Labor, 1990.

² No information on usual hours worked is collected in the Bureau of Statistics Labor Force Survey. Therefore, this monthly survey cannot be

used to tabulate the number of workers who usually work fewer than 35 hours per week—the definition of part-time employment used in U.S. Government statistics. Adjustment to the U.S. concept of usually working fewer than 35 hours can be made based on Japan's Bureau of Statistics Special Survey of the Labor Force taken each February. However, such adjusted data would still miss many Japanese workers who usually work 35 hours per week or more, but are classified as part time by their companies.

³ Although a high percentage of paid employees in agriculture work part time, fewer than 10 percent of those working in agriculture are paid employees. The rest are counted as self-employed or family workers in official statistics.

⁴ Although the rates of part-time and temporary employment differ across the two surveys, data from the surveys depict similar trends in part-time and temporary employment.

⁵ Comparisons of working time in Japan, the United States, and Germany may be found in Takatoshi Ito, *The Japanese Economy* (Cambridge, MA, MIT Press, 1992), pp. 228–31. See *Japan Labor Bulletin*, Jan. 1, 1995, for a discussion of declining working time in Japan.

⁶ We used microdata on married female workers to examine differences in the earnings of part-time, temporary, and full-time workers. This analysis showed that part-time and temporary workers earn significantly less than do full-time workers, even after controlling for differences in individual and job characteristics. Details are available from the authors.

⁷ There are two types of pensions in Japan: the national pension (*kokumin nenkin*) and a company-based pension (*kosei nenkin*). The former provides a set amount of pension to everyone (about 50,000 yen, or \$500, a month). The latter varies with an individual's contribution to the plan. All companies must pay taxes on qualified employees for the *kokumin nenkin* portion of the pension. For the *kosei nenkin* portion of the pension, Japan has a "pay or play" system of coverage in which companies contribute to a mandatory government program

or establish their own pension that must be at least as generous as the government pension. For a description of the Japanese pension system, see Noriyasu Watanabe, John Turner, and David Rajnes, "Pay or Play? Pensions in Japan," *Contingencies*, November/December 1994, pp. 63-65.

⁸ Taxable wages are limited to 980,000 yen, or about \$9,800, a month.

⁹ For discussions of legal restrictions on dismissal, see Yasuhiko Matsuda, "Job Security in Japan," in Kazutoshi Koshiro, ed., *Employment Security and Labor Market Flexibility: An International Perspective* (Detroit, MI, Wayne State University Press, 1992), pp. 183-95; and Johannes Schregle, "Dismissal Protection in Japan," *International Labour Review*, 1993, pp. 507-20.

¹⁰ Using data from the Bureau of Statistics Labor Force Survey, we also examined the relationship between movements in the employment of those working fewer than 35 hours per week and movements in output. As in the United States, the movement of part-time employment defined in this way is strongly countercyclical, increasing during downturns and falling during upturns. This pattern is probably observed because many workers who have

regular employment status are placed on short hours during recessions and are counted as part-time workers under this definition.

¹¹ The figures on female labor force participation rates in Japan are from the Japanese Bureau of Statistics, Labor Force Survey. In the United States, female labor force participation rose steadily, from 43.3 percent in 1970 to 57.4 percent in 1991.

¹² For a discussion of these issues, see Alice C. L. Lam, *Women and Japanese Management: Discrimination and Reform* (London, Routledge, 1992); Machiko Osawa, "Keizai Henka to Joshi Rodo," [*Economic Change and Women Workers: A U.S.-Japan Comparison*] (Tokyo, Nihon Keizai Hyoronsha, 1993); Atsushi Seike, "Recent Employment Situation and Long-Term Structural Change," *Japan Labor Bulletin*, Jan. 1, 1994, pp. 5-8; and Hiroki Sato, "Employment Adjustment of Middle-Aged and Older White-Collar Workers," *Japan Labor Bulletin*, Feb. 1, 1994, pp. 5-8. We include further discussion and presentation of evidence on the causes of the growth in part-time employment in Japan in our report, *Part-Time and Temporary Employment in Japan: A Comparison with the United States*, prepared for the U.S. Department of Labor, Bureau of International Labor Affairs, 1994.

APPENDIX: Estimates of elasticities

To more formally examine the adjustment of regular and temporary employment to fluctuations in manufacturing output, we estimated the following finite distributed lag model:

$$\ln E_t = \alpha + \sum_{i=0}^4 \beta_i \ln P_{t-i} + \theta_1 t + \theta_2 t^2 + \epsilon_t$$

where E is employment of either regular or temporary workers, P is production, t and t^2 are time trend terms, and ϵ is the error term. Because the employment series were quite noisy, we aggregated the monthly data to quarterly. In the model, changes in production may affect employment with a lag of up to four quarters and because the model is estimated in logarithms, the β 's represent estimates of the elasticity of employment with respect to changes in output. The sum of β_0 and β_1 , for example, is the one-quarter employment-output elasticity estimate. The sum of β_0 to β_4 is the four-quarter elasticity estimate. All data were seasonally adjusted and equations were corrected for first-order autocorrelation.

Table A-1 presents current-quarter, one-quarter, and four-quarter

employment elasticity estimates for regular and temporary workers. Elasticity estimates are also given for male regular and temporary workers and female regular and temporary workers. The point estimates show that the adjustment of temporary employment to demand changes is much greater than that of regular employment, even out to four quarters. For example, the estimated current-quarter employment elasticity for regular workers is 0.060, while that for temporary workers is 0.710. The estimated four-quarter employment elasticity for regular workers is only 0.349, while that for temporary workers is 1.396.

To determine the statistical significance of these differences, we estimated constrained and unconstrained versions of the model for regular and temporary workers using seemingly unrelated regression techniques. This approach enabled us to construct chi-squared statistics for hypothesis testing. Although the standard errors of the point estimates are often large, the differences between the employment elasticity estimates for regular and temporary workers are significant at the 5-percent level for all time horizons. Estimates of the adjustment of male regular and temporary employment and of female regular and temporary employment produce qualitatively similar results.

Table A-1. Employment adjustment of regular versus temporary workers in Japan: estimated employment-output elasticities, manufacturing, 1970-94

Type of worker	Current quarter		One quarter		Four quarters	
	Elasticity	Standard error	Elasticity	Standard error	Elasticity	Standard error
Regular .....	.060	(.095)	1.145	(.102)	1.349	(.095)
Temporary .....	.710	(.320)	1.837	(.332)	1.396	(.261)
Male, regular .....	.013	(.102)	1.071	(.107)	1.250	(.089)
Male, temporary	-.000	(.692)	2.648	(.700)	2.003	(.263)
Female, regular .....	.200	(.162)	1.249	(.176)	1.558	(.177)
Female, temporary .....	.949	(.273)	1.587	(.293)	1.223	(.278)

¹Elasticity estimates for regular and temporary workers are significantly different at the .05 level.

NOTE: Standard errors are reported in parentheses.