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**THE EMPLOYMENT OUTCOMES AND
ADVANCEMENT OF TEMPORARY
WORKERS**

**CEO PUBLICATION
T 01-19 (409)**

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September 2001

The Employment Outcomes and Advancement of Temporary Workers

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September 26, 2001

Abstract

Most research on temporary jobs focuses either on companies' motivations for using temps or point-in-time comparisons of temp and non-temp jobs. Both types of approach seek to shed insights into the opportunities available to those who work as temps. Yet they tell us little about why growing numbers of individuals chose to enter temporary work in the tight labor market of the 1990s, nor the career outcomes of temping for these individuals. This paper offers a different perspective by providing a comprehensive look into the employment histories of a very large sample of temps in the United States for 1995-1999.

The first part of the paper presents a descriptive analysis of payroll records. As expected, most temp spells are very short. The median hours worked as a temp equate to about one month per year. Many more people temp at some point during the year than during any given week or month – about four to six times as many. Among those who temp for short periods of time, little progress occurs in terms of wage increases. However, among those who temp for at least one quarter, a significant fraction has wage increases of at least 10 percent.

The second part of the paper presents the results of a supplemental survey designed to measure other types of employment outcomes and the fit between temps' employment objectives and those outcomes. Those who became temps to find a permanent job did so at about twice the rate of those who said that they signed up for other reasons. And those with a longer-term outlook – either to keep temping or to take the time to find the right permanent job – were more likely to realize wage increases of at least 10 percent. Taken together, these results suggest that positive labor market outcomes can be associated with working as a temp.

¹ Mari Cantwell, Kathryn LaBach, Alice Mark, Beth Neilson, Margaret Ormiston, Nora Osganian, and Claudia Hernandez provided excellent research assistance. All errors are our own.

Introduction

The temporary staffing industry was one of the most rapidly growing and dynamic parts of the service sector in the last two decades. Prior to the 1980s, the staffing industry provided primarily secretarial-type office help to white collar workplaces. During the 1980s, the industry greatly expanded its role in providing blue collar workers to manufacturing and other segments of the economy (Segal and Sullivan, 1997a). And in the 1990s, the staffing industry diversified yet again, branching out to supply technical and professional workers – including computer programmers – at a time when such specialized skills were in great demand. At the same time, the industry continues to innovate in how they supply temps in their traditional domain. Temp agencies have expanded rapidly into the occupations needed to staff call centers and other growing types of white-collar support work, and have taken on the management of entire functions and departments of hourly workers that their customers have decided to outsource.

Yet, despite the rapid growth in temporary staffing agencies, little is known about the nature of work in the industry beyond broad employment trends and a handful of cross-sectional surveys conducted by the Bureau of Labor Statistics. This paper provides the first comprehensive look into the duration of temporary job assignments and the attendant longitudinal employment histories of temporary employees.

The data analyzed in this paper consist primarily of all the United States payroll records from a small group of staffing agencies for 1995-99. This was a period of rapid employment growth in the U.S., with temporary staffing agencies accounting for a disproportionate fraction of net job growth (Katz and Krueger, 1999). The first part of the paper establishes the basic characteristics of the staffing assignments in terms of wages, occupation, and duration. We then

analyze longitudinal employment histories, including the incidence of repeat spells, and wage growth both within and between spells.

In order to develop a deeper understanding of the factors that lead to differences in employment histories, a supplemental survey was administered to a subset of the temps to obtain data not contained in the payroll records. The third part of the paper presents some analysis from this survey, covering topics such as motivation for becoming a temp, prior employment history, and training access and utilization. We conclude with a discussion of the implications and avenues for future research.

Previous research

There is a lack of good comprehensive data on temporary jobs. Most of what we know is derived either from cross-sectional data such as the Current Population Survey and other government surveys or from case studies of individual work sites. Such data provide a good basis for analyzing trends in the growth of temporary jobs and for comparing the wages of temporary and permanent jobs. However, they are ill-suited for analyzing the duration of individual temporary assignments, the incidence of repeat assignments for temporary workers, and their wage progression within and between assignments. This paper helps to fill that gap.

Wage differentials are a main reason for the concerns raised about the growth of temporary jobs: average wages in temporary jobs for 1983-93 were about 22 percent lower than average wages in all permanent jobs. The evidence on wage differentials shows that temp jobs tend to pay less on average than the “typical” non-temp job. But this differential narrows considerably when differences in skill requirements (education), experience, industry and job type (occupation) are controlled for – falling to as low as 3 percent (Segal and Sullivan, 1997a) in most occupations, and fully disappearing for managerial and professional occupations

(Economic Policy Institute, 1997).² Temporary workers are much more likely to be young, female, nonwhite, unmarried, and inexperienced, having spent much more time out of the labor force and unemployed in the previous year (Segal and Sullivan, 1997a). Temporary jobs traditionally have also been disproportionately concentrated in low-wage occupations, though evidence suggests that this is changing in the 1990s as temporary agencies focus on expanding their placements of high skill workers (American Staffing Association, 2001).

Temporary jobs are typically transitional in nature. This is clear both from their definition, and from empirical evidence (Segal and Sullivan, 1997a; Houseman and Polivka, 2000; Farber, 2000). Segal and Sullivan (1997a) find that about one-quarter of temp workers appear to maintain that status from one year to the next in the Current Population Survey. Yet comparing temp status during a month in one year and the comparable month a year later – as Segal and Sullivan do with the CPS – provides no information on whether the person was employed as a temp during the intervening eleven months.

Despite rapid rates of growth in the 1980s and 1990s, temps still make up a small fraction of all jobs in the U.S. economy at any point in time. Temporary jobs accounted for about 2 percent of all jobs in the mid-1990s and an even smaller fraction of primary jobs among multiple job-holders – only about 1 percent. Yet temp jobs may play a much larger role in the labor market than these data suggest. Segal and Sullivan's (1997b) analysis of quarterly unemployment insurance records from Washington State revealed that about twice as many people work as temps at some point during the year than during any given quarter.³ This is

² However, this does not control for differences in benefits.

³ They estimate about 1.5 percent of workers in Washington State in 1992-95 were temps during a given quarter of the year, about 3 percent temped at some point during the year, and about 4.5 percent temped at some point during a two-year period.

consistent with Houseman's (2000) finding that many firms use temporary positions to screen for permanent workers.

What is missing from the literature is a deeper understanding of the dynamics of temporary employment and the role that temp jobs play in workers' job search and career development strategies. The evidence from the past twenty years suggests that in many cases temp jobs may be the new ports of entry for workers in an expanding set of occupations throughout the labor market. In other settings temps and contract workers more generally may play key roles on self-contained projects (i.e. of limited duration). But what this means for someone's prospects for advancement while working as a temp and/or finding a permanent job through temping is still largely unknown.

This paper fills that gap in two ways. First, we provide a comprehensive analysis of employment durations and wage progression for all the temps at a small number of agencies with offices in all 50 states. Second, a survey of a subset of the temps revealed additional details on their motivations for becoming a temp, training and skill building while working as a temp, and success at finding permanent jobs through temping. By differentiating on the basis of divergent motivations for becoming a temp, and linking the survey results back to the payroll records, we find significant differences in outcomes (wage progression; training; finding a permanent job) that are consistent with workers' different objectives for entering temporary employment.

Payroll records analysis

The data analyzed in the first part of the paper consist of all the United States employment records from a sample of staffing firms with national representation for 1995-99. The data account for a significant fraction of all U.S. assignments in the industry and cover temp assignments from every state, ensuring a geographically diverse picture of the industry that

includes all major metropolitan areas. The technical appendix (available upon request) contains a discussion of the representativeness of the data.⁴

In order to help preserve anonymity for the companies, the number of observations for many of the calculations below are not reported. However, the reader should rest assured that the typical cell size for the vast majority of the reported statistics is very large, ensuring a high degree of statistical precision. This holds even in cases where a cell may account for a relatively small fraction of the observations.

While basic statistics on temporary employment spells – such as how long they last, the types of skill demanded, the wages paid for each type of skill, and the incidence of repeat spells – are fundamental to our understanding of the nature of temporary employment, surprisingly little is known along these dimensions. The existing empirical evidence often comes from cross-sectional government surveys that have no information on duration of assignment, nor much information on the nature of the job beyond Standard Industrial Classification occupation codes that may bear little semblance to the work actually performed.

The data analyzed here by contrast are quite rich. Both the number of hours worked by a temp at each company and the wages paid are known with certainty. Moreover, each assignment is classified using a detailed occupation coding scheme (e.g. basic versus advanced word processor). This enables an accurate portrait of the true length of assignment at a company, the nature of work performed, and the relationship between both of these and the wage paid. Unfortunately, the data contain no information on the demographic characteristics of the

⁴ Autor's (2000) evidence shows that agencies providing free training pay less for a given skill set than agencies that do not provide free training, though the wage difference is only three percent on average. In addition, agencies offering training report being more selective in hiring than other agencies. Thus any subset of agencies, such as those used here, is bound to lack representativeness along some dimensions of the wages paid, selection and training criteria relative to the population of temp agencies.

temporary employees. That is one of the reasons why we conducted a supplemental survey, the results of which are discussed below.

The basic unit of analysis in the payroll records data is the summary information for a week of employment at a single assignment. There may be multiple assignments at a single company that occur during the same week, in consecutive weeks, or in nonconsecutive weeks, each of which would contribute separate observations in the data. For example, someone with basic office and computer processing skills might work half a day as a receptionist, two days as an administrative assistant, and one day as a word processor – *all for the same company in the same week*. These three assignments would show up in the payroll records data as three different observations. Of course, if the person worked the three assignments at different firms, that would also yield three different observations.

Constructing employment spells

For the first part of the analysis, each payroll record is treated as a unique observation. However, aggregation of payroll records is required for the analysis of employment spells in the second part of the paper. This presents a problem when dealing with concurrent or consecutive assignments for two reasons, one conceptual and one practical.

The conceptual problem is that it is not obvious that multiple concurrent and/or consecutive assignments at the same company should be treated as equivalent to assignments at different companies. According to interviews with representatives from the temp agency, it is not uncommon for a customer to request a temp for a multiple-assignment job. In such cases the duration of the employment spell is clearly determined by the beginning date of the first assignment and the end date of the last assignment. Likewise, in a permanent job someone may be hired to perform a variety of different tasks rather than just one.

In other cases the customer might request only one assignment initially, but add other assignments after the temp has started working the first assignment. For the purpose of analyzing completed employment spells, this scenario may appear to be different than the case where multiple assignments are requested up front, but it is not. When analyzing completed employment spells what matters is not the expected duration of the assignment *ex ante*, but the final duration *ex post*.⁵ Thus in cases such as these the duration is again determined by the beginning date of the first assignment and the end date of the last assignment.

The practical problem is that the payroll records data does not include a unique assignment id, only a unique person id and company name: two different assignments at the same company at similar times can be told apart only by differences in the occupation code and/or wage. Yet it is possible for either or both of these to change during an assignment. The wage can change if the temp employee or the temp agency finds that the responsibilities of the job have increased. The occupation code can change, particularly in cases where the exact nature of the job is not known when the assignment first starts. In such cases, a general occupation code (e.g. general office help) may be entered initially, and then replaced by a more accurate, specific occupation code later on. Thus, in light of both the conceptual and practical problems of treating every assignment as a unique employment spell, multiple assignments at the same company at similar times were combined together as part of the same employment spell.

One further data issue requires discussion: assigning an end date for the spell. Only one date is recorded in each payroll record, corresponding typically to the end of the week. Yet the actual day of the week could vary depending on the billing system of the customer firm. Moreover, no payment record is created when a week of work is missed due to illness or

⁵ Note that the same issue holds for the duration of a single assignment: the expected (*ex ante*) duration and actual (*ex post*) duration may easily differ. What we usually analyze is the actual duration.

vacation. Consequently, adjacent payroll record dates within an unbroken employment spell could be more than one week apart.

Consultations with temp agency representatives revealed that it is reasonable to have such adjacent payroll records – representing the same employment spell – with a difference in payment dates of up to three weeks. Thus three weeks was chosen as the cutoff: any assignments at the same firm/customer with payroll record dates as close together as 20 days or fewer were combined together as part of the same employment spell. Those with payroll record dates at least 21 days or more apart were separated into different employment spells.

Wages

Table 1.A contains the average wage earned by each of the major occupation groups⁶ in the data for each year 1995 through 1999, and the growth in average wages within each occupation group as well. Table 1.B reports the same for median wages within each occupation group. The patterns in the two sets of tables are consistent with anecdotal evidence on changes in the temporary staffing industry. They also indicate some of the limitations of data such as these.

As expected, office support and industrial assignments tend to pay much less than many technical and professional assignments. They also exhibited slower wage growth during this period, which is consistent with industry reports of much faster growth in demand and revenue for professional workers (American Staffing Association, 2001). Despite this, gains in average and median wages for most occupations outpaced inflation during this period,⁷ mirroring trends in average wages in the economy (Mishel, et al., 2001).

⁶ Almost all occupation groups in the tables are aggregates of more narrowly-defined occupations.

⁷ The figures in the tables are nominal dollars.

Among the professional and technical occupations, the wage gains for some are strikingly large. For example, both average and median wages for accountants grew by 16 percent *per year* during this period. Database managers saw their median wages grow 39 percent *per year on average* between 1995 and 1999; the growth in their average wages was even larger – 59 percent per year (annualized).⁸

We think there are two factors underlying these numbers. First of all, it is virtually guaranteed that the kinds of skills demanded from database managers paid \$8.04 in 1995 (nominal dollars) differ dramatically from those paid \$31.92 in 1999. Thus these wages undoubtedly represent an upgrading in skill demands and/or reclassification of jobs as these agencies followed the staffing industry and moved “up market” in finding ways to supply higher skill – and more highly paid – employees on a moment’s notice. Secondly, such a large wage difference implies large skill differences as well, such that different people are both qualified for and filling the lower versus higher wage jobs. Yet, as the analysis below shows, a significant fraction of temps experience rapid wage growth, albeit of a much, much smaller magnitude than the four-fold increase for database managers.

While some of the very fast wage growth for database managers and accountants is certainly skill upgrading, part of it undoubtedly represents higher wages for a given level of skill, too. This reflects the relative supply and demand for certain skills in the labor market. Temps are the first to be hired and first to be fired in many organizations: they are used to buffer the core workforce from both excessive hiring (in response to temporary demand shocks) and excessive firing (in response to cyclical downturns). During the prolonged economic expansion of the late 1990s, it was common to read of employers complaining about a shortage of skilled labor (e.g.,

⁸ These numbers are not caused by data entry, as they represent the information from actual weekly pay slips. And the cell sizes used to calculate each statistic have more than 400 observations per year. So it is not an artifact of

Chambers, et al., 1998). Companies often turned to temp agencies as a way to find such skilled labor, which in turn translated into more orders and thus, it would appear from Tables 1.A and 1.B, higher wages. This is consistent with Katz and Krueger's (1999) evidence that temp agencies accounted for a disproportionate share of net employment growth during this period.⁹

The latter half of the 1990s was characterized by rising real wages and tight labor markets throughout the U.S. economy (Katz and Krueger, 1999; Mishel, et al., 2001). Coupled with the widespread media reports of unfilled permanent jobs for highly-skilled positions, the average annual median nominal wage rises for temps of 9 percent for technicians, 7 percent for computer operators, and 6 percent for lab technicians seem quite reasonable. Moreover, median nominal wage rises of 6 percent for administrative/secretary/receptionist, 5 percent for casual laborers, and 6 percent for drivers are also consistent with evidence from other sources as well.

Spell and employment durations

While the figures in Tables 1.A and 1.B are interesting, the compositional issues discussed above limit their usefulness. Most notably, we have no way of knowing in this cross-sectional approach to the data whether the same people from year to year receive the aggregate wage gains. In order to address this we now turn to the assignment spell and longitudinal employment history information.

Tables 2-6 present the time series distributions of hours, hourly wages, income and spells for each temp in each year 1995-1999. One of the most striking features from these tables is the very short duration of the temping experience for many people: about one quarter of all temps each year in these data work one week or less with these agencies, with five percent working a

statistical imprecision due to extremely small cells.

⁹ Temp agencies accounted for 8.2 percent of net nonfarm payroll employment growth from 1992 to 1998, even though they accounted for only 2.2 percent of all jobs as of 1998 (Katz and Krueger, 1999).

day or less (Table 2). The twenty-fifth percentile for both hourly wages and total income are also quite low (Tables 3 and 4). As shown in Table 5, these are closely related, as those temps who are paid less tend to work fewer hours as well.¹⁰ And the vast majority of temps work on only one or two assignments in a year, which is not surprising given low number of hours for many temps (Table 6).

Why the prevalence of short-term assignments? Temp agencies have relatively little control over the duration of each assignment. They might refuse to fill requests for very short assignments, e.g. less than one day, but they do so at significant risk to their profitability because many good customers submit requests for both long and short duration assignments. Moreover, interviews with the company representatives revealed that the exact duration of an assignment typically is *not* known when the assignment is filled. A temp agency will request an estimated duration from its customer, but, more often than not, the stated duration typically is an underestimate. So even though an assignment with an expected duration of a day or less might seem unprofitable *ex ante*, a realized duration of longer than one day *ex post* frequently makes such assignments profitable. Short assignments can also serve as a screening mechanism to identify the better temporary employees; in these cases, an individual who is not a good fit for the job may only work one day, but the position could then be filled by someone else.

Figures 1-3 provide a slightly different perspective on the data, graphing the percentage of spells/assignments at least one quarter long, the total hours in a spell, and hours accumulated through the 13th week of the spell's duration (which corresponds roughly to one quarter). The 13th week "mile marker" was chosen because

¹⁰ This is partly due to greater overtime pay among those who work more hours. But a certain proportion is due to higher base pay, as well.

- (a) we wanted a subunit of completed spell length that would enable easy comparison of spells that start in 1995 versus 1999,
- (b) a quarter is a natural subunit of analysis within a year, and
- (c) about 75 percent of temps work less than a calendar quarter's worth of hours each year.¹¹

Figure 1 shows that only about 10 percent of all spells last at least 13 weeks, with a slight upward trend in spell length between 1995 and 1999. The measured total spell hours in Figure 2 falls off in recent years. However, that is an artifact of the right-censoring/truncation that naturally is greater for spells that begin most recently. This can be seen in Figure 3, where the average hours worked through the 13th week appears to be constant on a year-over-year basis, cyclical factors notwithstanding.

How many people work as temps in a year?

The collective evidence on the short duration of both individual assignments at a company and the total hours worked by a temp during a year¹² is consistent with previous results from the literature that temp jobs do not last very long (Segal and Sullivan, 1997; Farber, 2000). Given the often-transitory nature of temp jobs, this is not surprising. It also raises the question of precisely how many people cycle through the ranks of temp employment in a year.

Segal and Sullivan's (1997b) evidence for Washington state indicates that the percentage of people who work as temps over a one year period is approximately twice as high as those who work as temps in a given quarter; over a two year period, the number is three times as high. They

¹¹ The 75th percentile for hours in Table 2 ranges from about 400 in 1995 up to about 460 in 1999. Temps working full-time for 13 weeks will log 455 – 520 paid hours, depending on whether they are paid for 35 hours versus 40 hours per week (which in turn depends on total hours less time off for lunch).

¹² It should be noted, however, that our survey revealed that about one-third of temps sign up with multiple agencies (Table 10). We did not measure hours worked as a temp at other agencies, and so cannot include that in our figures for total hours worked as a temp during a year. Thus the numbers in Table 2 are lower bound estimates for an unknown fraction of the temps in our data.

calculate this statistic from payroll records for the entire population of workers in the state, including both temps and those who never work as temps. In our case, we have data from the entire country, not just one state. So we should be able to provide additional insight as to whether that phenomenon applies in the rest of the country, and whether it applies for individuals who move between states and stay with the same temp agency.

The main problem is that we observe only those people who work as temps for a subset of the temporary staffing agencies, and so cannot calculate the exact same statistic without making some identifying assumptions. Because we have the complete payroll history for this subset of staffing agencies, we can ask the question, “Of all those who work as temps in a year, how many work during a given period during the year?” The answer is graphed in Figure 4.

Figure 4 shows that 15-20 percent of people who work as temps in a year in these data do so during a given week. Of course, the fraction who work in a given month or quarter is higher: about 25-30 percent and 40-45 percent, respectively. The data also show a high degree of cyclicity, with the lowest employment in the first quarter and highest in the last quarter. This cyclicity is also evident in Figure 3, which shows that average hours worked through the 13th week is much lower for spells starting in the fourth quarter. This indicates a much higher fraction of seasonal assignments coinciding with the holiday shopping season at the end of the year.

These figures are very comparable with Segal and Sullivan’s numbers for Washington State. The direct comparison is possible only with the quarterly employment data. Segal and Sullivan found that about one and one half percent of all workers in Washington State were temps during any given quarter in the early 1990s, and about three percent of workers temped at some time during the year during this period. Taking the ratio of these, about half of those who temp at some time during the year do so during any given quarter in Washington State; this is the

number that we need to compare with our findings. Comparing this to the top line in Figure 4, we see a comparable rate of 40-45 percent in our data drawn from across the U.S. for the late 1990s. We also calculated these statistics for the data solely from Washington State in our sample and found similar, though slightly lower numbers than those in Figure 4.

The period covered by Segal and Sullivan's data represented a very different stage in the business cycle than ours (recession and early recovery versus boom period). We think that this is the most likely explanation for why our data show faster cycling in and out of temp employment, as there were much better alternatives to temp jobs in the late 1990s. Of course, Segal and Sullivan's data for Washington State represented all of temp agency employment, while ours is from a small subset of all agencies. Thus compositional differences likely play a role as well. Regardless, the overall similarity in their estimates and ours suggests that, at least on this dimension, our data seem indicative of temp employment more broadly.

What is interesting about the results in Figure 4 is what they imply about the flow of people through temp employment. The series on weekly flows shows that about five to six times as many people work as temps during the year than during a given week; while the figure is about four times larger for monthly temp employment. By 1999, average daily employment in the temp industry stood at approximately 2.4 million people (Brogan, 2001). If we assume that the flow figures in Figure 4 are typical of the industry average, we can use the weekly employment flow data to scale up average daily temp employment by five to six times. Doing so yields a figure of about 12 to 14 million people who worked as temps at some time during the year in 1999, or approximately 10 percent of the labor force. While many such people spent only a fraction of the year working as temps, the clear implication is that temp agencies today play a role in the labor market experience of a very large segment of the American work force.

Wage increases

In light of the generally transitory nature of temp employment and small number of hours worked by temps in these data, it is natural to ask whether it is possible for someone to advance while working as a temp. In the next section we take up the issue of training, skill development, and finding a permanent job. Before looking at those aspects, here we first ask whether it is possible to advance in terms of getting increased wages while working as a temp.

The first piece of evidence on this is reported in Table 7, which presents average hourly wage growth between the first and last week worked each year for each temp.¹³ As expected, those who work for only short periods of time realize virtually no wage growth on average: only about 1 percent growth for those who work for one quarter or less (Group A). Wage growth among those who work for more than a quarter, but no more than 900 hours during the year is about 4 percent; while wage growth for those working the longest (900+ hours) averages a robust 7-8 percent between the first and last weeks worked during the year.

Table 8 addresses how this wage growth is distributed among the members of each of these groups, reporting the percentage with relatively large (10 percent or more) wage growth during the year. Not surprisingly, those who work the fewest hours have the smallest fraction with large wage growth: 6-7 percent. What is striking are the fractions of those whose work as a temp spans at least one quarter¹⁴ who experience such large wage growth in a year: more than twenty percent of those who work less than 900 hours, and more than twenty-five percent of those who work more than 900 hours. Thus a large segment of temps with longer work histories experiences fairly substantial wage growth each year. However, it should be noted that a significant fraction of temps experience *falling* wages during a given interval as well, reflecting

¹³ Note that the first and last weeks worked during the year do not necessarily correspond to the end points for a spell if the assignment bridges adjacent years. The issue of wage growth within a spell is taken up later on.

the somewhat random nature of the availability of good assignments at any point in time. More details on this are provided in a later section containing the analysis of the survey data.

Figures 5 and 6 and Table 9 provide additional evidence on how the wage growth happens within versus between spells. Figure 5 shows that 15-20 percent of all spells lasting at least one quarter (13 weeks) have base pay growth of at least 10 percent over their entire duration. Figure 6 shows that about half of these spells (8-10 percent of those lasting 13+ weeks) attain 10 percent or more of their wage growth by the end of the 13th week. If growth in average wages, which includes overtime pay, is considered, then the fraction increases to about 15 percent of all spells. Thus a substantial amount of wage growth happens within spells, and much of it within one calendar quarter.¹⁵

Table 9 reverts back to considering wage growth for an individual temp throughout the year, asking the question “How much of the progress is due to wage growth within versus between spells for those who work as temps for at least half the year?” Interestingly, just about half of all temps with such large wage growth within a year achieve that through working on only one assignment, whereas the other half do so while working on two or more assignments.¹⁶ Thus there does not seem to be a simple story about how wage progression happens.

Finally, it should be noted that we do not know why the wage increases occur. The four most likely explanations are successful completion of the screening period, improved matching,

¹⁴ Defined as at least 90 days between the first and last dates worked in the year.

¹⁵ The spells in the figures are graphed on the basis of the actual starting date for the spell. In contrast, the wage growth measures in the tables look only at weeks worked during the year. To do this, any spell that bridges adjacent years is split according to the year in which the work was done and assigned accordingly. Thus the data in the tables consist of both completed spells that start and stop in the same year along with truncated spells that span years.

¹⁶ This could happen by transitioning from a lower-paying to higher-paying assignment. However, the progression could also happen entirely within one of the assignments. If that assignment is the first one during the year, then the implication is that the higher wage is maintained into the second assignment. Another possibility is that an earlier dead-end assignment gives way to one with rapid wage growth. Also, the two different assignments could happen either at separate employers or at the same employer with a significant gap between them.

skill building, and the random nature of temp assignments. Improved matching occurs when the person accepts an initial assignment (or assignments) with the agency as quickly as possible to earn money right away. The same dynamic is at work during a screening period, only in this case it is the temp agency that might restrict access to higher paying assignments until the person has proven him or herself in an initial lower-paying assignment.

Digging deeper: The survey

The payroll records results shed light into the employment experiences of temps:

- Most temp assignments are short, and most people who temp do so for only part of the year.
- The number of people who work as temps at some point during the year is four to six times greater than the number working as temps during any given week or month.
- Among those who temp for at least three months, rapid wage growth is achieved by a significant minority.

Yet these results also raise additional questions:

- Why do people become temps, particularly during a period when regular (non-temp) jobs seem to be plentiful?
- Aside from wage increases while temping, what other types of outcomes occur?

To address these issues, we administered a survey to a representative sample of the temps from these agencies.

How temporary is temporary employment?

Despite that fact that temporary jobs are by definition short-term in nature, several factors suggest that long-term employment in the temporary staffing industry increasingly may be viewed as part of a career path by many workers. Firms' continuing movement to project-

oriented modes of production means that certain jobs may be available only to those willing to work as temps and independent contractors. Anecdotal evidence also indicates that temp agencies appear to be playing a broader role in the labor market as they take on the management of entire functions and departments of hourly workers that their customers outsource.

In the face of rising litigation costs for firing regular workers, firms may be increasing their use of temp assignments to audition workers for regular jobs (Autor 2000, Houseman 2000). Thus, for employees seeking these core jobs, working first as a temp may be the only way to get hired. In many cases the temps are screening as well, using their assignments to decide for which firm/manager they want to work; for more on this strategy, see our survey results below on those temps we classify as “selective perms.” Moreover, the absence of high-paying regular jobs can make a series of temp assignments attractive, a particularly salient consideration for low-skill workers in today’s labor market.

Other factors suggest a sporadic use of temporary employment over time for certain types of workers. These include students who want to earn extra money while in school, and those – typically women – whose childcare and family responsibilities make temporary assignments attractive as an alternative to regular, part-time jobs. Temporary employment also may be a viable option for workers looking to improve their skills through the free training provided by many agencies (Autor, Levy, and Murnane 1999), particularly because companies concentrate their training budgets on those who are most highly educated (Lynch and Black, 1998).

Two of the four motivations (the permanent transformation of some jobs into temp/independent contractor positions; the overall lack of high-paying, low-skill jobs) imply that some temps should have either long, uninterrupted spells of employment at one company, or a series of short-term assignments strung closely together, or a combination of both. The other

motivations – obtaining free training, auditioning for a regular job (a.k.a. “temp-to-perm”), and a desire for intermittent employment – suggest a one-time or sporadic use of short temporary assignments. Wages should increase substantially in those cases where significant skill acquisition occurs over time through training or on-the-job learning, or the fit between the person’s skills and temp assignments shows marked improvement.

Survey design

In order to focus on individuals with significant temp experience, we surveyed only those who had temped for at least 80 hours in a six month period. This excluded about one-third of temps at these agencies (Table 2). Those surveyed included temps working on industrial, clerical, and technical/professional assignments. The surveys were mailed approximately two months after the end of the six-month qualifying period. Thus, at one agency, the qualification period was August through January, and the survey was mailed at the end of March. All surveys were mailed in either 2000 or 2001.

A total of 27,098 surveys were mailed: 20,598 to industrial and clerical temps and 6,500 to professional/technical temps.¹⁷ Included among the industrial and clerical group is an oversample of 5,250 temps who were more likely to have had fast wage increases during the qualification period.¹⁸ This group is excluded from the calculations underlying Table 12. The remainder of the industrial clerical sample was drawn from a combination of random national sampling (from among all temps working at the agencies) and two-stage random sampling using

¹⁷ The proportion of professional/technical versus industrial/clerical temps is not necessarily indicative of their proportions among the population of temps at these agencies. The 6,500 number for the technical/professional group was chosen to ensure a sufficiently large enough set of returned surveys to facilitate statistical analysis. Confidentiality concerns prevent us from revealing what the population distributions are.

¹⁸ For technical reasons, when selecting for the sample we could only construct the difference between the maximum and minimum wage earned during that period. We included in the oversample all those with at least a five percent difference in wages as those most likely to have had fast wage increases. Yet this group includes both those

a representative group of offices.¹⁹ In order to induce as high a response rate as possible, all survey respondents were entered in a drawing for a bonus payment.²⁰

In all, 4,500 usable surveys were returned, for a 16.6 percent response rate. Among those who returned surveys, over 70 percent worked for the agency at which they were surveyed in the two months immediately following the qualification period but before the survey mailing date; in contrast only about 55 percent of those not responding worked for the agency during this period. This suggests that the transient nature of temp employment may have kept the response rate low.

This conclusion is bolstered by the results of follow-up phone calls that were made to 2562 industrial and clerical temps who were sent surveys. The phone calls took place after a follow-up mailing and about eight weeks after the initial survey mailing date. Of these, 576 appeared to have become invalid numbers by the time the calls were made,²¹ despite the fact that these telephone numbers were used by the agency to contact their employees for assignments. This also suggests that the mailing addresses used for these temps likely were invalid as well. If we extrapolate this to the entire sample, it suggests that an additional 22.5 percent of the survey non-respondents should be excluded from the total when calculating the response rate. Doing so yields an adjusted response rate of 21.4 percent ($=4500/21001$) for the entire sample.²²

whose wages *fell* by at least five percent along with those whose wages *rose* by at least five percent. (The results in Table 10 suggest that the latter outnumber the former by a ratio of at least two to one.)

¹⁹ First a representative sample of 100 offices specializing in industrial and clerical assignments was selected. A random sample of 7,500 temps from within those offices was then drawn for inclusion in the sample. These were drawn after the national random sample. Thus the total number of temps sampled from these offices totaled 8,441. The response rate for those drawn from the office-based sample was virtually identical to that for the random national sample.

²⁰ The amount of the payment varied across agencies. The results from two different pilot tests of the survey at one agency suggested that the bonus alone likely increased the response rate by three to four percentage points.

²¹ The phone was disconnected (378), the person did not live at the residence (65), the person had moved (9), it was a wrong number (124), or some other reason such as armed forces/death/jail (20).

²² The response rate for the professional/technical temps was higher than for the industrial/clerical (by about five percentage points). So assuming that the professional/technical temps had the same degree of transitory behavior inducing non-response is probably an overestimate. (We do not know what the true figure is for them because telephone calls were made only to the industrial and clerical temps.) But the professional/technical temps are a

Because the temps included in the survey were sampled from archival wage records, we can use the wage records to compare the respondents and non-respondents. Specifically, during the qualification period, respondents on average had greater hours (538 versus 464), total income (\$7,385 versus \$5,794), and average hourly wages (\$12.61 versus \$11.37). Average growth in base pay was virtually identical for respondents and non-respondents (3.73 percent versus 3.21 percent). During the preceding four and a half years, the respondents similarly had larger values for hours (1,568 versus 1,137), total income (\$21,540 versus \$14,910), average hourly wages (\$12.32 versus \$11.18), and growth in base pay (13.17 percent versus 11.03 percent).²³ Thus respondents were better paid and worked more hours as temps than the non-respondents.

Survey results

Table 10 contains the demographic information on the survey respondents. The most obvious conclusion from the patterns is that the survey respondents are drawn from quite varied backgrounds. Almost one-third have no more formal education than a high school diploma or trade certification, while about one-quarter have at least a four-year college degree. The average age is 38 years old; women comprise a slight majority. Temping is part of a dual strategy for many: almost one-fifth are students in addition to temping; a comparable number work another (non-temp) job at the same time. On average, temp income contributes more than half of total family income. And there is an even split between those who came to temping from the ranks of the unemployed and those who came directly from another job, with a much smaller number going from out of the labor force to temping.

relatively small fraction of the entire sample, so such a correction would not alter the adjusted 21.4 percent response rate very much.

²³ These are all averages conditional on working (i.e. hours greater than zero).

The disparate backgrounds of the survey respondents suggest that they likely have different motivations for temping. This is evident in Table 11, which shows how the sample breaks down by the following reasons individuals cited for temping:

- Short-term temps: want to find short-term work as a temp
- Long-term temps: want to find good temp assignments on an ongoing basis
- Short-term perms: want to use temp assignments to find a permanent job as quickly as possible
- Selective perms: want to use temp assignments to find the right permanent positions to meet their needs

These categories describe both whether someone looks at temping worth pursuing on its own merits (“temps”) or as a means to getting a different job (“perms”), and whether the outlook is immediate (“short-term”) or more open-ended (“long-term/selective”).

There are two aspects of the classifications in Table 11 that bear noting. First, the survey asked retrospectively about the person’s reason for becoming a temp. Thus there is a significant potential for bias due to *ex post* updating. This is of particular concern for those who signed up looking to temp for only a short time yet who ended up temping longer than they expected, and for those who initially were only looking for a permanent job but later came to appreciate the positive aspects of temping.

Second, the respondents were forced to choose only one response among the four. Yet many people undoubtedly had multiple reasons for temping. So those whose primary motivation for temping is to find the right permanent job, for example, likely also want good temp assignments on an ongoing basis until they secure that job. Thus the categories more accurately describe shades of difference in motivation across individuals.

We find the selective perm group to be the most interesting in certain respects. The fact that they say they want to find the “right” permanent position indicates a potential for sticking with temping over an extended period. Now compare this with the Bureau of Labor Statistics classification of temps, which does not recognize the duration aspect of temping. Under the BLS definition, both the short-term perms and the selective perms are grouped together because they both hope that temping will lead to a permanent job (Levenson, 2000). Yet the selective perms’ longer-term outlook suggests that they are better candidates to take advantage of training and other skill building opportunities while temping.

This is evident in Table 12, which provides the details on training usage and skill building while working as a temp for the agency. Note that in many respects the selective perms and the long-term temps look more similar to each other than to the other two groups. They rank first and second in being offered training, taking training (conditional on being offered it), and the extent to which marketable skills were acquired by temping (a self-reported measure). Short-term perms, in contrast are about ten percent less likely to be offered the free agency-provided training, and short-term temps are up to ten percent less likely to report acquiring marketable skills while temping.

Of course, training and skill building are typically viewed as means to achieve the end of positive job outcomes. To what extent this happened is shown in Table 13, broken down by reason for becoming a temp. Two different types of outcomes are detailed: finding a permanent job (first column), and significant wage growth (ten percent or more) in the year the person worked the largest number of hours as a temp, out of 1999 or 2000 (second column). The third column gives the percentage of those having one or both of these outcomes. It is less than the

sum of the first two columns because some people in each “reason for temping” group both had fast wage growth and found a permanent job.

It should be noted that the fixed time frame design for the survey means that the percentage finding a permanent job is a lower bound: others who were temping at the time of the survey undoubtedly found permanent jobs subsequently. Anyone using temping to supplement a “regular” job should be excluded from this group as well.²⁴ On the flip side, not everyone who found a permanent job indicated that the job arose via a temp assignment with the agency. In fact, only about one quarter of short-term temps and long-term temps who found perm jobs did so via a temp assignment with the agency. A much higher fraction – about half – of both short-term perms and selective perms who found perm jobs said that the agency was directly responsible.²⁵ The latter used temping through the agency as a much more active means of finding permanent jobs, which is consistent with their stated reasons for becoming a temp.

A final look into the nature of employment and advancement as a temp is provided in the final column of Table 13. This shows that about eight percent of temps in each group had *negative* wage growth in the year they worked the most hours (out of 1999 or 2000). This is not surprising if one considers that many temps may take whatever assignment is available in order to make ends meet. Thus negative wage growth likely indicates a lucky initial assignment (or unlucky ending assignment) during the year. In this sense it is important to remember that wages and skill are not synonymous.

It also is important to reconsider the rapid positive wage growth figures in the second column in light of the negative wage growth numbers in the fourth column. If the random nature

²⁴ The questionnaire’s wording was “I have accepted a permanent job and am no longer taking temporary assignments.” Only those indicating “yes” to this question were coded as having found a permanent job.

²⁵ Specifically, if they said “yes” to accepting a permanent job and no longer temping, they were asked whether the permanent job was obtained through an assignment with the agency.

of temp assignments can yield a combination of lucky initial assignments and/or unlucky ending assignments, producing the fraction of temps with negative wage growth in the final column, similar forces may be at work in the second column. In other words, not all of the strong positive wage growth is necessarily indicative of the typical wages available to these temps. If so, then we should discount the column two number accordingly. One way is to assume that the degree of randomness that produces wage growth is comparable in both directions, negative and positive. This would reduce the fraction of temps with rapid positive wage growth by a little less than half.²⁶

Conclusion

Our analysis of payroll and survey data for a large sample of temporary employees revealed a number of insights into the nature of temp employment:

- Most temp spells are very short. The median hours worked as a temp equate to about one month per year.
- Many more people temp at some point during the year than during any given week or month – about four to six times as many. As a consequence, a large fraction of the U.S. workforce, perhaps as much as ten percent, may have some temp experience in a given year.
- Among those who temp for short periods of time, little progress occurs in terms of wage increases. However, among those who temp for at least one quarter, a significant fraction has wage increases of at least 10 percent.

²⁶ However, this likely is an overadjustment, as the fourth column includes all temps with *any* negative wage growth, no matter how small, whereas the second column includes only those with positive wage growth of *at least ten percent*. The fraction of temps with negative wage growth of at least ten percent is undoubtedly much smaller than the figures in the fourth column. Similarly, the fraction of temps with any positive wage growth is undoubtedly much larger than the figures in the second column.

- Those who became temps to find a permanent job did so at about twice the rate of those who said that they signed up for other reasons.
- Those with a longer-term outlook – either to keep temping or to take the time to find the right permanent job – were more likely to realize wage increases of at least 10 percent.

Taken together, these results suggest that positive labor market outcomes can be associated with working as a temp.

Yet our conclusions are also tempered by the limitations of these data. We have data on temps from every state in the U.S., but the sample is drawn from a small number of temp agencies. The retrospective nature of the survey means that we do not know whether the stated reasons for becoming a temp accurately reflect the temps' mindsets when they first signed on with the agency, or whether they were altered due to *ex post* updating. Moreover, the point-in-time nature of the survey means we know little about how training and development opportunities evolve over the course of temping.

Despite the limitations, these data represent a significant advance in our understanding of the dynamics that underlie the experiences of many temps in the U.S. labor market. It is our hope that future research, most notably longitudinal studies, will be able to shed additional insights into this type of work that has taken on a much more prominent role in the lives U.S. workers in recent decades.

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Table 1.A: Average Wages and Growth Rates by Skill Group - 1995-1999

Skill Group	Mean Wages (dollars)					Change in Mean Wages (percent)				
	1995	1996	1997	1998	1999	95-96	96-97	97-98	98-99	95-99 (annualized)
Office Support Occupations										
Clerks number >400	\$6.90	\$7.28	\$7.66	\$8.12	\$8.61	5%	5%	6%	6%	5%
Administrative, Secretary, Receptionist, Telephone- related number >400	\$7.95	\$8.55	\$9.35	\$9.98	\$10.55	8%	9%	7%	6%	7%
Word Processors number >400	\$9.39	\$9.90	\$10.50	\$11.06	\$11.75	5%	6%	5%	6%	5%
Bank Tellers, Cashiers number >400	\$6.25	\$6.53	\$6.68	\$7.04	\$9.05	5%	2%	5%	29%	9%
Other Office Services number >400	\$7.96	\$8.74	\$9.40	\$9.65	\$10.03	10%	8%	3%	4%	5%
Bookkeepers number >400	\$7.57	\$7.97	\$8.28	\$8.80	\$9.16	5%	4%	6%	4%	4%
Call Center Operators, Customer Service Representatives number >400	\$7.42	\$7.51	\$7.68	\$7.83	\$8.85	1%	2%	2%	13%	4%
Other Information Processing number >400	\$7.25	\$7.67	\$8.06	\$8.64	\$9.00	6%	5%	7%	4%	5%
Industrial Occupations										
Assemblers number >400	\$6.47	\$6.71	\$7.17	\$7.53	\$7.91	4%	7%	5%	5%	4%
Casual Laborers, Industrial Workers, Misc. Industrial number >400	\$6.32	\$6.61	\$6.97	\$7.28	\$7.66	4%	5%	4%	5%	4%
Drivers number >400	\$6.73	\$7.10	\$7.80	\$8.13	\$8.12	6%	10%	4%	0%	4%
Machine Operators number >400	\$6.65	\$6.92	\$7.23	\$7.60	\$7.97	4%	4%	5%	5%	4%
Mechanics number >400	\$8.58	\$9.05	\$9.59	\$9.84	\$10.36	5%	6%	3%	5%	4%
Packaging Workers, Packers number >400	\$6.04	\$6.30	\$6.66	\$7.01	\$7.38	4%	6%	5%	5%	4%
Welders, Solderers number >400	\$7.94	\$8.28	\$8.29	\$8.54	\$8.64	4%	0%	3%	1%	2%
Other Industrial number >400	\$6.52	\$6.93	\$7.21	\$7.64	\$8.37	6%	4%	6%	9%	6%

Table 1.A: Average Wages and Growth Rates by Skill Group - 1995-1999

Skill Group	Mean Wages (dollars)					Change in Mean Wages (percent)				
	1995	1996	1997	1998	1999	95-96	96-97	97-98	98-99	95-99 (annualized)
Professional/Technical Occupations										
Salesperson number	\$8.92 >400	\$8.86 >400	\$9.70 >400	\$12.25 >400	\$10.22 >400	-1%	9%	26%	-17%	3%
Other Marketing Services number	\$6.95 >400	\$7.38 >400	\$7.71 >400	\$8.23 >400	\$8.63 >400	6%	5%	7%	5%	5%
Accountants number	\$11.45 >400	\$13.84 >400	\$15.71 >400	\$16.34 >400	\$20.34 >400	21%	14%	4%	24%	16%
Scientists, Lab Technicians, Research Assistants number	\$11.18 >400	\$11.18 >400	\$12.77 >400	\$15.04 >400	\$14.07 >400	0%	14%	18%	-6%	5%
Computer Operators number	\$11.72 >400	\$12.85 >400	\$14.55 >400	\$14.79 >400	\$16.59 >400	10%	13%	2%	12%	8%
Database Managers number	\$8.04 >400	\$9.02 >400	\$11.27 >400	\$13.18 >400	\$31.92 >400	12%	25%	17%	142 %	59%
Engineers number	\$21.12 >400	\$23.58 >400	\$26.09 >400	\$29.05 >400	\$35.50 >400	12%	11%	11%	22%	14%
Designers, Drafters, Desktop Publishing, Graphic Artists number	\$14.66 >400	\$15.24 >400	\$16.59 >400	\$17.60 >400	\$20.63 >400	4%	9%	6%	17%	8%
Technicians, Technical Sales/Service/Support, Writers number	\$11.53 >400	\$16.40 >400	\$18.59 >400	\$20.36 >400	\$21.03 >400	42%	13%	10%	3%	16%
Misc. Professional Services number	\$9.85 >400	\$11.26 >400	\$13.84 >400	\$17.35 >400	\$17.37 >400	14%	23%	25%	0%	15%
Misc. Computer Personnel number	\$11.45 >400	\$12.71 >400	\$13.06 >400	\$14.58 >400	\$15.41 >400	11%	3%	12%	6%	7%
Misc./Other number	\$10.57 >400	\$11.25 >400	\$12.00 >400	\$10.76 >400	\$12.26 >400	6%	7%	- 10%	14%	3%
Missing number	\$6.95 >400	\$9.38 >400	\$10.89 >400	\$9.59 >400	\$9.67 >400	35%	16%	- 12%	1%	8%

Table 1.B: Median Wages and Growth Rates by Skill Group - 1995-1999

Skill Group	Median Wages (dollars)					Change in Median Wages (percent)				
	1995	1996	1997	1998	1999	95-96	96-97	97-98	98-99	95-99 (annualized)
Office Support Occupations										
Clerks number	\$6.50 >400	\$7.00 >400	\$7.25 >400	\$7.70 >400	\$8.00 >400	8%	4%	6%	4%	5%
Administrative, Secretary, Receptionist, Telephone-related number	\$7.23 >400	\$8.00 >400	\$8.50 >400	\$9.00 >400	\$9.54 >400	11%	6%	6%	6%	6%
Word Processors number	\$9.00 >400	\$9.25 >400	\$10.00 >400	\$10.15 >400	\$11.00 >400	3%	8%	2%	8%	4%
Bank Tellers, Cashiers number	\$6.00 >400	\$6.00 >400	\$6.25 >400	\$6.75 >400	\$7.00 >400	0%	4%	8%	4%	3%
Other Office Services number	\$7.09 >400	\$8.00 >400	\$8.25 >400	\$8.80 >400	\$9.00 >400	13%	3%	7%	2%	5%
Bookkeepers number	\$7.25 >400	\$7.50 >400	\$7.68 >400	\$8.00 >400	\$8.20 >400	3%	2%	4%	3%	3%
Call Center Operators, Customer Service Representatives number	\$7.00 >400	\$7.50 >400	\$7.63 >400	\$7.50 >400	\$8.50 >400	7%	2%	-2%	13%	4%
Other Information Processing Number	\$7.00 >400	\$7.25 >400	\$7.52 >400	\$8.00 >400	\$8.50 >400	4%	4%	6%	6%	4%
Industrial Occupations										
Assemblers Number	\$6.22 >400	\$6.50 >400	\$6.82 >400	\$7.00 >400	\$7.50 >400	5%	5%	3%	7%	4%
Casual Laborers, Industrial Workers, Misc. Industrial number	\$6.00 >400	\$6.25 >400	\$6.54 >400	\$7.00 >400	\$7.42 >400	4%	5%	7%	6%	5%
Drivers number	\$6.25 >400	\$6.71 >400	\$7.50 >400	\$7.86 >400	\$8.00 >400	7%	12%	5%	2%	6%
Machine Operators number	\$6.28 >400	\$6.55 >400	\$7.00 >400	\$7.25 >400	\$7.50 >400	4%	7%	4%	3%	4%
Mechanics number	\$7.75 >400	\$8.00 >400	\$8.24 >400	\$8.53 >400	\$9.00 >400	3%	3%	4%	6%	3%
Packaging Workers, Packers number	\$5.85 >400	\$6.00 >400	\$6.50 >400	\$6.75 >400	\$7.00 >400	3%	8%	4%	4%	4%
Welders, Solderers number	\$7.50 >400	\$8.00 >400	\$8.00 >400	\$8.30 >400	\$8.36 >400	7%	0%	4%	1%	2%
Other Industrial number	\$6.21 >400	\$6.50 >400	\$6.75 >400	\$7.25 >400	\$8.00 >400	5%	4%	7%	10%	6%

Table 1.B: Median Wages and Growth Rates by Skill Group - 1995-1999

Skill Group	Median Wages (dollars)					Change in Median Wages (percent)				
	1995	1996	1997	1998	1999	95-96	96-97	97-98	98-99	95-99 (annualized)
Professional/Technical Occupations										
Salesperson number >400	\$7.00 >400	\$7.50 >400	\$7.80 >400	\$8.00 >400	\$8.50 >400	7%	4%	3%	6%	4%
Other Marketing Services number >400	\$6.50 >400	\$7.00 >400	\$7.00 >400	\$7.50 >400	\$7.76 >400	8%	0%	7%	3%	4%
Accountants number >400	\$10.00 >400	\$12.50 >400	\$13.01 >400	\$15.00 >400	\$17.94 >400	25%	4%	15%	20%	16%
Scientists, Lab Technicians, Research Assistants number >400	\$9.90 >400	\$9.90 >400	\$11.00 >400	\$12.35 >400	\$13.00 >400	0%	11%	12%	5%	6%
Computer Operators number >400	\$11.00 >400	\$12.00 >400	\$13.00 >400	\$13.20 >400	\$14.78 >400	9%	8%	2%	12%	7%
Database Managers number >400	\$6.82 >400	\$7.05 >400	\$10.88 >400	\$8.54 >400	\$20.20 >400	3%	54%	-22%	137%	39%
Engineers number >400	\$18.24 >400	\$20.60 >400	\$23.00 >400	\$25.24 >400	\$30.00 >400	13%	12%	10%	19%	13%
Designers, Drafters, Desktop Publishing, Graphic Artists number >400	\$12.89 >400	\$14.00 >400	\$14.91 >400	\$15.00 >400	\$16.00 >400	9%	6%	1%	7%	5%
Technicians, Technical Sales/Service/Support, Writers number >400	\$9.50 >400	\$11.12 >400	\$12.00 >400	\$13.97 >400	\$14.00 >400	17%	8%	16%	0%	9%
Misc. Professional Services number >400	\$7.50 >400	\$8.00 >400	\$10.00 >400	\$12.24 >400	\$13.50 >400	7%	25%	22%	10%	16%
Misc. Computer Personnel number >400	\$10.89 >400	\$11.64 >400	\$12.00 >400	\$12.48 >400	\$12.00 >400	7%	3%	4%	-4%	2%
Misc./Other number >400	\$9.00 >400	\$9.80 >400	\$10.00 >400	\$9.00 >400	\$9.48 >400	9%	2%	-10%	5%	1%
Missing number >400	\$6.50 >400	\$6.50 >400	\$8.92 >400	\$8.67 >400	\$9.00 >400	0%	37%	-3%	4%	8%

**Table 2: Distribution of hours worked
per temporary employee per year**

Percentile of the distribution	1995	1996	1997	1998	1999
5%	7.8	8.0	8.0	8.0	8.0
10%	12.0	13.0	14.0	14.0	14.5
25%	37.5	40.0	42.6	42.3	44.0
50%	141.0	153.5	162.4	164.0	167.5
75%	405.8	430.5	444.8	452.3	461.0
90%	837.0	874.8	890.5	916.0	929.5
95%	1,243.0	1,294.0	1,318.3	1,358.3	1,381.0

Note: Includes overtime hours

**Table 3: Distribution of yearly hourly wage
per temporary employee by year**

Percentile of the distribution	1995	1996	1997	1998	1999
5%	\$4.68	\$5.00	\$5.15	\$5.48	\$5.65
10%	\$5.00	\$5.10	\$5.45	\$5.75	\$6.00
25%	\$5.49	\$5.75	\$6.00	\$6.29	\$6.66
50%	\$6.12	\$6.50	\$6.96	\$7.22	\$7.62
75%	\$7.05	\$7.50	\$8.00	\$8.38	\$8.93
90%	\$8.51	\$9.06	\$9.85	\$10.20	\$10.88
95%	\$10.04	\$10.97	\$11.91	\$12.68	\$13.32

Note: Nominal dollars - not controlling for inflation

**Table 4: Distribution of total income
per temporary employee by year**

Percentile of the distribution	1995	1996	1997	1998	1999
5%	\$42	\$45	\$49	\$52	\$56
10%	\$72	\$79	\$89	\$94	\$102
25%	\$226	\$256	\$288	\$303	\$330
50%	\$882	\$1,012	\$1,130	\$1,209	\$1,296
75%	\$2,686	\$3,010	\$3,302	\$3,534	\$3,789
90%	\$6,001	\$6,680	\$7,241	\$7,808	\$8,381
95%	\$9,438	\$10,538	\$11,352	\$12,358	\$13,286

Note: Nominal dollars - not controlling for inflation; Includes overtime pay

**Table 5: Average hourly wage for different ranges of total hours
worked in spell by year**

Total hours worked in spell	1995	1996	1997	1998	1999
1-99 hours	\$6.21	\$6.55	\$6.94	\$7.38	\$7.77
100-199 hours	\$6.52	\$6.92	\$7.31	\$7.76	\$8.16
200-499 hours	\$6.78	\$7.23	\$7.66	\$8.14	\$8.61
500-999 hours	\$7.27	\$7.80	\$8.34	\$8.78	\$9.34
1,000-1,499 hours	\$7.79	\$8.80	\$9.28	\$9.93	\$10.47
1,500-1,999 hours	\$8.30	\$9.34	\$10.18	\$10.96	\$11.45
2,000+ hours	\$9.25	\$10.41	\$11.52	\$12.46	\$13.40

Note: Nominal dollars - not controlling for inflation

**Table 6: Distribution of spells
Per temporary employee by year**

Number of spells	1995	1996	1997	1998	1999
1	64.1%	65.5%	67.1%	67.6%	69.3%
2	18.8%	18.5%	18.1%	18.2%	17.8%
3	7.6%	7.3%	7.0%	6.9%	6.5%
4	3.8%	3.5%	3.3%	3.2%	2.9%
5	2.1%	1.9%	1.7%	1.6%	1.4%
6-9	2.7%	2.5%	2.2%	2.0%	1.7%
10+	0.9%	0.8%	0.7%	0.6%	0.5%

Table 7: Wage Growth

Growth in Base Hourly Wage					
	1995	1996	1997	1998	1999
Group A	0.88%	0.86%	0.83%	0.84%	0.90%
Group B	3.83%	3.88%	4.11%	3.94%	3.99%
Group C	7.32%	7.40%	7.37%	6.93%	7.16%
Growth in Average Hourly Wage					
	1995	1996	1997	1998	1999
Group A	1.03%	1.01%	1.02%	0.98%	1.09%
Group B	4.07%	4.20%	4.42%	4.13%	4.32%
Group C	7.87%	8.15%	8.15%	7.18%	7.79%
Group A: Less than 90 days between first and last dates worked in the year.					
Group B: At least 90 days between the first and last dates worked in the year, but less than 900 total hours worked in the year.					
Group C: At least 90 days between the first and last dates worked in the year AND at least 900 total hours worked in the year.					

Table 8: Rapid Wage Growth

Percentage of People with 10%+ Growth in Base Wage					
	1995	1996	1997	1998	1999
Group A	6.23%	6.04%	5.73%	5.70%	5.84%
Group B	21.50%	21.39%	21.38%	20.86%	21.46%
Group C	28.83%	28.96%	28.15%	27.56%	28.17%
Percentage of People with 10%+ Growth in Average Hourly Wage					
	1995	1996	1997	1998	1999
Group A	7.51%	7.40%	7.37%	7.16%	7.34%
Group B	22.99%	22.99%	23.16%	22.27%	23.01%
Group C	31.54%	31.77%	31.80%	29.77%	30.79%
Group A: Less than 90 days between first and last dates worked in the year.					
Group B: At least 90 days between the first and last dates worked in the year, but less than 900 total hours worked in the year.					
Group C: At least 90 days between the first and last dates worked in the year AND at least 900 total hours worked in the year.					

Table 9: Rapid wage growth across vs. within spells

Percent of those in Group C with at least 10% Regular Wage Rate Growth and 2 or more spells in the year	
1995	55.47%
1996	52.23%
1997	52.16%
1998	52.69%
1999	48.23%
Percent of those in Group C with at least 10% Hourly Wage Rate Growth and 2 or more spells in the year	
1995	53.08%
1996	49.73%
1997	48.94%
1998	50.32%
1999	46.35%
Group C: At least 90 days between the first and last dates worked in the year AND at least 900 total hours worked in the year	

Table 10: Survey Demographics

Number of responses	4,500
Industrial/clerical (not technical/professional)*	74%
Female	56%
Age (average years)	38
Education	
Some high school	5%
High school diploma	21%
Trade certification / apprenticeship	7%
Some college	31%
Associate degree	10%
College or university degree	20%
Graduate or professional degree	6%
How much does temp income contribute to family income? (1=Very little; 2=Some; 3>About half; 4=Most; 5=Nearly all)	3.33
Percent of time in paid work in the three years before joining the agency	77%
Lost a job during those three years	33%
Prior experience with computers (1=No experience; 3=Some experience; 5=Advanced experience)	3.27
Own a computer	65%
Use the Internet	69%
Status immediately prior to signing on with the agency	
In paid work	45%
Not in paid work, but looking for work	44%
Not looking for paid work	9%
Retired	2%
Status while working for the agency	
Signed up at other temp agencies	36%
In another paid job in addition to temping	19%
Student	17%
* = The proportion of industrial/clerical versus technical/professional temps in these data do not necessarily reflect their proportions among the population of temps at these agencies.	

Table 11: Main Reason for Becoming a Temp

		Duration	
		Short-term	Long-term
Volition	Want to work as temp	Short-term temps: 14% <ul style="list-style-type: none"> • Short-term income supplement • Students • Seasonal • Supplement main activity 	Long-term temps: 25% <ul style="list-style-type: none"> • Long-term income supplement • Flexibility • Choice of where to work • Supplement main activity
	Want perm job	Short-term permanent: 23% <ul style="list-style-type: none"> • Short-term temp-to-perm • Find a permanent job as quickly as possible 	Selective permanent: 38% <ul style="list-style-type: none"> • Longer term temp-to-perm • Refine career goals • Build networks, skills • Screen employers

Table 12: Skill Building by Reason for Becoming a Temp

Main reason for becoming a temp	Offered free training	Took the free training (conditional on being offered it)	No marketable skills developed while temping	Marketable skills developed to a great extent while temping
Short-term temp	40.2%	45.6%	12.9%	19.0%
Long-term temp	46.4%	57.5%	6.9%	25.8%
Short-term perm	36.0%	51.2%	9.9%	21.1%
Selective perm	44.8%	56.1%	7.2%	29.7%

Table 13: Outcomes of Temping by Reason for Becoming a Temp

Main reason for becoming a temp	Obtained a permanent job	Had 10% or greater wage growth in year of maximum hours	Found permanent job and/or fast wage growth	Had negative wage growth in year of maximum hours
Short-term temp	27.2%	16.9%	38.9%	7.2%
Long-term temp	16.0%	19.1%	31.8%	8.0%
Short-term perm	43.4%	17.5%	54.0%	8.6%
Selective perm	38.1%	20.2%	51.0%	8.3%

The “year of maximum hours” is either 1999 or 2000; a small fraction of those with fast wage growth in one year had negative wage growth in the other year. Excluded from this table is the oversampled group of industrial and clerical temps who were more likely to have had fast wage growth in the qualification period.

Figure 1: Percentage of spells 13 weeks or longer and spells only 1 week long

◆ 13+ weeks ○ 1 week

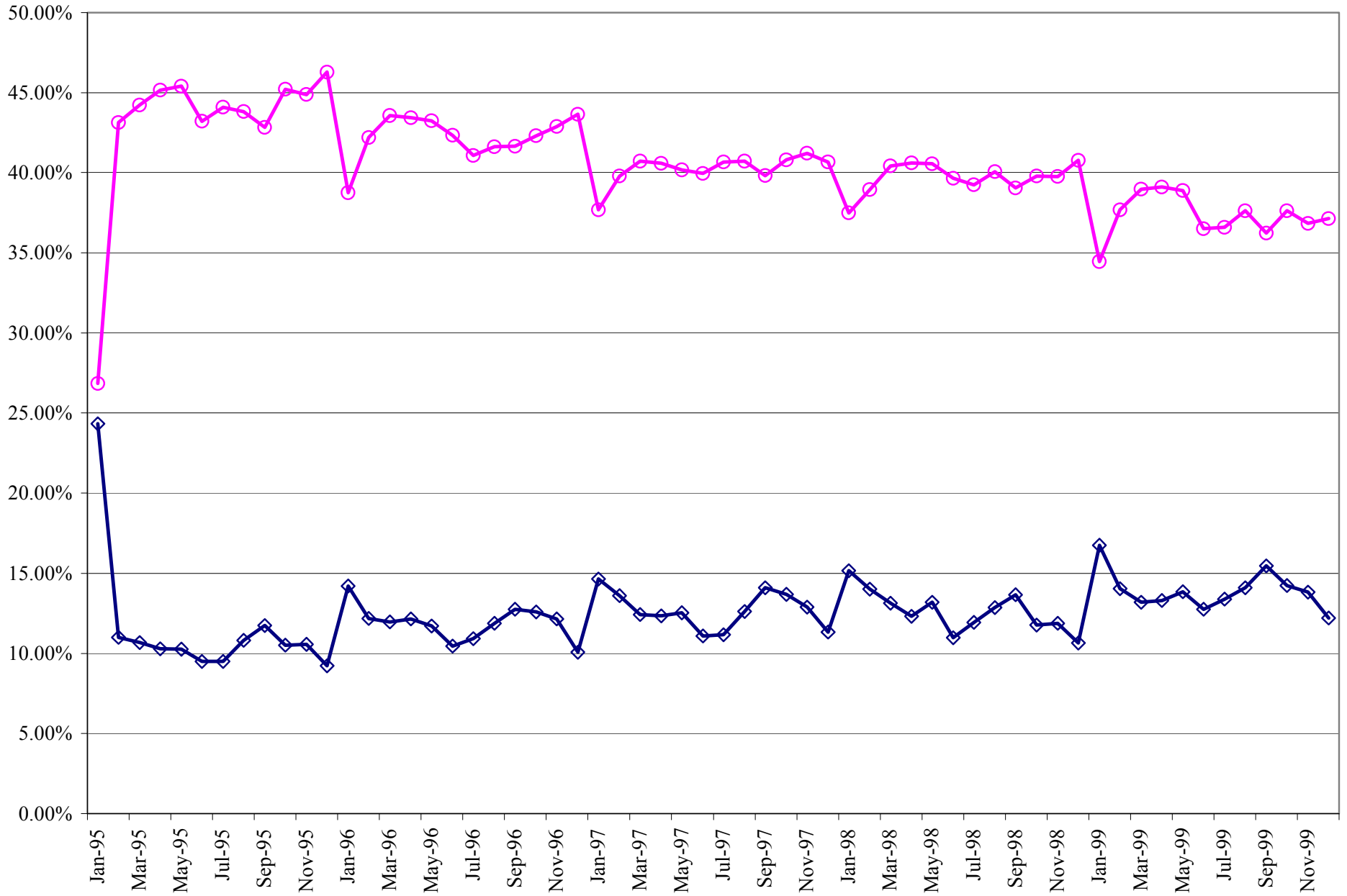


Figure 2: Total hours in spell
(Group A-less than 13 weeks long; Group B-13+weeks long)

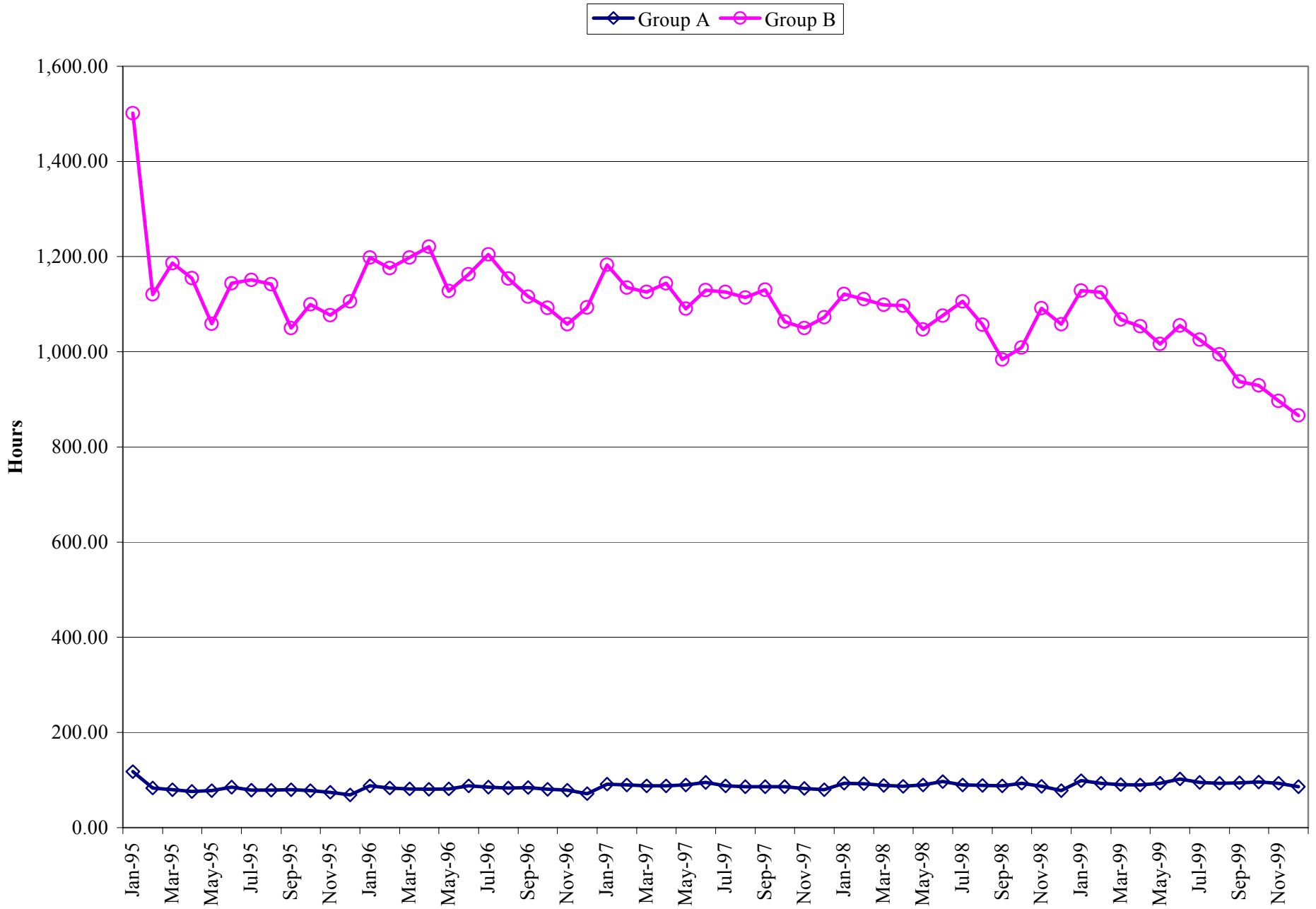


Figure 3: Hours through 13th week
(Spells lasting at least 13 weeks long)

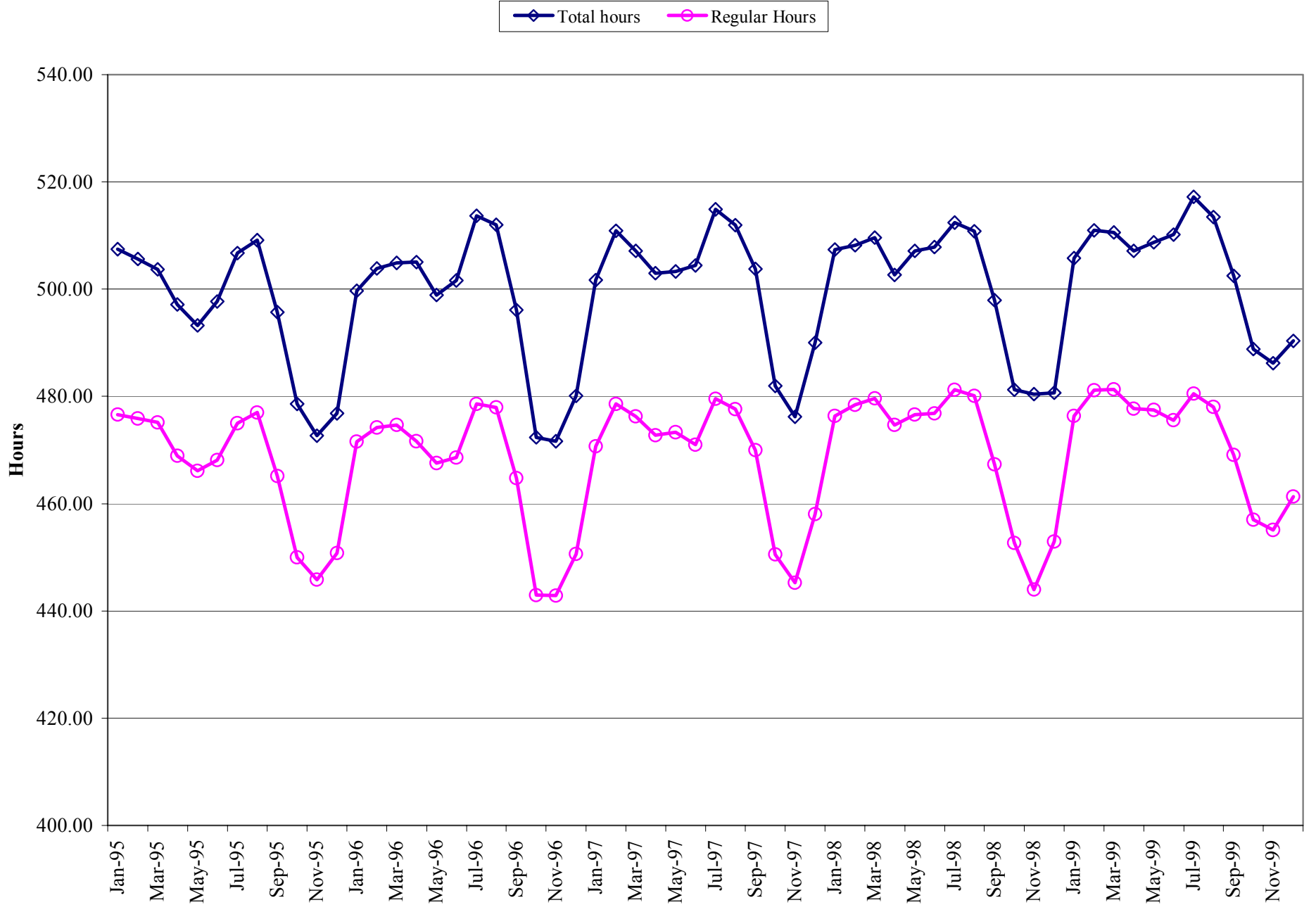


Figure 4: Flowmeasure
Percentage of all temps in each year who worked in each week, month, and quarter of the year

Week Month Quarter

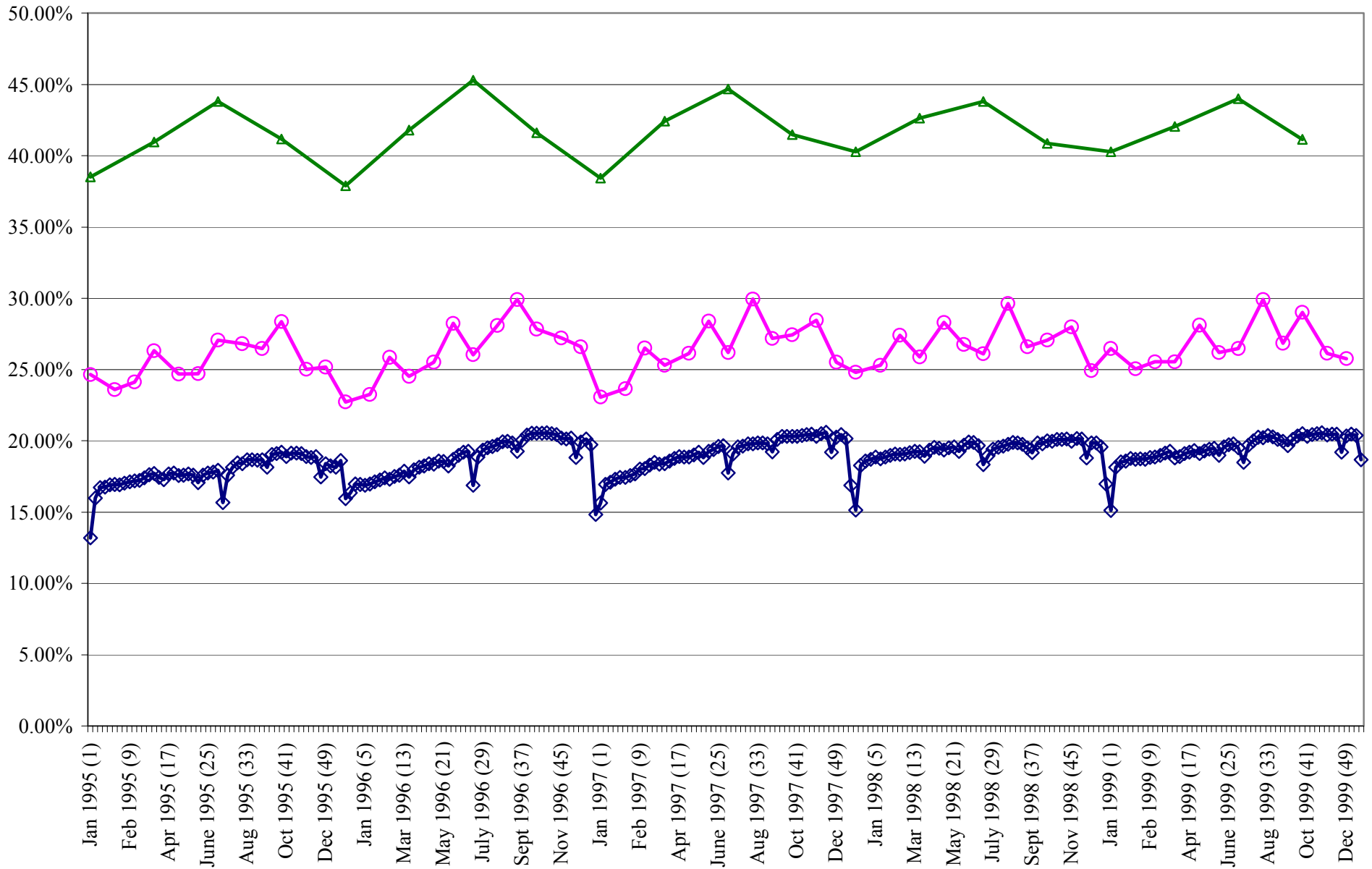


Figure 5: Fraction of spells with 10%+ base pay growth
(Group A-less than 13 weeks; Group B-13+ weeks long)

◆ Group A ○ Group B

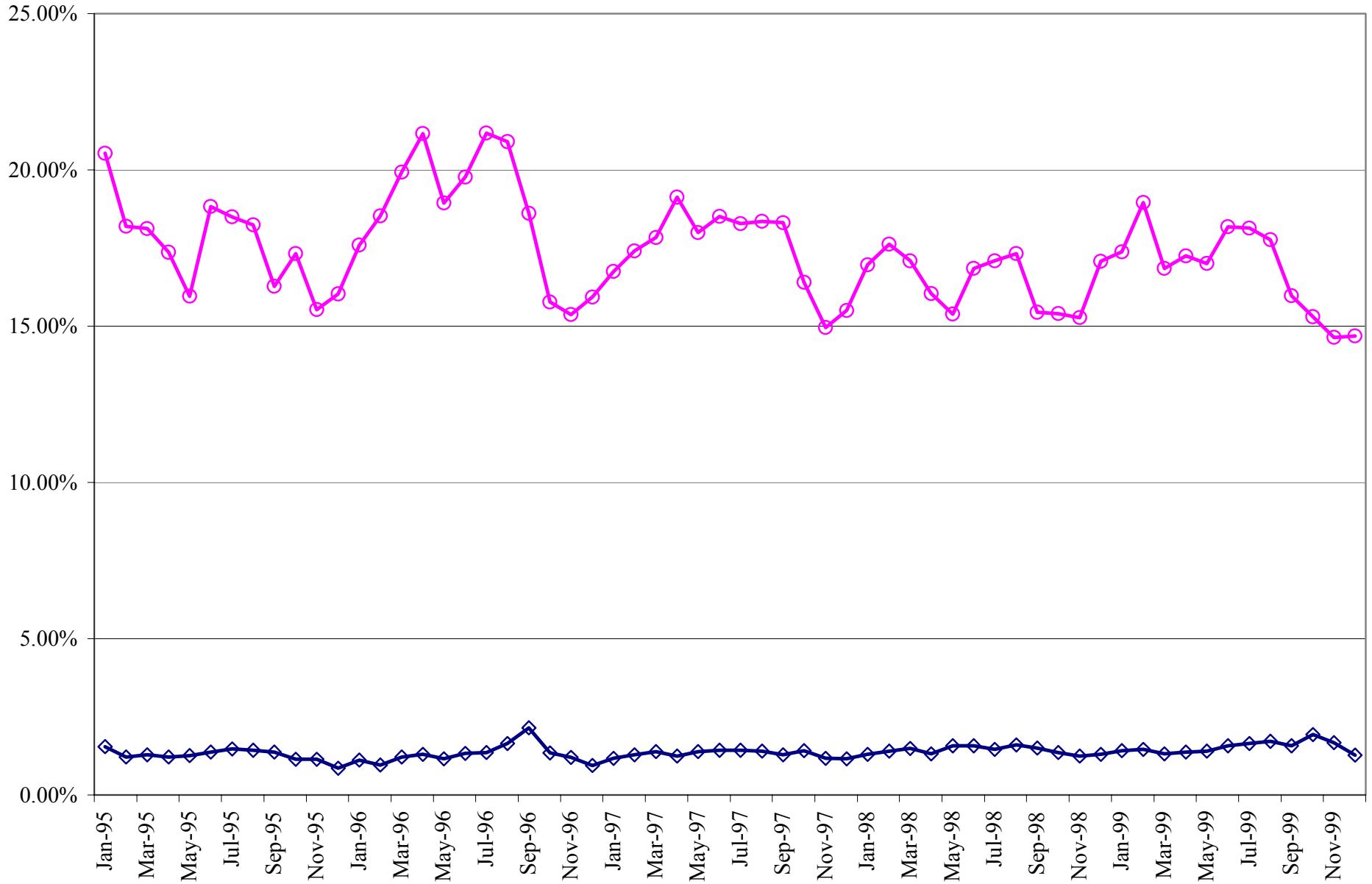


Figure 6: Fraction of spells with 10%+ wage growth by week 13
 (Among spells lasting at least 13 weeks)

◆ Average wage ○ Base pay rate

